401 KAR 52:030 Section 4 Permit Revision

Kruger Packaging (USA), LLC – Elizabethtown, KY

April 2026

Submitted by:

Kruger Packaging (USA), LLC
Elizabethtown Box Plant
1000 North Black Branch Road
Elizabethtown, KY 42701

Submitted to:

Kentucky Energy and Environment Cabinet
Department for Environmental Protection
Division for Air Quality – Permit Review Branch
300 Sower Boulevard, 2nd Floor
Frankfort, KY 40601

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1. INTRODUCTION

Kruger Packaging (USA), LLC (Kruger, or Applicant) submits this permit revision application to the Kentucky Energy and Environment Cabinet's (Cabinet), Department for Environmental Protection (DEP), Division for Air Quality (KYDAQ, or Division) under Title 401 of Kentucky Administrative Regulations (KAR), Chapter 052, Regulation 040, Section 12 (401 KAR 52:040 §12) and 401 KAR 52:040 §7 requesting authorization to install and operate one previously permitted converting line equipped with a multi-color rotogravure printer at the Elizabethtown Box Plant (Project) located at 1000 North Black Branch Road, Elizabethtown, Hardin County, Kentucky 42701 (Facility). The Applicant is also supplementing and correcting information previously provided in the Applicant's initial state origin air permit application submitted to KYDAQ in June 2021.

1.1 FACILITY PERMITTING AND SOURCE CLASSIFICATION STATUS

Facility operations subject to regulation under the Federal Clean Air Act (CAA) are currently authorized under Minor Source, Construction/Operating Permit (MSOP) No. S-21-050, issued June 29, 2021 (Permit). The Facility's current source classification status under various CAA permitting programs is as follows:

- "Minor Source" under United States Environmental Protection Agency (U.S. EPA) New Source Review (NSR) preconstruction permitting programs for Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR).
- "Minor Source" under the CAA Title V Permitting Program provisions promulgated at 40 Code of Federal Regulations (CFR) Part 70 (State Operating Permit Programs) and implemented under delegated authority in accordance with 401 KAR 52:020.
- "Area Source" of Hazardous Air Pollutants (HAP) as defined in 40 CFR §63.2 (Definitions) of 40 CFR Part 63 (National Emission Standards for Hazardous Air Pollutants for Source Categories). Post-Project, the Facility will remain an area source of HAP by electing to impose a federally enforceable production limit that will maintain single HAP emissions below 10 tons per year (tpy).

1.2 REQUESTED ACTION BY THE DIVISION

The Applicant requests the Division issue a Federally Enforceable State Origin Permit (FESOP) reflective of the information provided in this Application in accordance with the procedures described in "Cabinet Provisions and Procedures for Issuing Federally-Enforceable Permits for Nonmajor Sources (June 2000)" incorporated by reference at 401 KAR 52:030 §26.

1.3 TECHNICAL CONCLUSIONS

This Applicant seeks issuance of a FESOP that provides construction/operation authority for the Project under 401 KAR 52:030. Based on the information contained herein, this Application:

- Contains the information required for a complete application including completed KYDAQ forms in Appendix A (DEP 7007 Forms). [401 KAR 52:030 §4(1)]

- Contains an analysis of the characteristics, properties, and quantity of Regulated Air Pollutants (RAP) emitted under maximum operating conditions in accordance with the definition of "potential to emit" (PTE) under 401 KAR 52:001 §1 (56) provided in Appendix B (PTE Calculations). Appendix B emissions calculations are based on information provided in Appendix C (Materials Evaluation Worksheet), and Appendix E (Safety Data Sheets). [401 KAR 52:030 §5(3)]

- Quantifies the post-Project PTE increases which shows that the proposed changes are not subject to the NSR requirements under Title I of the CAA or operating permit program requirements under Title V of the CAA and demonstrates the Facility is requesting to change its existing source classification status for all CAA permitting programs described in Section 1.1. [401 KAR 52:030 §1]

    - Provides updated Facility source-wide emissions limits for HAP currently established in the Permit. [401 KAR 52:030 §3(a)]

In accordance with the requirements of 401 KAR 52:030 §4, this Application for permit revision includes:

- Information related to the change. [401 KAR 52:030 §4(2)(b)]
- Information needed to determine the applicable requirements that will apply after the change. [401 KAR 52:030 §5(1)]
- A certification by the Facility Responsible Official (RO) that the statements made under this Application are true and complete. [401 KAR 52:030 §22]

2. FACILITY AND PROJECT DESCRIPTIONS

The Facility's primary operations are classified under Standard Industrial Classification (SIC) code 2653 for Corrugated and Solid Fiber Boxes and North American Industry Classification System (NAICS) Code 322211 for Corrugated and Solid Fiber Box Manufacturing. The Facility location, regulatory jurisdiction, current operations, and Project description are provided in the following subsections.

2.1 FACILITY LOCATION

The Facility is located in Elizabethtown, Hardin County, Kentucky. A Facility location map is provided as Figure 2-1. Hardin County is part of the North Central Kentucky Intrastate Air Quality Control Region identified in 40 CFR §81.193. The current CAA Section 107 attainment status designations for areas within the Commonwealth of Kentucky are summarized in 40 CFR §81.318. Hardin County is classified as "Better than national standards" or "Unclassifiable/Attainment" for all National Ambient Air Quality Standards (NAAQS).

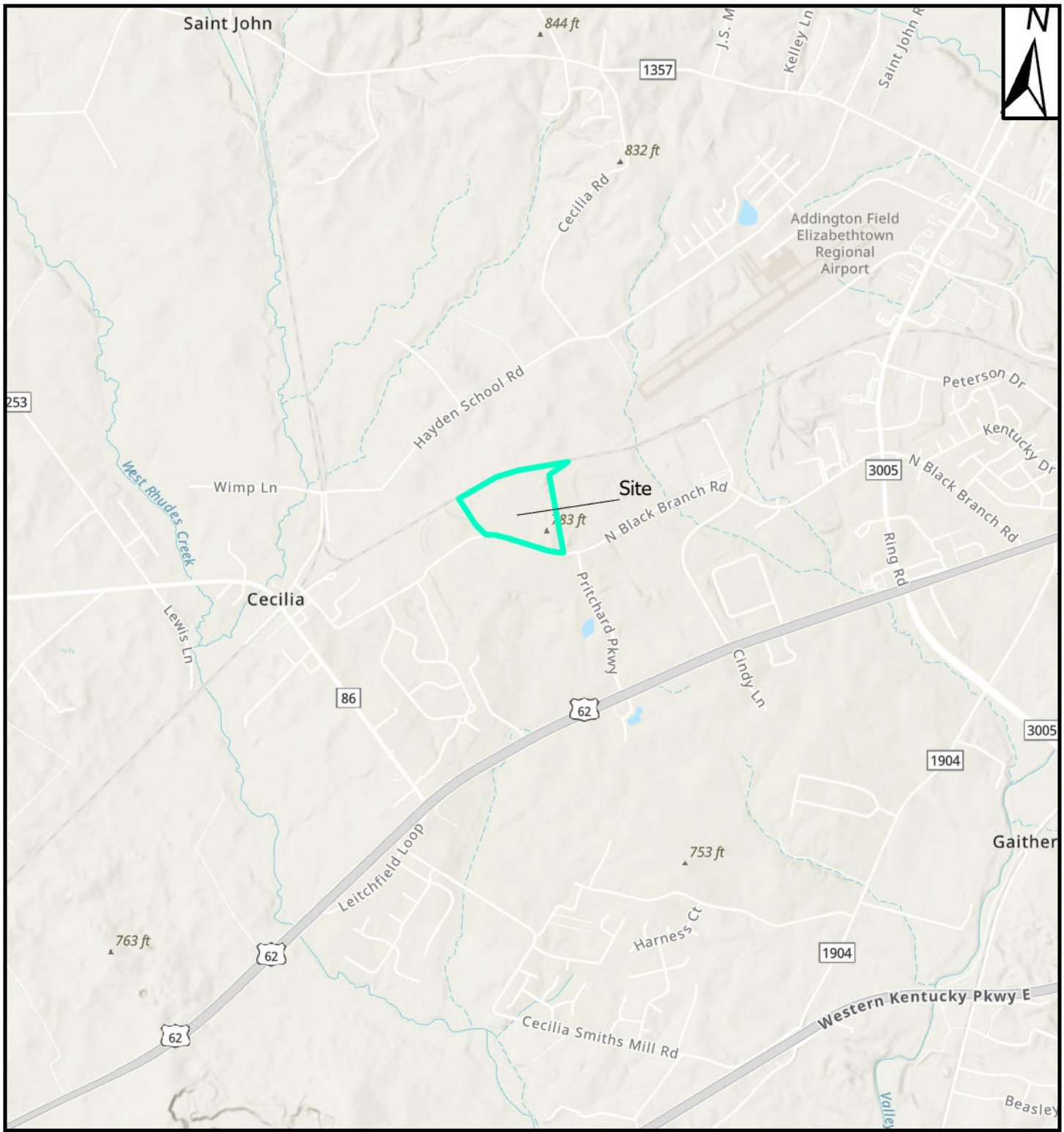
2.2 REGULATORY JURISDICTION

The Facility is under the jurisdiction of the following federal, state, and regional agency offices for all matters regulated under the CAA:

U.S. Environmental Protection Agency Region 4
61 Forsyth Street SW
Atlanta, GA 30303

Kentucky Department for Environmental Protection
Kentucky Division for Air Quality
300 Sower Boulevard, 2nd Floor
Frankfort, KY 40601

Kentucky Division for Air Quality
Frankfort Regional Office
300 Sower Boulevard, 2nd Floor
Frankfort, KY 40601



Legend

Facility Boundary

All data are approximate and should be used for relative location reference only.

Figure 2-1
Facility Location Map

0 0.28 0.55 1.1 Miles

DATE: 03/2026

PROJECT: 004473-0003.00

ALL4

Kruger Packaging - Elizabethtown Box Plant
1000 North Black Branch Road
Elizabethtown, KY 42701

Map Data Courtesy of Esri Imagery Hybrid Basemap.

2.3 FACILITY DESCRIPTION

The Facility receives linerboard produced at paper mills as rollstock. The rolls are fed in a continuous operation through a Corrugator (EU04). The Corrugator forms a double wall corrugated sheet that is held together by a starch-based slurry or adhesive that is prepared on-site in a starch kitchen. The starch-based adhesive is produced by mixing process water, caustic, and starch. The starch is received in bulk shipments and stored in a Starch Silo (IA08). The Starch Silo is equipped with a bin vent filter system to minimize particulate emissions from the pneumatic starch unloading operations. The starch is transferred from the Starch Silo to the mixer within the Facility using an enclosed auger.

Corrugated sheets exiting the Corrugator are indirectly heated by steam-heated hot plates. Steam for the hot plates is provided by a 33.6 million British thermal units per hour (MMBtu/hr) maximum design heat input capacity natural gas-fired Boiler (EU01). Sheets are then cut into box-sized sections and moved to the finishing equipment. The cutting, gluing, and printing equipment is part of the Five Converting Lines – Printing and Glue Application (EU05). Of the five converting lines, three are flexo folder gluer (FFG) machines, and two are rotary die cutter (RDC) machines. The Converting lines cut, glue, print, and fold the corrugated sheet into boxes per client specifications. FFGs apply both ink and glue to the sheets, while RDCs apply only ink – no glue. The finished boxes are palletized and shipped as a final product.

Corrugated scraps, consisting of paper, paper dust, cut-out pieces, and mechanically shredded corrugated sheets, are channeled towards the wastepaper cyclone (located indoors), which collects scrap waste from the production equipment and waste material from the baler room. The shredders can further shred collected scrap, while the baler compresses the corrugated scraps into bales that are transferred off-site to be recycled. Particulate within the building is captured and controlled by a Continuous Cleaning Modular System, which filters the air through an air separator to separate particulate from the trim waste. The particulate is compacted in a briquetter, which creates pucks that will be taken off-site for disposal. There is no stack associated with the Continuous Cleaning Modular System or the cyclone. The cyclone, balers, shredders, and briquetter are collectively deemed the Wastepaper Handling System (EU03).

Miscellaneous ancillary operations at the Facility include two natural gas-fired air handling units (AHU) (IA01), one rated at 0.235 MMBtu/hr and one rated at 0.35 MMBtu/hr, and seven natural gas-fired unit heaters (IA02-IA07 and IA09), six rated at 0.125 MMBtu/hr and one at 0.2 MMBtu/hr. The emissions from the AHU and unit heaters are treated as insignificant activities (IA) in accordance with 401 KAR 52:040 §6.

The Facility also has three natural gas-fired building heaters, each rated at 2.823 MMBtu/hr that are being added as IA10 and are subject to 401 KAR 59:015.

2.4 PROJECT DESCRIPTION

There are five printing and gluing lines currently permitted but only four were constructed with the original site build. As the allotted time in the original permit has elapsed, the Facility is again requesting the authority to construct an FFG as the fifth converting line. This line will operate similarly to the four constructed lines, except it will include a machine-side collection system for trim and scrap. The collection system will still ultimately be conveyed via an enclosed pneumatic system to EU03. No other physical modifications will be made to the Facility.

The Applicant has also updated several emissions factors used to calculate the Facility's potential emissions, which are discussed further in Section 3 of this narrative. The change with the largest impact is quantifying HAP emissions from the Corrugator in accordance with widely accepted emissions data. Adding these new HAP emissions into the Facility's potential to emit (PTE) at maximum Facility capacity would cause the Facility-wide emissions of a single HAP (methanol) to be greater than 10 tpy. As such, the Applicant is proposing a production limit of 5,000,000 thousand square feet (Msf) per year (Msf/yr) on a 12-month rolling average for corrugated board that will maintain methanol emissions to less than 9 tpy. For this reason, the Applicant is requesting the Permit classification be changed from an MSOP to a FESOP.

The Applicant is also requesting to reclassify the current EUs to better reflect the Facility's operations and associated emissions. The Facility operations with proposed changes are outlined in section 2.4.1. A Facility Layout Map is provided as Figure 2-2.

Additionally, the following changes are reflected in the application:

- The burner rating for EU01 has also been updated from 26.8 to 33.6 MMBtu/hr to align with the as-built specifications. A manufacturer spec sheet for the burner is included in Appendix D.
- The Starch Silo is being reclassified as an Insignificant Activity per 401 KAR 52:030 Section 6.
- The natural gas heat input ratings for the AHU (IA01) and unit heaters (IA02-IA07) are being updated to match as-built specifications. In addition, an Electrical Room unit heater (IA09) is being added. Details for the AHU and unit heaters are included on Form DEP7007DD.

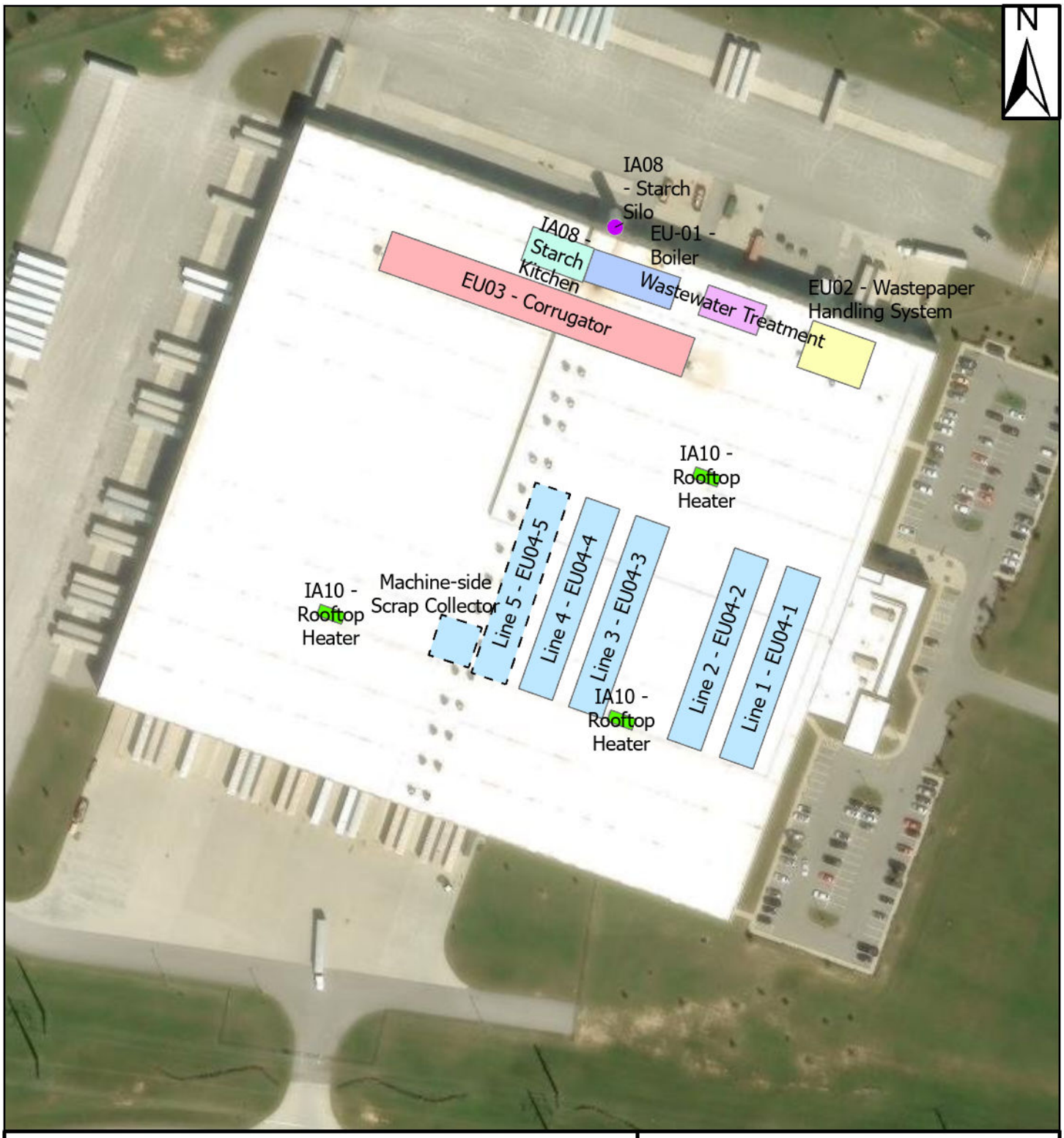
- The Facility has three natural gas-fired roof Air Handling Units (AHUs) rated at 2.823 MMBtu/hr each. These heaters are added as IA10. The heaters are for comfort heating and not process heat.

2.4.1 Emissions Units Reclassification

To better reflect the Facility's operations, the Applicant proposes to reclassify the EUs in the Permit. The reclassification is outlined in Table 2-1 below. A process flow diagram (PFD) is provided as Figure 2-3.

Table 2-1
Emissions Units Reclassification

Current EU	Proposed EU Change
EU01 – Steam Boiler	N/A
EU02 – Starch Silo Loading	Update to an Insignificant Activity (IA08)
EU03 – Box Processing Equipment	EU03 – Wastepaper Handling System (comprised of Cyclone, Baler, Two Shredders, and Briquetter)
EU 04 – Flexographic Printing	EU04 – Corrugator
EU05 – Glue Application	EU05-1 – Converting Line 1 Printing and Glue Application EU05-2 – Converting Line 2 Printing and Glue Application EU05-3 – Converting Line 3 Printing and Glue Application EU05-4 – Converting Line 4 Printing and Glue Application EU05-5 – Converting Line 5 Printing and Glue Application



Legend

- IA08 - Starch Silo
- EU01 - Boiler
- EU03 - Wastepaper Handling System
- EU04 - Corrugator
- IA08 - Starch Kitchen
- Wastewater Treatment
- Line 5
- Printing Lines
- IA10

All data are approximate and should be used for relative location reference only.

Figure 2-2
Facility Layout Map

0 0.01 0.03 0.05 Miles

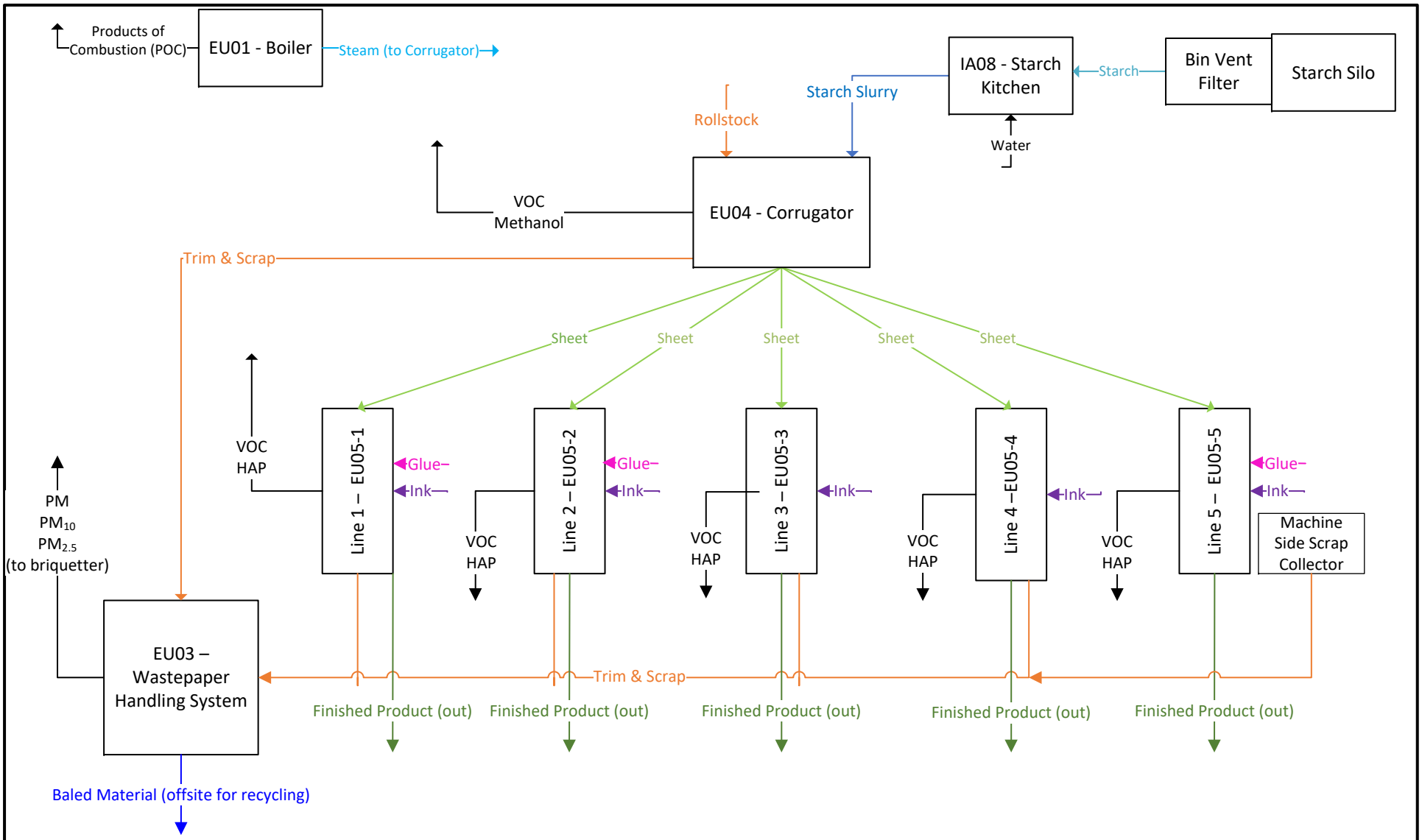
DATE: 03/2026

PROJECT: 004473-0003.00

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Kruger Packaging (USA), LLC - Elizabethtown Box Plant
1000 North Black Branch Road
Elizabethtown, KY 42701

Map Data Courtesy of Esri Imagery Hybrid Basemap.



LEGEND

Process

Emissions

Sheet Product Process Flow*

Starch Product Process Flow

Roll Stock Product Process Flow

*Process Flow lines are in varying colors depending on input products

Figure 2-3
Process Flow Diagram

Kruger Packaging (USA), LLC – Elizabethtown Box Plant
1000 North Black Branch Road
Elizabethtown, KY 42701

PREPARED BY: KRB	CHECKED BY: HAL
DATE: March 2026	PROJECT NO.: 004473-0003.00

2.4.2 Equipment Additions to the Facility

In the current Permit, the Facility obtained authorization for the construction of five converting machine lines (EU05-1 through EU05-5). However, only four lines were constructed. The Facility plans to construct the fifth, but the authority granted by KYDAQ has lapsed according to 401 KAR 52:040, §12(3) found in Section C.7.a of the current Permit, as more than 18 months have passed since construction stopped without start of construction of the fifth line. Therefore, the Facility is requesting authority to construct a new FFG as the fifth converting machine. The fifth converting line will include cutting, gluing, and printing operations. This machine operates similarly to the four previously constructed converting lines, with the addition of a machine-side collection unit for trim and scrap. The scrap from the machine-side collection system is pneumatically routed to the baler and then sent off-site to be recycled. The machine side collection system is considered a part of the fifth line and will be authorized along with the FFG as EU05-5.

3. EMISSIONS DISCUSSION

This section presents the methodology used to calculate emissions associated with the proposed Project. Emissions calculations are presented in Appendix B. A production ratio created from 2025 production rates were used along with the physical machine capacity of the corrugator to calculate potential production rates.

The post-Project emissions indicate a single HAP, methanol, has a PTE greater than 10 tpy. However, Kruger is opting to take a voluntary enforceable limit of 9 tpy to remain a minor source for HAP. Table 3-1 below illustrates the pre- and post-Project emissions.

Table 3-1
Facility Source-Wide Potential Emissions Summary

Pollutant	Facility Pre-Project Source-Wide PTE (ton/yr)	Facility Post-Project Source-Wide PTE (ton/yr)	Facility Source-Wide Emissions Limits (ton/yr)
Particulate Matter (PM)	15.87	1.43	--
PM < 10 microns (PM_{10})	15.87	1.43	--
PM < 2.5 microns ($PM_{2.5}$)	15.87	1.42	--
Carbon Monoxide (CO)	11.71	15.73	--
Oxides of Nitrogen (NO_X)	6.11	8.91	--
Sulfur Dioxide (SO_2)	0.08	0.11	--
Lead (Pb)	6.96E-05	9.36E-05	--
VOC	20.46	24.19	--
Total HAP	0.27	9.45	--
Single HAP (Methanol)	0.25	8.75	9.00
Carbon Dioxide (CO_2)	16,632	22,469	--
Methane (CH_4)	0.31	0.43	--
Nitrous Oxide (N_2O)	0.04	0.13	--
Greenhouse Gases (CO_2e)	16,649	22,515	--
Ammonia	--	0.60	

3.1 EU01 – PROCESS STEAM BOILER

Emissions factors for the Boiler (EU01) were obtained from U.S. EPA AP-42 Section 1.4, Natural Gas Combustion, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4, as well as U.S. EPA WebFIRE (for ammonia only). EU01 is equipped with a low NO_X burner and flue gas recirculation. The emissions factor for CO_2e has been updated to align with the new Global Warming Potentials codified in 40 CFR Part 98 and reflects revised heat input values of 26.8 to 33.6 MMBtu/hr.

3.2 EU03 – WASTEPAPER HANDLING SYSTEM

Particulate matter (PM) emissions factors for the Wastepaper Handling System (EU03) were developed from the engineering judgement and particle size distribution data from U.S. EPA AP-42 Appendix B, Table B.2-2 Category 7. The annual waste baled was based on the 2025 Facility-wide scrap collection data and the Facility's production ratio as defined in Table B-5 in Appendix B. The Briquetter provides complete capture of all PM, leaving EU03 with zero PM emissions post-control exhausted to the atmosphere (i.e. briquetter exhausts indoors).

3.3 EU04 – CORRUGATOR

Volatile organic compounds (VOC) and HAP emissions factors for the Corrugator (EU04) were developed from the San Joaquin Valley Air Pollution Control District Best Available Control Technology (BACT) Guideline 4.9.13 for Corrugated Board Manufacturing. It is assumed that the predominant HAP emitted is methanol; thus the VOC emissions factors are a surrogate factor for methanol. Other proprietary industry data supports this VOC speciation. VOC and HAP are released from the paperboard as they are heated during the corrugating process. Corrugator annual PTE emissions have been calculated using the proposed production limit of 5,000,000 Msf/yr 12-month rolling average in order to maintain methanol emissions below 9 tpy.

3.4 EU05 – FIVE CONVERTING LINES - PRINTING AND GLUE APPLICATION

Facility-specific data was used to develop emissions factors for the Converting Lines (EU05). VOC and HAP emissions for the Converting Lines were calculated from the weight percentage of the inks and supplied chemicals on-site and Facility-specific throughput data.

3.4.1 EU05-5 Converting Line 5

The emissions of the fifth converting line (EU05-5) are included in Tables B-6, B-7, and B-8 of the PTE Calculations in Appendix B. This converting line will have gluing and printing operations. The difference from the existing four converting lines will be the addition of the machine-side scrap collection system next to the fifth line, which will be routed to the baler rather than the Continuous Cleaning Modular System as the previous four lines. All scrap and any resulting PM emissions will still ultimately be routed to the Cyclone and Briquetter, thus no PM emissions are quantified for any converting lines, including the new Line 5.

3.5 IA08 – STARCH SILO LOADING

The Starch Silo (IA08) emissions factors are adapted from the AP-42 Table 9.9.1-1 uncontrolled particulate emissions factors for grain elevators – straight truck and adjusted to account for fabric filter collection efficiency per U.S. EPA Table B.2-3. As the PM emissions from the Starch Silo are less than 5 tpy, the unit will now be classified as an insignificant activity per 401 KAR 52:030 Section 6.

3.6 NATURAL GAS HEATERS

The natural gas heaters at the Facility (IA01 – IA07, IA09, and IA10) emissions factors are adapted from the AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4. As the RAP emissions from the natural gas heaters are less than 5 tpy, the units will continue to be classified as an insignificant activity per 401 KAR 52:030 Section 6.

There are no emissions changes proposed for any other existing IAs at the Facility.

4. REGULATORY APPLICABILITY ANALYSIS

Kruger has evaluated Federal and Kentucky air quality regulations that are applicable or potentially applicable to the Project as described in the following subsections.

4.1 FEDERAL REGULATORY APPLICABILITY

For the purpose of this application, potentially applicable Federal regulations include the following:

- New Source Review
- Standards of Performance for New Stationary Sources
- National Emission Standards for Hazardous Air Pollutants
- Title V Operating Permit Program

4.1.1 New Source Review

The Facility is located in Hardin County, Kentucky which is classified as in attainment or unclassifiable for all NAAQS; therefore, NNSR regulations do not apply to the Project and the Project was only analyzed for applicability as it relates to the PSD requirements. The PSD regulations apply to major modifications at major stationary sources of regulated NSR pollutants in areas that are in attainment or unclassifiable with respect to the NAAQS. Major stationary sources are those sources belonging to any one of the 28 named source categories that have a PTE of 100 tpy or more of a regulated NSR pollutant, or any other source that has a PTE of 250 tpy or more of a regulated NSR pollutant.

The Facility does not belong to one of the 28 PSD named source categories and the Facility-Wide potential emissions of regulated NSR pollutants demonstrate that the Facility is not a 100 tpy or 250 tpy major stationary source either before or after the Project. Therefore, the Facility is not a major stationary source for purposes of PSD applicability. Therefore, PSD review is not required.

4.1.2 Standards of Performance for New Stationary Sources

U.S. EPA has promulgated standards of performance for new, modified, or reconstructed sources of air pollution, also referred to as New Source Performance Standards (NSPS) at 40 CFR Part 60. NSPS apply to any stationary source for which standards are promulgated, and which is constructed, reconstructed, or

modified on or after the effective date of the applicable standard to the affected facility. An existing facility can become subject to the NSPS requirements upon reconstruction or modification.

The following 40 CFR Part 60 Subparts either currently apply to the Facility or were assessed for applicability as related to the changes associated with the Project:

- 40 CFR Part 60, Subpart A – General Provisions;
- 40 CFR Part 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

4.1.2.1 40 CFR Part 60, Subpart A – General Provisions

The provisions of 40 CFR Part 60, Subpart A, apply to the owner or operator of any stationary source subject to an NSPS. The Facility is already subject to, and will continue to comply with the currently applicable sections of 40 CFR Part 60, Subpart A.

4.1.2.2 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

40 CFR Part 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) establishes SO_2 and PM emissions standards, testing, monitoring, recordkeeping, and reporting requirements for steam generating units constructed or modified after June 9, 1989 that have a heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr. The Facility's existing 33.6 MMBtu/hr Boiler is subject to Subpart Dc. The Boiler only fires natural gas and thus is not subject to the SO_2 and PM emissions standards found in 40 CFR §60.42c, and 40 CFR §60.43c. The Facility complies with the associated reporting and recordkeeping requirements in 40 CFR §60.48c. The Facility meets the recordkeeping requirements as specified in 40 CFR §60.48c(g)(3).

4.1.3 National Emission Standards for Hazardous Air Pollutants

U.S. EPA has promulgated National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR Parts 61 and 63. NESHAP promulgated prior to the Clean Air Act Amendments (CAAA) of 1990, found in 40 CFR Part 61, apply to specific compounds emitted from specific processes. Pursuant to the CAAA of 1990, source category-specific NESHAP are promulgated in 40 CFR Part 63, implement Maximum

Achievable Control Technology (MACT) standards, and apply to source categories that are considered area sources or major sources of HAP. A major source of HAP has a facility-wide PTE greater than or equal to 10 tpy for at least one individual HAP and greater than or equal to 25 tpy for all HAP combined. The Facility is electing to take an enforceable limit to remain an area source of HAP. With the requested enforceable limit on HAP in place, the Facility will not be a major source of HAP. As discussed in Section 4.2.3, there are no NESHAP applicable to the Facility.

4.1.4 Title V Operating Permit Programs

The regulations in 40 CFR Part 70 provide for the establishment of comprehensive State air quality permitting programs consistent with the requirements of Title V of the CAA. 40 CFR Part 70 regulations define the minimum elements required by the CAA for state operating permit programs and the corresponding standards and procedures by which the Administrator will approve, oversee, and withdraw approval of state operating permit programs. As discussed in Section 3, the Facility is proposing limits to ensure that the Facility-Wide PTE is below major source thresholds and to allow it to operate under an FESOP. In addition, the Facility is not subject to Federal regulations that would also trigger Title V applicability (i.e. Acid Rain Provision).

4.2 STATE REGULATORY APPLICABILITY

For the purpose of this Application, a review of Kentucky air quality regulations which are potentially applicable has been conducted. These regulations that were reviewed are codified at KAR Title 401, Chapters 52, 59, and 63, and are discussed in the following subsections.

4.2.1 KAR Title 401 | Chapter 052 – Permits, Registrations, and Prohibitory Rules

The proposed Project scope triggers applicability of KAR Title 401 Chapter 052. The regulations in this chapter pertain to general provisions, permit issuance, modification, and public participation pursuant to the issuance of an operating permit for the Facility. Kruger will also comply with applicable rules as they pertain to required reporting, time schedule for compliance, scheduled maintenance, startup, shutdown, malfunctions, and measurement of emissions. As noted in the following subsection, the Facility will take an enforceable production limit to establish the applicability of Chapter 052, Regulation 030.

4.2.1.1 KAR Title 401| Chapter 052 | Regulation 030 –Federally-enforceable Permits for Nonmajor Sources

401 KAR 52:030 applies to sources that accept permit conditions that are legally and practically enforceable to limit their PTE below the major source thresholds that would otherwise make them subject to 401 KAR 52:020. The Facility concluded that Facility-Wide PTE are below Tite V major source thresholds with the request of an annual production limit of 5,000,000 Msf/yr for HAP listed in §1(46) of 401 KAR 52:001. Therefore, in accordance with §4(1)(d) of 401 KAR 52:030, Kruger submits this Application requesting a FESOP under 401 KAR 52:030.

4.2.2 KAR Title 401 | Chapter 059 – New Source Standards

KAR Title 401 Chapter 059 contains requirements for specific types of emissions sources and processes. The following specific regulations were reviewed for applicability due to the Project scope.

4.2.2.1 KAR Title 401| Chapter 059 | Regulation 005 – General Provisions

Kruger complies with 401 KAR 59:005, §2(2) by conducting performance test(s) at the request of the Cabinet according to 401 KAR 50:045 and providing a written report of the results as required by the Cabinet.

4.2.2.2 KAR Title 401| Chapter 059 | Regulation 015 – New Indirect Heat Exchangers

This Application is requesting to revise the heat input from 26.8 MMBtu/hr to 33.8 MMBtu/hr. The Boiler (EU01) complies with the PM limit pursuant to 401 KAR 59:015, §4(1)(c). Furthermore, EU01 complies with the opacity limit pursuant to 401 KAR 59:015, §4(2). Finally, EU01 complies with the limit pursuant to 401 KAR 59:015, §5(1) (c). Compliance is assumed while burning natural gas.

4.2.3 KAR Title 401| Chapter 063 – General Standards of Performance

Chapter 063 incorporates the NESHAP regulations at 40 CFR Part 63 and addresses other regulations related to hazardous pollutants.

4.2.3.1 KAR Title 401| Chapter 063 | Regulation 020 –Potentially Hazardous Matter or Toxic Substances

Project operations could emit potentially hazardous matter or toxic substance emissions not elsewhere subject to provisions under KYDAQ administrative regulation. Therefore, per §3 of 401 KAR 63:020, Project emissions are subject to standards and KYDAQ evaluation. The Source will remain in compliance with this regulation by operating in accordance with the rate of emissions of airborne toxics determined by KYDAQ using information provided in this Application.

4.3 NON-APPLICABLE REGULATIONS

In accordance with 401 KAR 52:030 §11(1)(b), the Applicant requests that the Division include a permit shield in the FESOP for the non-applicable regulations identified in Table 4-1 at the next significant permit revision or Permit renewal following the permit revision issued in response to this Application.

Table 4-1
Permit Shield Request

Emissions Point ID	Regulatory Citation	Regulatory Requirement	Basis for Non-Applicability
Entire Facility	401 KAR 50:012 §1(1)	General Application of Administrative Regulations and Standards: All major sources of VOCs located in a county or portion of a county which is designated ozone nonattainment, for any nonattainment classification except marginal, under 401 KAR 51:010, shall install and use control technology which is reasonable and available.	The Facility is not a major source of VOC [as defined in 401 KAR 50:010 §1(71)]; therefore, 50:012 §1(1) is not applicable.
EU05-1 through EU05-5	401 KAR 59:210	New Fabric, Vinyl, and Paper Surface Coating Operations: 59:210 applies to new fabric, vinyl, and paper surface coating facilities that control VOC emissions.	No *Fabric* (as defined in 40 CFR §63.4371), Vinyl, or Paper is coated, dyed, or finished at the Source per the definition of paper coating (401 KAR 59:210 Section 1(8)); therefore, 401 KAR 59:210 is not applicable.

Table 4-1
Permit Shield Request

Emissions Point ID	Regulatory Citation	Regulatory Requirement	Basis for Non-Applicability
EU05-1 through EU05-5	40 CFR Part 60 Subpart QQ	Standards of Performance for the Graphic Arts Industry - Publication Rotogravure Printing: Subpart QQ applies to publication rotogravure printing presses that were constructed, modified, or reconstructed after October 28, 1980.	The Facility does not operate *Publication rotogravure printing presses* [as defined in 40 CFR §60.431(a)]; therefore, Subpart QQ is not applicable.
EU05-1 through EU05-5	40 CFR Part 60 Subpart RR	Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations: Subpart RR applies to coating lines used in the manufacture of pressure sensitive tape and label materials which was constructed, modified, or reconstructed after December 30, 1980.	The Facility does not operate a *coating line* [as defined in 40 CFR §60.441(a)] to produce pressure sensitive tape and/or label materials. Aqueous and solvent based coating lines which apply a variety of adhesives and specialty coatings to paper and film substrates and do not have pressure sensitive properties are not subject to Subpart RR per U.S. EPA Applicability Determination Index Control Numbers NR38 and 9900023.
EU05-1 through EU05-5	40 CFR Part 60 Subpart FFF	Standards of Performance for Flexible Vinyl and Urethane Coating and Printing: Subpart FFF applies to rotogravure printing lines used to print or coat flexible vinyl or urethane products which were constructed, modified, or reconstructed after January 18, 1983.	The Facility does not print or coat *Flexible vinyl or urethane products* [as defined in 40 CFR §60.581(a)]; therefore, Subpart FFF is not applicable.
EU05-1 through EU05-5	40 CFR Part 60 Subpart SSS	Standards of Performance for Magnetic Tape Coating Facilities: Subpart SSS applies to coating operations in the manufacture of magnetic tape constructed, modified, or reconstructed after January 22, 1986.	The Facility does not operate a *Coating operation* [as defined at 40 CFR §60.711(a)(5)] or manufacture *magnetic tape* [as defined at 40 CFR §60.711(a)(13)]; therefore, Subpart SSS is not applicable.

Table 4-1
Permit Shield Request

Emissions Point ID	Regulatory Citation	Regulatory Requirement	Basis for Non-Applicability
EU05-1 through EU05-5	40 CFR Part 60 Subpart VVV	Standards of Performance for Polymeric Coating of Supporting Substrates Facilities: Subpart VVV applies to each coating operation and coating mix preparation equipment used to prepare coatings for the polymeric coating of supporting substrates constructed, modified, or reconstructed after April 30, 1987.	The Facility does not perform *Polymeric coating of supporting substrates* [as defined in 40 CFR §60.741(a)]. The Facility only performs printing on supporting webs made of paper; therefore, Subpart VVV is not applicable.
EU05-1 through EU05-5	40 CFR Part 63 Subpart KK	National Emission Standards for the Printing and Publishing Industry: Subpart KK applies to major sources of HAP at which publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses are operated.	The Facility is not a major source of HAP (as defined in 40 CFR §63.2), therefore, Subpart KK is not applicable per 40 CFR §63.820(a)(7) and 40 CFR §63.820(a)(2).
EU05-1 through EU05-5	40 CFR Part 63 Subpart JJJJ	National Emission Standards for Hazardous Air Pollutants - Paper and Other Web Coating: Subpart JJJJ applies to major sources of HAP at which web coating lines are operated.	The Facility is not a major source of HAP (as defined in 40 CFR 63.2). Therefore, in accordance with 40 CFR §63.1(c)(2) and Table 2 to Subpart JJJJ, Facility presses are not subject to Subpart JJJJ.
EU05-1 through EU05-5	40 CFR Part 63 Subpart OOOO	National Emission Standards for Hazardous Air Pollutants - Printing, Coating, and Dyeing of Fabrics and Other Textiles: Subpart OOOO applies to major sources of HAP that print, coat, slash, dye, or finish fabric and other textiles.	No *Fabric* or *Textile* (as defined in 40 CFR §63.4371) is printed, coated, dyed, or finished at the Facility; therefore, Subpart OOOO is not applicable.
EU05-1 through EU05-5	40 CFR Part 63 Subpart HHHHH	National Emission Standards for Hazardous Air Pollutants - Miscellaneous Coating Manufacturing: Subpart HHHHH applies to major sources of HAP that manufacture coatings and process, use or produce HAP.	The Facility does not manufacture coatings, therefore, Subpart HHHHH is not applicable.

Table 4-1
Permit Shield Request

Emissions Point ID	Regulatory Citation	Regulatory Requirement	Basis for Non-Applicability
EU01	40 CFR Part 63, Subpart JJJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources: Subpart JJJJJJ applies to owners or operators of an industrial, commercial, or institutional boiler that is located at, or is part of, an area source of HAP.	The boiler only combusts natural gas and is exempt from the requirements of 40 CFR 63, Subpart JJJJJJ.

APPENDIX A -
DEP7007 FORMS

Division for Air Quality

300 Sower Boulevard

Frankfort, KY 40601

(502) 564-3999

DEP7007A

Indirect Heat Exchangers and Turbines

___ Section A.1: General Information

___ Section A.2: Operating and Fuel Information

___ Section A.3: Notes, Comments, and Explanations

Additional Documentation

___ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.

____ Manufacturer's specifications

Source Name: **Kruger Packaging (USA), LLC - Elizabethtown Box Plant**

KY EIS (AFS) #: **21-093-00166**

Permit #: **S-21-050**

Agency Interest (AI) ID: **169070**

Date: **3/31/2026**

Section A.1: General Information

Emission Unit #	Emission Unit Name	Process ID	Process Name	Identify General Type: Indirect Heat Exchanger, Gas Turbine, or Combustion Turbine	Indirect Heat Exchanger Configuration	Manufacturer	Model No./ Serial No.	Proposed/Actual Date of Construction Commencement *(MM/YYYY)*	SCC Code	SCC Units	Control Device ID	Stack ID
EU01	Process Steam Boiler	1	Process Steam Boiler	Indirect Heat Exchanger	N/A	Hurst	S4000-250-12	Apr-22	10200602	Million Cubic Feet Burned	N/A	S1

Section A.2: Operating and Fuel Information

Emission Unit #	If multipurpose unit, identify the percentage of use by purpose				Rated Capacity Heat Input *(MMBTU/hr)*	Rated Capacity Power Output		Describe Operating Scenario (only if this unit will be used in different configurations)	Classify Fuel as Primary or Secondary	Identify Fuel Type: Coal, Natural Gas, Wood, Biomass, Landfill/Digester Gas, Fuel Oil # (specify 1-6), or Other	Heat Content (HHV)		Maximum Operating Hours	Ash Content *(%)*	Sulfur Content *(%)*
	Space Heat	Process Heat	Power	Emergency			*(Specify units: hp, MW, or lb steam/hr)*					*(Specify units: Btu/lb, Btu/gal, or Btu/scf)*			
EU01	--	100	--	--	33.6 MMBtu/hr	27,600 steam lbs/hr	steam lbs/hr	N/A	Primary	Natural Gas Only		1,020 BTU/scf	8760	N/A	N/A

Section A.3: Notes, Comments, and Explanations
Burner is Oilon GP-700 M WDX00 LN 80 manufactured 03/2022.

Division for Air Quality

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DEP7007AI

Administrative Information

___ Section AI.1: Source Information

___ Section AI.2: Applicant Information

___ Section AI.3: Owner Information

___ Section AI.4: Type of Application

___ Section AI.5: Other Required Information

___ Section AI.6: Signature Block

___ Section AI.7: Notes, Comments, and Explanations

Additional Documentation

__ Additional Documentation attached

Source Name: **Kruger Packaging (USA), LLC - Elizabethtown Box Plant**

KY EIS (AFS) #: **21-093-00166**

Permit #: **S-21-050**

Agency Interest (AI) ID: **169070**

Date: **3/31/2026**

Section AI.1: Source Information

Physical Location Address:	**Street:**	1000 North Black Branch Road				
	City:	Elizabethtown	**County:**	Hardin	**Zip Code:**	42701
Mailing Address:	**Street or P.O. Box:**	1000 North Black Branch Road				
	City:	Elizabethtown	**State:**	Kentucky	**Zip Code:**	42701

Standard Coordinates for Source Physical Location

Longitude: -85.94192 (decimal degrees) **Latitude:** 37.67333 (decimal degrees)

Primary (NAICS) Category: Corrugated and Solid Fiber Box Manufacturing **Primary NAICS #:** 322211

#

Classification (SIC) Category: Corrugated and Solid Fiber Boxes **Primary SIC #:** 2653

Briefly discuss the type of business conducted at this site: Corrugated box production plant

Description of Area Surrounding Source: ☐ Rural Area X Industrial Park __ Residential Area __ Urban Area __ Industrial Area __ Commercial Area

Is any part of the source located on federal land? __ Yes X No

Number of Employees: 165

Approximate distance to nearest residence or commercial property: 1,500

Property Area: 57.5 acres

Is this source portable? __ Yes X No

What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?

NPDES/KPDES:	X Currently Hold	__ Need	__ N/A	KYNE00839 (No Exposure Certification)
Solid Waste:	__ Currently Hold	__ Need	X N/A	
RCRA:	X Currently Hold	__ Need	__ N/A	KYR000074666 (VSQG)
UST:	__ Currently Hold	__ Need	X N/A	

Type of Regulated Waste Activity: __ Mixed Waste Generator X Generator __ Recycler __ Other: _____

__ U.S. Importer of Hazardous Waste __ Transporter __ Treatment/Storage/Disposal Facility __ N/A

Section AI.2: Applicant Information

Applicant Name: Kruger Packaging (USA), LLC

Title: (if individual)

Mailing Address: **Street or P.O. Box:** 1000 North Black Branch Road

City: Elizabethtown **State:** Kentucky **Zip Code:** 42701

Email: (if individual)

Phone: 270-979-9000

Technical Contact

Name: Christopher McVey

Title: EHS Manager

Mailing Address: **Street or P.O. Box:** 1000 North Black Branch Road

City: Elizabethtown **State:** Kentucky **Zip Code:** 42701

Email: Christopher.McVey@Kruger.com

Phone: 502-674-3349

Air Permit Contact for Source

Name: Christopher McVey

Title: EHS Manager

Mailing Address: **Street or P.O. Box:** 1000 North Black Branch Road

City: Elizabethtown **State:** Kentucky **Zip Code:** 42701

Email: Christopher.McVey@Kruger.com

Phone: 502-674-3349

Section AI.3: Owner Information

_ Owner same as applicant

Name: Kruger Packaging (USA), LLC

Title:

Mailing Address:
eet or P.O. Box: 5830 Place Turcot
City: Montreal **State:** Quebec, Canada **Zip Code:** H4C 1W3

Email:

Phone:

List names of owners and officers of the company who have an interest in the company of 5% or more.

Name	Position
N/A	

Section AI.4: Type of Application

Current Status: __ Title V __ Conditional Major X State-Origin __ General Permit __ Registration __ None

Requested Action: *(check all that apply)*

__ Name Change	__ Initial Registration	__ Significant Revision	__ Administrative Permit Amendment
__ Renewal Permit	__ Revised Registration	__ Minor Revision	__ Initial Source-wide Operating Permit
__ 502(b)(10) Change	__ Extension Request	X Addition of New Facility	__ Portable Plant Relocation Notice
X Revision	__ Off Permit Change	__Landfill Alternate Compliance Submittal	__ Modification of Existing Facilities
__ Ownership Change	__ Closure		

Requested Status: __ Title V X Conditional Major __ State-Origin __ PSD __ NSR __ Other: _____

Is the source requesting a limitation of potential emissions? X Yes __ No

Pollutant:	Requested Limit:	Pollutant:	Requested Limit:
__ Particulate Matter		X Single HAP	9 tpy
__ Volatile Organic Compounds (VOC)		__ Combined HAPs	
__ Carbon Monoxide		__ Air Toxics (40 CFR 68, Subpart F)	
__ Nitrogen Oxides		__ Carbon Dioxide	
__ Sulfur Dioxide		__ Greenhouse Gases (GHG)	
__ Lead		__ Other	

For New Construction:

Proposed Start Date of Construction: *(MM/YYYY)* _____ **Proposed Operation Start-Up Date:** *(MM/YYYY)* _____

For Modifications:

Proposed Start Date of Modification: *(MM/YYYY)* 08/2026 **Proposed Operation Start-Up Date:** *(MM/YYYY)* TBD

Applicant is seeking coverage under a permit shield. **X Yes** **__ No** **Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.**

Section AI.5 Other Required Information

Indicate the documents attached as part of this application:

X DEP7007A Indirect Heat Exchangers and Turbines	__ DEP7007CC Compliance Certification
X DEP7007B Manufacturing or Processing Operations	X DEP7007DD Insignificant Activities
__ DEP7007C Incinerators and Waste Burners	__ DEP7007EE Internal Combustion Engines
__ DEP7007F Episode Standby Plan	__ DEP7007FF Secondary Aluminum Processing
__ DEP7007J Volatile Liquid Storage	__ DEP7007GG Control Equipment
X DEP7007K Surface Coating or Printing Operations	__ DEP7007HH Haul Roads
__ DEP7007L Mineral Processes	__ Confidentiality Claim
__ DEP7007M Metal Cleaning Degreasers	__ Ownership Change Form
X DEP7007N Source Emissions Profile	__ Secretary of State Certificate
__ DEP7007P Perchloroethylene Dry Cleaning Systems	X Flowcharts or diagrams depicting process
__ DEP7007R Emission Offset Credit	__ Digital Line Graphs (DLG) files of buildings, roads, etc.
__ DEP7007S Service Stations	X Site Map
__ DEP7007T Metal Plating and Surface Treatment Operations	X Map or drawing depicting location of facility
X DEP7007V Applicable Requirements and Compliance Activities	X Safety Data Sheet (SDS)
__ DEP7007Y Good Engineering Practice and Stack Height Determination	__ Emergency Response Plan
__ DEP7007AA Compliance Schedule for Non-complying Emission Units	__ Other: _____
__ DEP7007BB Certified Progress Report	

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

Authorized Signature	April 8, 2026 **Date**
Michael Lafave **Type or Printed Name of Signatory**	SVP & COO, Container and Packaging **Title of Signatory**

*Responsible official as defined by 401 KAR 52:001.

Section AI.7: Notes, Comments, and Explanations
N/A

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DEP7007B

Manufacturing or Processing Operations

___ Section B.1: Process Information
___ Section B.2: Materials and Fuel Information
___ Section B.3: Notes, Comments, and Explanations

Additional Documentation

__ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.
__ Attach a flow diagram
__ Attach SDS

Source Name: **Kruger Packaging (USA), LLC - Elizabethtown Box Plant**
KY EIS (AFS) #: **21-093-00166**
Permit #: **S-21-050**
Agency Interest (AI) ID: **169070**
Date: **3/31/2026**

Section B.1: Process Information

Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement *(MM/YYYY)*	Is the Process Continuous or Batch?	Number of Batches per 24 Hours *(if applicable)*	Hours per Batch *(if applicable)*
EU03	Wastepaper Handling System	Cyclone, Baler, two Shredders, and Briquetter	1	Wastepaper Handling	Custom	Custom	Jun-21	Continuous	N/A	N/A
EU04	Corrugator	Corrugator	1	Corrguator	Fosber	Unknown	Jun-21	Continuous	N/A	N/A

Section B.2: Materials and Fuel Information

**Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.*

Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit *(tons/hr)*	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content *(%)*	Ash Content *(%)*
				(Specify Units/hr)				*(Specify Units/hr)*			*(Specify Units)*		*(Specify Units)*		
EU03	Wastepaper Handling System	Trim and Scrap	Trim and Scrap	7,714 lb/hr	3.86 ton/hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EU04	Corrugator	Rollstock and Starch	N/A	N/A	N/A	N/A	Corrugated Sheets	825 Msf/hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Section B.3: Notes, Comments, and Explanations
N/A

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DEP7007DD

Insignificant Activities

___ Section DD.1: Table of Insignificant Activities
___ Section DD.2: Signature Block
___ Section DD.3: Notes, Comments, and Explanations

Source Name:	**Kruger Packaging (USA), LLC - Elizabethtown Box Plant**
KY EIS (AFS) #:	**21-093-00166**
Permit #:	**S-21-050**
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Date:	**3/31/2026**

Section DD.1: Table of Insignificant Activities

*Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3… etc.

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
Plant Area AHU	Two Natural Gas-Fired AHUs (0.235 and 0.35 MMBtu/hr)	IA01	401 KAR 63:020	Total HAP = 4.74E-03 Single HAP = 4.52E-03
Maintenance Unit Heater	Natural Gas-Fired Unit Heater (0.2 MMBtu/hr)	IA02	401 KAR 63:020	Total HAP = 1.62E-03 Single HAP = 1.55E-03
Baler Unit Heater	Natural Gas-Fired Unit Heater (0.125 MMBtu/hr)	IA03	401 KAR 63:020	Total HAP =1.01E-03 Single HAP = 9.66E-04
Wastewater Treatment Heater	Natural Gas-Fired Unit Heater (0.125 MMBtu/hr)	IA04	401 KAR 63:020	Total HAP =1.01E-03 Single HAP = 9.66E-04
Air Compressor Area Heater	Natural Gas-Fired Unit Heater (0.125 MMBtu/hr)	IA05	401 KAR 63:020	Total HAP =1.01E-03 Single HAP = 9.66E-04
Boiler Room Heater	Natural Gas-Fired Unit Heater (0.125 MMBtu/hr)	IA06	401 KAR 63:020	Total HAP =1.01E-03 Single HAP = 9.66E-04
Starch Room Heater	Natural Gas-Fired Unit Heater (0.125 MMBtu/hr)	IA07	401 KAR 63:020	Total HAP =1.01E-03 Single HAP = 9.66E-04
Starch Silo Loading and Kitchen	Dry Starch Loading and Transfer to Starch Kitchen	IA08	401 KAR 59:010	PM = 4.95E-03 PM_{10} = 1.62E-04 $PM_{2.5}$ = 2.75E-04
Electrical Room Unit Heater	Natural Gas-Fired Unit Heater (0.125 MMBtu/hr)	IA09	401 KAR 63:020	Total HAP =1.01E-03 Single HAP = 9.66E-04
Thee Rooftop AHUs	Three Natural Gas-Fired Rooftop AHUs (2.823 MMBtu/hr each)	IA10	401 KAR 63:020	Total HAP =6.87E-02 Single HAP = 0.07

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DEP7007DD

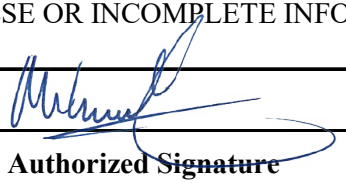
Insignificant Activities

___ Section DD.1: Table of Insignificant Activities
___ Section DD.2: Signature Block
___ Section DD.3: Notes, Comments, and Explanations

Source Name:	**Kruger Packaging (USA), LLC - Elizabethtown Box Plant**
KY EIS (AFS) #:	**21-093-00166**
Permit #:	**S-21-050**
Agency Interest (AI) ID:	**169070**
Date:	**3/31/2026**

Section DD.2: Signature Block

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.



Authorized Signature

April 8, 2026

Date

By:

Michael Lafave

Type/Print Name of Signatory

SVP & COO, Container and Packaging

Title of Signatory

Section DD.3: Notes, Comments, and Explanations
N/A

DEP7007K

Surface Coating or Printing Operations

Division for Air Quality

300 Sower Boulevard

Frankfort, KY 40601

(502) 564-3999

__ Section K.1: Process Information

__ Section K.2: Coating Operations

__ Section K.3: Other Operations

__ Section K.4: Coatings/Printing Materials as Applied

__ Section K.5: HAP-containing Coatings/Printing Materials

__ Section K.6: Notes, Comments, and Explanations

Additional Documentation

___ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.

___ Attach SDS or Technical Sheets for all Coating/Printing Materials

___ Attach a flow diagram

Source Name: **Kruger Packaging (USA), LLC - Elizabethtown Box Plant**

KY EIS (AFS) #: **21- 093-00166**

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Agency Interest (AI) ID: **169070**

Date: **3/31/2026**

Section K.1: Process Information

Emission Unit #: EU04-1 through EU04-5

Emission Unit Name: Five (5) Converting Lines Printing and Glue Application

Coating/Printing Line Name: Line 1 - Line 5 Converting Machine

Proposed/Actual Date of Construction: *(MM/YYYY)* Aug-26

List Applicable Regulations: 401 KAR 59:010, 401 KAR 50:045, 401 KAR 50:012; 401 KAR 50:055

Describe Overall Process: Corrugated sheet produced on the corrugator is fed to one of the five converting lines - either a rotary die cutter (RDC) or a flexographic folder/gluer (FFG). Both units cut and print the boxes to specification. The FFG also adds glue to form the box; the RDC does not add any glue to the box.

Describe Coatings/Printing Materials: Glue and ink.

Identify the Material that is Coated/Printed: ☐ Metal ☐ Vinyl ☐ Plastics ☐ Wood ☐ Foil ☑ Paper ☐ Other Substrate

Provide detailed description of material coated/printed: Purchased rollstock is converted onsite to corrugated sheet.

Provide approximate dimensions and range of sizes of parts being coated or printed: Varies according to customer specifications. The maximum width capable at the facility is limited by the 9.167-foot wide corrugator.

Identify the Type of Operation: ☑ Continuous ☐ Batch ☐ Other:

Describe Surface Preparation/Pretreatment Steps: N/A

For Coating Operations: ☐ Spray ☐ Flow ☐ Dip tank ☐ Electrodeposition ☐ Brush ☐ Powder ☐ Roller Coat ☐ Other: N/A

For Printing Operations: *(Select all that apply)* ☐ Web ☐ Rotogravure ☐ Heatset ☐ Lithographic ☐ Sheetfed ☐ Letterpress ☐ Non-heatset ☑ Flexographic ☐ Other: N/A

Describe Final Product: Printed corrugated cardboard

Check the category that most closely describes this unit:

☐ Large Appliance Coating
☐ Auto or Light-Duty Truck Coating
☐ Metal Furniture Coating
☐ Metal Coil Coating
☐ Beverage Can Coating
☐ Miscellaneious Metal Parts Coating
☐ Magnet Wire Insulation Coating
☐ Flat Wood Panel Coating
☐ Fabric, Vinyl, or Paper Coating
☐ Boat Manufacturing/ Ship Repair
☐ Pressure Sensitive Tape and Label Coating
☐ Magnet Tape Coating
☐ Publication Rotogravure Printing
☐ Coating of Plastic Parts for Business Machines
☐ Flexible Vinyl and Urethane Coating and Printing
☑ Graphic Arts using Rotogravure and Flexographic Printing
☐ Other: _____

Section K.2: Coating Operations

K.2A: For Spray Coating

Gun/Booth ID	Describe Function	Type	Mode	Maximum Design Application Rate *(gal/hr or lb/hr)*		Describe how maximum rate was determined
N/A	N/A	☐ Conventional Air Gun ☐ Airless ☐ HVLP ☐ Electrostatic ☐ LVLP ☐ Aerosol Spray Can ☐ Other	☐ Manual ☐ Automatic	N/A	N/A	☐ Testing ☐ Equipment Specification Sheet ☐ Estimation
		☐ Conventional Air Gun ☐ Airless ☐ HVLP ☐ Electrostatic ☐ LVLP ☐ Aerosol Spray Can ☐ Other	☐ Manual ☐ Automatic			☐ Testing ☐ Equipment Specification Sheet ☐ Estimation
		☐ Conventional Air Gun ☐ Airless ☐ HVLP ☐ Electrostatic ☐ LVLP ☐ Aerosol Spray Can ☐ Other	☐ Manual ☐ Automatic			☐ Testing ☐ Equipment Specification Sheet ☐ Estimation

If spray guns are used simultaneously, describe:	N/A

K.2B: For Brush Coating

Describe Function:	N/A
Maximum Coating Application Rate: *(gal/hr)*	N/A

K.2C: For Roller Coating

Roller Coat ID	Describe Function	Maximum Coating Application Rate *(gal/hr)*	Describe how maximum rate was determined
N/A	N/A	N/A	☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
			☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
			☐ Testing ☐ Estimation ☐ Equipment Specification Sheet

K.2D: For Powder Coating

Powder Coat ID	Describe Function	Maximum Coating Application Rate *(gal/hr or lb/hr)*		Describe how maximum rate was determined
N/A	N/A	N/A	N/A	☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
				☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
				☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
				☐ Testing ☐ Estimation ☐ Equipment Specification Sheet

If powder coating material is recycled, describe:	N/A

K.2E: For Flow Coating

Flow Coat ID	Describe Function	Maximum Coating Application Rate *(gal/hr or lb/hr)*		Describe how maximum rate was determined
N/A	N/A	N/A	N/A	☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
				☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
				☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
				☐ Testing ☐ Estimation ☐ Equipment Specification Sheet

K.2F: For Dip Tank/Electrodeposition Coating

Tank ID	Describe Function	Maximum Make-up Rate *(gal/hr or lb/hr)*		Describe how maximum rate was determined
N/A	N/A	N/A	N/A	☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
				☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
				☐ Testing ☐ Estimation ☐ Equipment Specification Sheet
				☐ Testing ☐ Estimation ☐ Equipment Specification Sheet

Section K.3: Other Operations

K.3A: For Finishing

Describe Finishing Processes: *Complete Form DEP7007B as applicable*	N/A

K.3B: For Curing/Drying

Describe Curing/Drying Processes:	Description	Rated Capacity *(MMBtu/hr)*	Fuel	Control Device/Stack ID
N/A	N/A	N/A	N/A	N/A

K.3C: For Purge

Type: N/A

Daily Usage: _____ gal/day

K.3D: For Clean-up

Type: ☐ Manual ☐ Automatic

Daily Usage: N/A hrs/day

Operating Hours: _____

K.3E: For Other Equipment

Describe Processes:	

Section K.4: Coatings/Printing Materials As Applied

Include SDS or Technical Sheets for all coating/printing materials used.

Trade Name of Material	Description *(Identify as coating, ink, fountain solution, blanket wash, cleaning solvent, thinning solvent, auto wash, manual wash, etc.)*	Emission Unit/Coating ID where material is used	SCC Code	SCC Code Units	Density *(lb/gal)*	Solid Content *(lb/gal)*	VOC Content *(lb/gal)*	Emission Factor for PM* *(lb/SCC)*	Transfer Efficiency *(%)*	Emission Factor for VOC *(lb/SCC)*	Capture Efficiency *(%)*	Control Device/ Stack ID
See Table C-1 in Appendix C Material Evaluation Worksheet												

**Emission factor for particulate matter (PM) should not include transfer efficiency.*

Section K.5: Hazardous Air Pollutant-containing Coatings/Printing Materials

List each individual hazardous air pollutant (HAP) contained in each material.

Trade Name of Material	HAP Name	HAP CAS #	Identify Solid (*S*) or Volatile (*V*)	HAP % by weight	HAP Emission Factor *(lb/SCC)*	Control Device/ Stack ID
See Table B-8 in Appendix B PTE Calculations						

Section K.6: Notes, Comments, and Explanations
N/A

Division for Air Quality

300 Sower Boulevard
Frankfort, KY 40601
(502) 564-3999

DEP7007N

Source Emissions Profile

__ Section N.1: Emission Summary
__ Section N.2: Stack Information
__ Section N.3: Fugitive Information
__ Section N.4: Notes, Comments, and Explanations

Additional Documentation
__ Complete DEP7007AI

Source Name: **Kruger Packaging (USA), LLC - Elizabethtown Box Plant**

KY EIS (AFS) #: **21-093-00166**

Permit #: **S-21-050**

Agency Interest (AI) ID: **169070**

Date: **3/31/2026**

N.1: Emission Summary

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU05[(a)]	Five Converting Lines	1	Converting Line 5	N/A	N/A	N/A	Varies per machine	See Appendix B PTE Calculations	See application narrative and PTE calculations	Mass Balance	0.00%	0.00%	See application narrative and PTE calculations	N/A	See application narrative and PTE calculations	N/A

[(a)] This is an additional converting line being constructed as part of EU05.

Section N.2: Stack Information

UTM Zone:

Stack ID	Identify all Emission Units (with Process ID) and Control Devices that Feed to Stack	Stack Physical Data			Stack UTM Coordinates		Stack Gas Stream Data		
		Equivalent Diameter *(ft)*	Height *(ft)*	Base Elevation *(ft)*	Northing *(m)*	Easting *(m)*	Flowrate *(acfm)*	Temperature *(°F)*	Exit Velocity *(ft/sec)*
N/A									

Section N.3: Fugitive Information

UTM Zone:

Emission Unit #	Emission Unit Name	Process ID	Area Physical Data		Area UTM Coordinates		Area Release Data	
			Length of the X Side *(ft)*	Length of the Y Side *(ft)*	Northing *(m)*	Easting *(m)*	Release Temperature *(°F)*	Release Height *(ft)*
N/A								

Section N.4: Notes, Comments, and Explanations
N/A

Division for Air Quality

300 Sower Boulevard
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DEP7007V

Applicable Requirements and Compliance Activities

___ Section V.1: Emission and Operating Limitation(s)
___ Section V.2: Monitoring Requirements
___ Section V.3: Recordkeeping Requirements
___ Section V.4: Reporting Requirements
___ Section V.5: Testing Requirements
___ Section V.6: Notes, Comments, and Explanations

Additional Documentation
__ Complete DEP7007AI

Source Name: **Kruger Packaging (USA), LLC - Elizabethtown Box Plant**
KY EIS (AFS) #: **21-093-00166**
Permit #: **S-21-050**
Agency Interest (AI) I **169070**
Date: **3/31/2026**

Section V.1: Emission and Operating Limitation(s)

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
Facility-Wide	Facility-Wide	401 KAR 50:030 §10	HAP	10 tpy	9 tpy	N/A	The Facility will record HAP emissions monthly to ensure emissions are within the limit during all consecutive 12-month periods.
EU03	Wastepaper Handling System	401 KAR 59:010	N/A	N/A	N/A	Control Equipment	The control equipment shall be operated according to the manufacturer's specifications and recommendations at any time an affected facility is in operations.
		401 KAR 59:010, §3(2)	PM	$E = 17.31(P)^{0.16}$ E = the PM emissions rate (pounds/hour) P = the process rate (tons/hour)	N/A	N/A	The Facility will record PM emissions monthly to ensure emissions are within the limit during all consecutive 12-month periods.
		401 KAR 59:010, §3(1)	Visible Emissions	Visible emissions shall not equal or exceed 20%.	N/A	N/A	The affected facilities are assumed to be in compliance when: (1) The affected facilities are operating and exhausting inside of the building enclosure; and (2) The control equipment is operated and maintained in accordance with the manufacturer's specification and are operated at all times when the affected facilities are in operation.
EU04	Corrugator	401 KAR 59:010, §3(1)	N/A	Visible emissions shall not equal or exceed 20%.	N/A	N/A	The affected facilities are assumed to be in compliance when: (1) The affected facilities are operating and exhausting inside of the building enclosure; and (2) The control equipment is operated and maintained in accordance with the manufacturer's specification and are operated at all times when the affected facilities are in operation.

Section V.2: Monitoring Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
EU01	Process Steam Boiler	N/A	NSPS Subpart Dc	Natural Gas Usage	Kruger will monitor the monthly record of natural gas usage.
EU03	Wastepaper Handling System	N/A	N/A	Process Weight Processed	Kruger will monitor process weight processed monthly through tracking spreadsheets.
			N/A	Control Equipment	Kruger will monitor the use of control equipment.
EU04	Corrugator	N/A	N/A	Corrugated Sheets Produced	Kruger will monitor corrugated sheets produced monthly through tracking spreadsheets.
EU05	Five Converting Lines - Printing and Glue Application	N/A	N/A	Ink and Glue Usage	Kruger will monitor ink and glue usage monthly through tracking spreadsheets.

Section V.3: Recordkeeping Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
EU01	Process Steam Boiler	N/A	N/A	Natural Gas Usage	Kruger will record natural gas usage monthly through tracking spreadsheets.
EU03	Wastepaper Handling System	N/A	N/A	Process Weight Processed	Kruger will monitor process weight processed monthly through tracking spreadsheets.
			N/A	Control Equipment	Kruger will monitor the use of control equipment.
			N/A	Manufacturer's Specifications for Control Equipment	Kruger will keep manufacturer's specifications for the control equipment on site.
EU04	Corrugator	N/A	N/A	Process Weight Processed	Kruger will monitor process weight processed monthly through tracking spreadsheets.
EU05	Five Converting Lines - Printing and Glue Application	N/A	N/A	Ink and Glue Usage	Kruger will record ink and glue usage monthly through tracking spreadsheets.

Section V.4: Reporting Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
Facility-wide	Facility-wide	N/A	401 KAR 52:030 §22	Operational parameters (multiple)	The permittee shall submit semi-annual reports, due by January 30th and July 30th of each year. All reports shall be certified by a responsible official.
EU03	Wastepaper Handling System	N/A	401 KAR 52:030 §22	Control Device Records	Kruger will submit a copy of the control device inspection and repair log for those times when corrective actions are required due to an opacity exceedance and/or records of any Reference Method 9 opacity observations

Section V.5: Testing Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
EU01	Process Steam Boiler	N/A	401 KAR 050:045 §4	N/A	Testing shall be conducted at such times as may be required by the Cabinet.
EU03	Wastepaper Handling System	N/A	401 KAR 050:045 §4	N/A	Testing shall be conducted at such times as may be required by the Cabinet.
EU04	Corrugator	N/A	401 KAR 050:045 §4	N/A	Testing shall be conducted at such times as may be required by the Cabinet.
EU05	Five Converting Lines - Printing and Glue Application	N/A	401 KAR 050:045 §4	N/A	Testing shall be conducted at such times as may be required by the Cabinet.

Section V.6: Notes, Comments, and Explanations
N/A

APPENDIX B -
PTE CALCULATIONS

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Table B-1
Facility-Wide Pre-Project Potential to Emit (PTE) Summary
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

	PTE (tpy)[a]								Pre-Project Facility-wide Emissions Below Major Source Threshold?
EU ID	**EU01**	**EU02**	**EU03[b]**	**EU04**	**EU05**	**IA01 - IA07**	**Pre-Project Facility-Wide PTE**	**401 KAR 52:001 Section 1(46) Major Source Threshold**	
EU Description	***Process Steam Boiler***	***Starch Silos***	***Box Processing Equipment***	***Flexographic Box Printing***	***Glue Application***	***Insignificant Activities***			
Pollutant									**(Yes/No)**
PM[c]	0.87	0.94	13.88	--	--	0.18	15.87	100	Yes
PM_{10}[c]	0.87	0.94	13.88	--	--	0.18	15.87	100	Yes
$PM_{2.5}$[c]	0.87	0.94	13.88	--	--	0.18	15.87	100	Yes
CO	9.67	--	--	--	--	2.04	11.71	100	Yes
NO_X	3.68	--	--	--	--	2.43	6.11	100	Yes
SO_2	0.07	--	--	--	--	0.01	0.08	100	Yes
Lead	5.75E-05	--	--	--	--	1.21E-05	6.96E-05	100	Yes
VOC	0.63	--	--	19.30	0.4	0.13	20.46	100	Yes
Total HAP	0.22	--	--	--	--	0.05	0.27	25	Yes
Single HAP (Hexane)	0.21	--	--	--	--	4.37E-02	0.25	10	Yes
CO_2	13,734	--	--	--	--	2,898	16,632	--	--
CH_4	0.26	--	--	--	--	0.05	0.31	--	--
N_2O	0.03	--	--	--	--	0.01	0.04	--	--
GHG (CO_2e)	13,748	--	--	--	--	2,901	16,649	--	--
Ammonia[d]	--	--	--	--	--	--	--	--	--

Notes:

[a] Pre-Project potential emissions for RAP are based on values provided in the State-Origin Air Permit Application for a Corrugated Box Production Plant, submitted on June 9, 2021.

[b] EU03 Box Processing Equipment Pre-Project PM emissions account for Building Capture & Control (Inherent) and Engineered Recycling System's CCM® Octagon Filter System controls.

[c] Emissions estimates conservatively assume $PM=PM_{10}=PM_{2.5}$ for all EUs.

[d] The 2021 application did not include quantification of ammonia air emissions.

Table B-2
Facility-Wide Post-Project PTE Summary
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

	PTE (tpy)								
Proposed EU ID[a]	**EU01**	**EU03[f,i]**	**EU04**	**EU05**	**IA08[g]**	**IA01 - IA07[j], IA09, IA10[k]**	**Post-Project Facility-Wide PTE**	**401 KAR 52:001 Section 1(46) Major Source Threshold**	**Facility-wide Emissions Below Major Source Threshold?**
EU Description	***Process Steam Boiler***	***Wastepaper Handling System***	***Corrugator***	***Five Converting Lines - Printing and Glue Application***	***Starch Silo Loading (Insignificant Activity)***	***Insignificant Activities***			**(Yes/No)**
Pollutant									
PM[b]	1.10	0.00	--	--	4.95E-03	0.33	1.43	100	Yes
PM_{10}[b]	1.10	0.00	--	--	1.62E-03	0.33	1.43	100	Yes
$PM_{2.5}$[b]	1.10	0.00	--	--	2.75E-04	0.33	1.42	100	Yes
CO	12.12	--	--	--	--	3.61	15.73	100	Yes
NO_X	4.62	--	--	--	--	4.30	8.91	100	Yes
SO_2	0.09	--	--	--	--	0.03	0.11	100	Yes
Lead	7.21E-05	--	--	--	--	2.15E-05	9.36E-05	100	Yes
VOC	0.79	--	8.75	14.41	--	0.24	24.19	100	Yes
Total HAP[c]	0.27	--	8.75	0.19	--	0.24	9.45	25	Yes
Single HAP (Methanol)[c]	--	--	8.75	--	--	--	8.75	10	Yes, see note (c)
CO_2	17,314	--	--	--	--	5,155	22,469	--	--
CH_4	0.33	--	--	--	--	0.10	0.43	--	--
N_2O	0.09	--	--	--	--	0.04	0.13	--	--
GHG (CO_2e)	17,348	--	--	--	--	5,168	22,515	--	--
Ammonia[e]	0.46	--	--	--	--	0.14	0.60	--	--

Notes:

[a] The Facility is requesting that the grouping of EUs be updated with this application to better reflect operations. EU IDs proposed in the application narrative are used from this point on in the emissions calculations.

[b] Emissions conservatively assume $PM=PM_{10}=PM_{2.5}$ for all EUs.

[c] Kruger is requesting a Facility-Wide annual production limit Single HAP emission limit of less than 9 tpy to preclude applicability of 401 KAR 52:020 (Title V Permits).

[d] The Facility-Wide Post-Project emissions changes are due entirely to changes in emissions factors applied to Facility operations. Facility production is limited by the Corrugator capacity which is not changing as a result of this Project. Details on emissions factor selection can be found in Section 3 of the application narrative.

[e] The 2021 application did not include quantification of ammonia air emissions.

[f] EU02 was previously permitted containing three shredders, there are only two shredders operating at the Facility. There are no plans to construct a third shredder at this time.

[g] As part of this Permit Application current EU02 - Starch Silos will be categorized as an IA due to the PTE any RAP being below 5 tpy.

[h] Pre-Project potential emissions for RAP are based on values provided in the State-Origin Air Permit Application for a Corrugated Box Production Plant, submitted on June 9, 2021. The pre-project potential emissions are detailed in Table B-1.

[i] Control efficiencies based on 100% control from a briquetter. Paper trim/dust from EU04 and EU05 are routed to the Wastepaper Handling System (EU03) which is composed of a separator cyclone, baler, two shredders, and the briquetter.

[j] Several IA, as described in Table B-9, have an updated maximum process rate from the values provided in the State-Origin Air Permit Application for a Corrugated Box Production Plant, submitted on June 9, 2021.

[k] IA09 and IA10 proposed IA in this Permit Application.

Table B-3
EU01 "Process Steam Boiler" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Regulated Air Pollutants	Emissions Factor[a]	Potential Emissions[b]	
	(lb/MMscf)	(lb/hr)	(tpy)
PM / PM_{10} / $PM_{2.5}$	7.6	0.25	1.10
NO_x	32	1.05	4.62
SO_2	0.6	0.02	0.09
CO	84	2.77	12.12
Lead	5.00E-04	1.65E-05	7.21E-05
VOC	5.5	0.18	0.79
CO_2	120,000	3,953	17,314
CH_4	2.3	0.08	0.33
N_2O	0.64	0.02	0.09
CO_2e[c]	N/A	3,961	17,348
Ammonia[d]	3.2	0.11	0.46
Hazardous Air Pollutants	**Emissions Factor[a]**	**Potential Emissions[b]**	
	(lb/MMscf)	(lb/hr)	(tpy)
2-Methylnapthalene	2.40E-05	7.91E-07	3.46E-06
3-Methylchlorantrene	1.80E-06	5.93E-08	2.60E-07
7,12-Dimethylbenz(a)anthracene	1.60E-05	5.27E-07	2.31E-06
Acenaphthene	1.80E-06	5.93E-08	2.60E-07
Acenaphthylene	1.80E-06	5.93E-08	2.60E-07
Anthracene	2.40E-06	7.91E-08	3.46E-07
Arsenic	2.00E-04	6.59E-06	2.89E-05
Benz(a)anthracene	1.80E-06	5.93E-08	2.60E-07
Benzene	2.10E-03	6.92E-05	3.03E-04
Benzo(a)pyrene	1.20E-06	3.95E-08	1.73E-07
Benzo(b)fluoranthene	1.80E-06	5.93E-08	2.60E-07
Benzo(g,h,i)perylene	1.20E-06	3.95E-08	1.73E-07
Benzo(k)fluoranthene	1.80E-06	5.93E-08	2.60E-07
Beryllium	1.20E-05	3.95E-07	1.73E-06
Cadmium	1.10E-03	3.62E-05	1.59E-04
Chromium	1.40E-03	4.61E-05	2.02E-04
Chrysene	1.80E-06	5.93E-08	2.60E-07
Cobalt	8.40E-05	2.77E-06	1.21E-05
Dibenzo(a,h)anthracene	1.20E-06	3.95E-08	1.73E-07
Dichlorobenzene	1.20E-03	3.95E-05	1.73E-04
Fluoranthene	3.00E-06	9.88E-08	4.33E-07
Fluorene	2.80E-06	9.22E-08	4.04E-07
Formaldehyde	0.08	2.47E-03	0.01
Hexane	1.80	0.06	0.26
Indeno(1,2,3-cd)pyrene	1.80E-06	5.93E-08	2.60E-07
Manganese	3.80E-04	1.25E-05	5.48E-05
Mercury	2.60E-04	8.56E-06	3.75E-05
Naphthalene	6.10E-04	2.01E-05	8.80E-05
Nickel	2.10E-03	6.92E-05	3.03E-04
Phenanthrene	1.70E-05	5.60E-07	2.45E-06
Pyrene	5.00E-06	1.65E-07	7.21E-07
Selenium	2.40E-05	7.91E-07	3.46E-06
Toluene	3.40E-03	1.12E-04	4.91E-04

Notes:

[a] The emissions factors, except for ammonia, are found in U.S. EPA AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[b] Calculated PTE rates based on parameters identified below.

Parameter	Value
Burner Rating (MMBtu/hr)	33.6
Natural Gas Heat Content (Btu/scf)	1,020
Operating Time (hr/yr)	8,760
Pounds per ton (lb/ton)	2,000
Number of units	1

[c] The carbon dioxide equivalent (CO_2e) PTE is based off the following factors from 40 CFR 98 Table A-1 to Subpart A of part 98 Global Warming Potentials:

GHG	Global Warming Potential
CO_2	1
CH_4	28
N_2O	265

[d] Emissions factors for ammonia obtained from U.S. EPA WebFIRE for uncontrolled external combustion industrial natural gas boiler SCC 10200602.

Table B-4

EU03 "Wastepaper Handling System" PTE Calculations

Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Pollutant	Emissions Factor [b]	Controlled Emissions Factor [c]	Potential Emissions[a]	
	(lb/lb waste baled)	(lb/lb waste baled)	(lb/hr)	(tpy)
PM	1.16E-03	0.0	0.0	0.0
PM_{10}	7.05E-04	0.0	0.0	0.0
$PM_{2.5}$	2.66E-04	0.0	0.0	0.0

Notes:

[a] Calculated PTE rates based on parameters identified below.

Parameter	Value
Operating Time (hr/yr)	8,760
Pounds per ton (lb/ton)	2,000
Potential Cyclone Separator Annual Waste Baled (lb/yr)[d]	67,570,844
PM Control Efficiency[c]	100%
PM_{10} Control Efficiency[c]	100%
$PM_{2.5}$ Control Efficiency[c]	100%
2025 Waste Baled (tpy)	11,655

[b] PM Emissions factor comes from engineering judgment; $PM_{2.5}$ and PM_{10} emissions factors come from particle size distribution data from U.S. EPA AP-42 Appendix B Table B.2-2 Category 7.

[c] Control efficiencies based on 100% control from a briquetter. Paper trim/dust from EU04 and EU05 are routed to the Wastepaper Handling System (EU03) which is composed of a separator cyclone, baler, two shredders, and the briquetter. Equipment is located within the building. Therefore, 100% control efficiencies based on Building Capture & Control.

[d] Annual waste baled amount based on 2025 Facility-Wide scrap collection data multiplied by the Production Ratio defined in Table B-5.

Table B-5

EU04 "Corrugator" PTE Calculations

Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Pollutant	Double-Walled Emissions Factor [a]	Potential Emissions[e]	
	(lb/MMsf)	(lb/hr)[c]	(tpy)
VOC	3.50	2.89	8.75
Methanol[b]	3.50	2.89	8.75

Notes:

[a] VOC emissions factor from San Joaquin Valley Air Pollution Control District BACT Guideline 4.9.13 for Corrugated Board Manufacturing.

[b] These calculations assume that the predominant HAP emitted is methanol.

[c] Corrugator throughput is calculated from short term maximum throughput.

[d] The Proposed Production Limit of 5,000,000 Msf/yr represents the maximum annual production of corrugated board by the Facility for it to remain a Conditional Major source of HAP emissions.

[e] Calculated PTE rates based on parameters identified below.

Parameter	Value
Run Speed (ft/min)	1,500
Width (inches)	110
Width (feet)	9.17
Sq ft/min	13,750
Operating Time (hr/yr)	8,760
Pounds per ton (lb/ton)	2,000
Minutes per hour (min/hr)	60
Msf/MMsf	1,000
Physical Machine Capacity (Msf/yr)	7,227,000
Proposed Production Limit (Msf/yr)[d]	5,000,000
Physical Machine Capacity (Msf/hr)	825
2025 Corrugated Board Production (Msf/yr)	1,724,809
Production Ratio calculated using 5,000,000 Msf/yr proposed prodution capacity divided by 2025 actual production.	2.90

Table B-6

EU05 "Five Converting Lines - Printing and Glue Application" PTE Calculations Summary

Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Equipment[a,b]	Pollutant			
	VOC		HAP	
	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Flexographic Box Printing	4.61	13.98	--	--
Glue Application	0.14	0.43	0.06	0.19
Total:	4.76	14.41	0.06	0.19

Notes:

[a] See equipment and material usage details for EU05 in Tables B-7 and B-8.

[b] Equipment EU05-1, EU05-2, EU05-3, EU54-4, and EU05-5 includes three flexo folder gluers and two rotary die cutters.

Table B-7

EU05 "Five Converting Lines - Printing and Glue Application" Flexographic Box Printing PTE Calculations

Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Material	Maximum Annual Usage[a] (tons)	Weight % VOC[d]	VOC[e]	
			(lb/hr)	(tpy)
Ink[a,b]	822	1.70%	4.60	13.93
Quick Dry Additive[c]	0.05	100%	0.02	0.05
		Total:	4.61	13.98

Notes:

[a] Maximum Facility-Wide ink usage is based on the 2025 ink usage multiplied by the Production Ratio defined in Table B-5.

[b] Ink with maximum VOC content as identified in Table C-1 of Appendix C was used to calculate PTE. PTE calculations assume the ink producing the highest maximum hourly emissions rate is run at 8,760 hours per year on EU04. A safety factor of 150% was added to the highest VOC% of 1.13% to account for potential variability of ink used.

[c] Maximum Facility-Wide Quick Dry Additive usage based on the 2025 purchase data multiplied by the Production Ratio defined on Table B-5.

[d] Material density and weight fractions for VOC content of ink and additive used is based on data from SDS.

[e] Calculated PTE rates based on parameters identified below.

Parameter	Value
Maximum Potential Facility-Wide Ink Usage (lb/yr)	1,643,892
Maximum Potential Hourly Ink Usage (lb/hr)	271
Maximum Potential Facility-Wide Quick Dry Additive Usage (lb/yr)	101
Maximum Potential Hourly Quick Dry Additive Usage (lb/hr)	0.017
Pounds per ton (lb/ton)	2,000
Operating Time (hr/yr)	8,760
2025 Facility-wide Ink Usage (lb/yr)	567,080
2025 Facility-wide Quick Dry Additive Usage (lb/yr)	35

Table B-8

EU05 "Five Converting Lines - Printing and Glue Application" - Glue Application PTE Calculations

Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Material	Maximum Annual Usage[(a)] (tons)	Weight % VOC[(b)]	Weight % HAP[(b)]	VOC[(d)]		HAP[(d)]	
				(lb/hr)	(tpy)	(lb/hr)	(tpy)
Glue - 4000UVG Adhesive	121.3	0.36%	0.16%	0.14	0.43	0.06	0.19

Notes:

[(a)] Maximum Facility-wide glue usage based on the 2025 material usage multiplied by the Production Ratio defined in Table B-5.

[(b)] Material weight fractions for HAP and VOC content of glue used is based on data from SDS.

[(c)] The 4000UVG Adhesive is only used only used on the flexo folder gluers, not the rotary die cutters.

[(d)] Calculated PTE rates based on parameters identified below.

Parameter	Value
Maximum Potential Facility-Wide Glue Usage (lb/yr)	242,566
Maximum Potential Hourly Glue Usage (lb/hr)	40
Pounds per ton (lb/ton)	2,000
Operating Time (hr/yr)	8,760
2025 Facility-Wide Glue Usage (lb/yr)	83,676

Table B-9
Summary of PTE Calculations for Insignificant Activities (IA)
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Description	Equipment ID	Table Reference	Max Process Rate	Potential Emissions (tpy)														
				PM	PM_{10}	$PM_{2.5}$	CO	NO_X	SO_2	Lead	VOC	Total HAP	Single HAP	CO_2	CH_4	N_2O	GHG (CO_2e)	Ammonia
Plant Area AHU	IA01[(a)]	B-10	0.235 and 0.35 MMBtu/hr	0.02	0.02	0.02	0.21	0.25	1.51E-03	1.26E-06	0.01	4.74E-03	4.52E-03	301	0.01	0.01	303	0.01
Maintenance Unit Heater	IA02[(a)]	B-11	0.2 MMBtu/hr	6.53E-03	6.53E-03	6.53E-03	0.07	0.09	5.15E-04	4.29E-07	4.72E-03	1.62E-03	1.55E-03	103.1	1.98E-03	1.89E-03	103.6	2.75E-03
Baler Unit Heater	IA03[(a)]	B-12	0.125 MMBtu/hr	0.00	0.00	0.00	0.05	0.05	3.22E-04	2.68E-07	2.95E-03	1.01E-03	9.66E-04	64.4	1.23E-03	1.18E-03	64.8	1.72E-03
Waste Water Treatment Heater	IA04[(a)]	B-13	0.125 MMBtu/hr	4.08E-03	4.08E-03	4.08E-03	0.05	0.05	3.22E-04	2.68E-07	2.95E-03	1.01E-03	9.66E-04	64.4	1.23E-03	1.18E-03	64.8	1.72E-03
Air Compressor Area Heater	IA05[(a)]	B-14	0.125 MMBtu/hr	4.08E-03	4.08E-03	4.08E-03	0.05	0.05	3.22E-04	2.68E-07	2.95E-03	1.01E-03	9.66E-04	64.4	1.23E-03	1.18E-03	64.8	1.72E-03
Boiler Room Heater	IA06[(a)]	B-15	0.125 MMBtu/hr	4.08E-03	4.08E-03	4.08E-03	0.05	0.05	3.22E-04	2.68E-07	2.95E-03	1.01E-03	9.66E-04	64.4	1.23E-03	1.18E-03	64.8	1.72E-03
Starch Room Heater	IA07[(a)]	B-16	0.125 MMBtu/hr	4.08E-03	4.08E-03	4.08E-03	0.05	0.05	3.22E-04	2.68E-07	2.95E-03	1.01E-03	9.66E-04	64.4	1.23E-03	1.18E-03	64.8	1.72E-03
Starch Silo Loading and Kitchen	IA08[(b)]	B-17	2.2 lb starch/Msf	4.95E-03	1.62E-03	2.75E-04	--	--	--	--	--	--	--	--	--	--	--	--
Electrical Room Heater	IA09	B-18	0.125 MMBTU/hr	4.08E-03	4.08E-03	4.08E-03	0.05	0.05	3.22E-04	2.68E-07	2.95E-03	1.01E-03	9.66E-04	64.4	1.23E-03	1.18E-03	64.8	1.72E-03
Three Roof Heaters	IA10	B-19	8.469 MMBtu/hr	0.28	0.28	0.28	3.05	3.64	0.02	1.82E-05	0.20	6.87E-02	6.55E-02	4,364	8.36E-02	2.33E-02	4,372.5	1.16E-01
			Total	0.33	0.33	0.33	3.61	4.30	0.03	2.15E-05	0.24	0.08	0.08	5,155.00	0.10	0.04	5,167.78	0.14

Notes:
[(a)] IA has an updated maximum process rate from the values provided in the State-Origin Air Permit Application for a Corrugated Box Production Plant, submitted on June 9, 2021

Table B-10
IA01 "Plant Area AHU totaling 0.585 MMBtu/hr" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Regulated Air Pollutants	Emissions Factor[a]	Potential Emissions[b]	
	(lb/mmscf)	(lb/hr)	(ton/yr)
PM / PM_{10} / $PM_{2.5}$	7.6	4.36E-03	0.02
NO_x	100	0.06	0.25
SO_2	0.6	3.44E-04	1.51E-03
CO	84	0.05	0.21
Lead	5.00E-04	2.87E-07	1.26E-06
VOC	5.5	3.15E-03	0.01
CO_2	120,000	68.82	301.45
CH_4	2.3	1.32E-03	5.78E-03
N_2O	2.2	1.26E-03	5.53E-03
CO_2e[c]	N/A	69.19	303.07
Ammonia[d]	3.2	1.84E-03	8.04E-03
Hazardous Air Pollutants	**Emissions Factor[a]**	**Potential Emissions[b]**	
	(lb/mmscf)	(lb/hr)	(ton/yr)
2-Methylnapthalene	2.40E-05	1.38E-08	6.03E-08
3-Methylchlorantrene	1.80E-06	1.03E-09	4.52E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	9.18E-09	4.02E-08
Acenaphthene	1.80E-06	1.03E-09	4.52E-09
Acenaphthylene	1.80E-06	1.03E-09	4.52E-09
Anthracene	2.40E-06	1.38E-09	6.03E-09
Arsenic	2.00E-04	1.15E-07	5.02E-07
Benz(a)anthracene	1.80E-06	1.03E-09	4.52E-09
Benzene	2.10E-03	1.20E-06	5.28E-06
Benzo(a)pyrene	1.20E-06	6.88E-10	3.01E-09
Benzo(b)fluoranthene	1.80E-06	1.03E-09	4.52E-09
Benzo(g,h,i)perylene	1.20E-06	6.88E-10	3.01E-09
Benzo(k)fluoranthene	1.80E-06	1.03E-09	4.52E-09
Beryllium	1.20E-05	6.88E-09	3.01E-08
Cadmium	1.10E-03	6.31E-07	2.76E-06
Chromium	1.40E-03	8.03E-07	3.52E-06
Chrysene	1.80E-06	1.03E-09	4.52E-09
Cobalt	8.40E-05	4.82E-08	2.11E-07
Dibenzo(a,h)anthracene	1.20E-06	6.88E-10	3.01E-09
Dichlorobenzene	1.20E-03	6.88E-07	3.01E-06
Fluoranthene	3.00E-06	1.72E-09	7.54E-09
Fluorene	2.80E-06	1.61E-09	7.03E-09
Formaldehyde	0.08	4.30E-05	1.88E-04
Hexane	1.80	1.03E-03	4.52E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	1.03E-09	4.52E-09
Manganese	3.80E-04	2.18E-07	9.55E-07
Mercury	2.60E-04	1.49E-07	6.53E-07
Naphthalene	6.10E-04	3.50E-07	1.53E-06
Nickel	2.10E-03	1.20E-06	5.28E-06
Phenanthrene	1.70E-05	9.75E-09	4.27E-08
Pyrene	5.00E-06	2.87E-09	1.26E-08
Selenium	2.40E-05	1.38E-08	6.03E-08
Toluene	3.40E-03	1.95E-06	8.54E-06

Notes:

[a] The emissions factors, except for ammonia, are found in U.S. EPA AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[b] Calculated PTE rates based on parameters identified below.

Parameter	Value
Burner Rating (MMBtu/hr)	0.585
Natural Gas Heat Content (Btu/scf)	1,020
Potential Annual Operating Hours (hr/yr)	8,760
Pound to ton conversion factor (lb/ton)	2,000
Number of units	2

[c] The carbon dioxide equivalent (CO_2e) PTE is based off the following factors from 40 CFR 98 Table A-1 to Subpart A of part 98 Global Warming Potentials:

GHG	Global Warming Potential
CO_2	1
CH_4	28
N_2O	265

[d] Emissions factors for ammonia obtained from U.S. EPA WebFIRE for uncontrolled external combustion industial natural gas boiler SCC 10200602.

Table B-11
IA02 "Maintenance Unit Heater (1 unit, 0.2 MMBtu/hr)" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Regulated Air Pollutants	Emissions Factor[a]	Potential Emissions[b]	
	(lb/mmscf)	(lb/hr)	(ton/yr)
PM / PM_{10} / $PM_{2.5}$	7.6	1.49E-03	6.53E-03
NO_x	100	0.02	0.09
SO_2	0.6	1.18E-04	5.15E-04
CO	84	0.02	0.07
Lead	5.00E-04	9.80E-08	4.29E-07
VOC	5.5	1.08E-03	4.72E-03
CO_2	120,000	23.53	103.1
CH_4	2.3	4.51E-04	1.98E-03
N_2O	2.2	4.31E-04	1.89E-03
CO_2e[c]	N/A	23.66	103.6
Ammonia[d]	3.2	6.27E-04	2.75E-03
Hazardous Air Pollutants	**Emissions Factor[a]**	**Potential Emissions[b]**	
	(lb/mmscf)	(lb/hr)	(ton/yr)
2-Methylnapthalene	2.40E-05	4.71E-09	2.06E-08
3-Methylchlorantrene	1.80E-06	3.53E-10	1.55E-09
7,12-Dimethylbenz(a)anthracene	1.60E-05	3.14E-09	1.37E-08
Acenaphthene	1.80E-06	3.53E-10	1.55E-09
Acenaphthylene	1.80E-06	3.53E-10	1.55E-09
Anthracene	2.40E-06	4.71E-10	2.06E-09
Arsenic	2.00E-04	3.92E-08	1.72E-07
Benz(a)anthracene	1.80E-06	3.53E-10	1.55E-09
Benzene	2.10E-03	4.12E-07	1.80E-06
Benzo(a)pyrene	1.20E-06	2.35E-10	1.03E-09
Benzo(b)fluoranthene	1.80E-06	3.53E-10	1.55E-09
Benzo(g,h,i)perylene	1.20E-06	2.35E-10	1.03E-09
Benzo(k)fluoranthene	1.80E-06	3.53E-10	1.55E-09
Beryllium	1.20E-05	2.35E-09	1.03E-08
Cadmium	1.10E-03	2.16E-07	9.45E-07
Chromium	1.40E-03	2.75E-07	1.20E-06
Chrysene	1.80E-06	3.53E-10	1.55E-09
Cobalt	8.40E-05	1.65E-08	7.21E-08
Dibenzo(a,h)anthracene	1.20E-06	2.35E-10	1.03E-09
Dichlorobenzene	1.20E-03	2.35E-07	1.03E-06
Fluoranthene	3.00E-06	5.88E-10	2.58E-09
Fluorene	2.80E-06	5.49E-10	2.40E-09
Formaldehyde	0.08	1.47E-05	6.44E-05
Hexane	1.80	3.53E-04	1.55E-03
Indeno(1,2,3-cd)pyrene	1.80E-06	3.53E-10	1.55E-09
Manganese	3.80E-04	7.45E-08	3.26E-07
Mercury	2.60E-04	5.10E-08	2.23E-07
Naphthalene	6.10E-04	1.20E-07	5.24E-07
Nickel	2.10E-03	4.12E-07	1.80E-06
Phenanthrene	1.70E-05	3.33E-09	1.46E-08
Pyrene	5.00E-06	9.80E-10	4.29E-09
Selenium	2.40E-05	4.71E-09	2.06E-08
Toluene	3.40E-03	6.67E-07	2.92E-06

Notes:

[a] The emissions factors, except for ammonia, are found in U.S. EPA AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[b] Calculated PTE rates based on parameters identified below.

Parameter	Value
Burner Rating (MMBtu/hr)	0.2
Natural Gas Heat Content (Btu/scf)	1,020
Potential Annual Operating Hours (hr/yr)	8,760
Pound to ton conversion factor (lb/ton)	2,000
Number of units	1

[c] The carbon dioxide equivalent (CO_2e) PTE is based off the following factors from 40 CFR 98 Table A-1 to Subpart A of part 98 Global Warming Potentials:

GHG	Global Warming Potential
CO_2	1
CH_4	28
N_2O	265

[d] Emissions factors for ammonia obtained from U.S. EPA WebFIRE for uncontrolled external combustion industial natural gas boiler SCC 10200602.

Table B-12
IA03 "Baler Unit Heater (1 unit, 0.125 MMBTU/hr)" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Regulated Air Pollutants	Emissions Factor[a]	Potential Emissions[b]	
	(lb/mmscf)	(lb/hr)	(ton/yr)
PM / PM_{10} / $PM_{2.5}$	7.6	9.31E-04	4.08E-03
NO_x	100	0.01	0.05
SO_2	0.6	7.35E-05	3.22E-04
CO	84	0.01	0.05
Lead	5.00E-04	6.13E-08	2.68E-07
VOC	5.5	6.74E-04	2.95E-03
CO_2	120,000	14.71	64.4
CH_4	2.3	2.82E-04	1.23E-03
N_2O	2.2	2.70E-04	1.18E-03
CO_2e[c]	N/A	14.79	64.8
Ammonia[d]	3.2	3.92E-04	1.72E-03
Hazardous Air Pollutants	**Emissions Factor[a]**	**Potential Emissions[b]**	
	(lb/mmscf)	(lb/hr)	(ton/yr)
2-Methylnapthalene	2.40E-05	2.94E-09	1.29E-08
3-Methylchlorantrene	1.80E-06	2.21E-10	9.66E-10
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.96E-09	8.59E-09
Acenaphthene	1.80E-06	2.21E-10	9.66E-10
Acenaphthylene	1.80E-06	2.21E-10	9.66E-10
Anthracene	2.40E-06	2.94E-10	1.29E-09
Arsenic	2.00E-04	2.45E-08	1.07E-07
Benz(a)anthracene	1.80E-06	2.21E-10	9.66E-10
Benzene	2.10E-03	2.57E-07	1.13E-06
Benzo(a)pyrene	1.20E-06	1.47E-10	6.44E-10
Benzo(b)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Benzo(g,h,i)perylene	1.20E-06	1.47E-10	6.44E-10
Benzo(k)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Beryllium	1.20E-05	1.47E-09	6.44E-09
Cadmium	1.10E-03	1.35E-07	5.90E-07
Chromium	1.40E-03	1.72E-07	7.51E-07
Chrysene	1.80E-06	2.21E-10	9.66E-10
Cobalt	8.40E-05	1.03E-08	4.51E-08
Dibenzo(a,h)anthracene	1.20E-06	1.47E-10	6.44E-10
Dichlorobenzene	1.20E-03	1.47E-07	6.44E-07
Fluoranthene	3.00E-06	3.68E-10	1.61E-09
Fluorene	2.80E-06	3.43E-10	1.50E-09
Formaldehyde	0.08	9.19E-06	4.03E-05
Hexane	1.80	2.21E-04	9.66E-04
Indeno(1,2,3-cd)pyrene	1.80E-06	2.21E-10	9.66E-10
Manganese	3.80E-04	4.66E-08	2.04E-07
Mercury	2.60E-04	3.19E-08	1.40E-07
Naphthalene	6.10E-04	7.48E-08	3.27E-07
Nickel	2.10E-03	2.57E-07	1.13E-06
Phenanthrene	1.70E-05	2.08E-09	9.13E-09
Pyrene	5.00E-06	6.13E-10	2.68E-09
Selenium	2.40E-05	2.94E-09	1.29E-08
Toluene	3.40E-03	4.17E-07	1.83E-06

Notes:

[a] The emissions factors, except for ammonia, are found in U.S. EPA AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[b] Calculated PTE rates based on parameters identified below.

Parameter	Value
Burner Rating (MMBtu/hr)	0.125
Natural Gas Heat Content (Btu/scf)	1,020
Potential Annual Operating Hours (hr/yr)	8,760
Pound to ton conversion factor (lb/ton)	2,000
Number of units	1

[c] The carbon dioxide equivalent (CO_2e) PTE is based off the following factors from 40 CFR 98 Table A-1 to Subpart A of part 98 Global Warming Potentials:

GHG	Global Warming Potential
CO_2	1
CH_4	28
N_2O	265

[d] Emissions factors for ammonia obtained from U.S. EPA WebFIRE for uncontrolled external combustion industial natural gas boiler SCC 10200602.

Table B-13
IA04 "Waste Water Treatment Heater (1 unit, 0.125 MMBtu/hr)" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Regulated Air Pollutants	Emissions Factor[a]	Potential Emissions[b]	
	(lb/mmscf)	(lb/hr)	(ton/yr)
PM / PM_{10} / $PM_{2.5}$	7.6	9.31E-04	4.08E-03
NO_x	100	0.01	0.05
SO_2	0.6	7.35E-05	3.22E-04
CO	84	0.01	0.05
Lead	5.00E-04	6.13E-08	2.68E-07
VOC	5.5	6.74E-04	2.95E-03
CO_2	120,000	14.71	64.4
CH_4	2.3	2.82E-04	1.23E-03
N_2O	2.2	2.70E-04	1.18E-03
CO_2e[c]	N/A	14.79	64.8
Ammonia[d]	3.2	3.92E-04	1.72E-03
Hazardous Air Pollutants	**Emissions Factor[a]**	**Potential Emissions[b]**	
	(lb/mmscf)	(lb/hr)	(ton/yr)
2-Methylnapthalene	2.40E-05	2.94E-09	1.29E-08
3-Methylchlorantrene	1.80E-06	2.21E-10	9.66E-10
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.96E-09	8.59E-09
Acenaphthene	1.80E-06	2.21E-10	9.66E-10
Acenaphthylene	1.80E-06	2.21E-10	9.66E-10
Anthracene	2.40E-06	2.94E-10	1.29E-09
Arsenic	2.00E-04	2.45E-08	1.07E-07
Benz(a)anthracene	1.80E-06	2.21E-10	9.66E-10
Benzene	2.10E-03	2.57E-07	1.13E-06
Benzo(a)pyrene	1.20E-06	1.47E-10	6.44E-10
Benzo(b)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Benzo(g,h,i)perylene	1.20E-06	1.47E-10	6.44E-10
Benzo(k)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Beryllium	1.20E-05	1.47E-09	6.44E-09
Cadmium	1.10E-03	1.35E-07	5.90E-07
Chromium	1.40E-03	1.72E-07	7.51E-07
Chrysene	1.80E-06	2.21E-10	9.66E-10
Cobalt	8.40E-05	1.03E-08	4.51E-08
Dibenzo(a,h)anthracene	1.20E-06	1.47E-10	6.44E-10
Dichlorobenzene	1.20E-03	1.47E-07	6.44E-07
Fluoranthene	3.00E-06	3.68E-10	1.61E-09
Fluorene	2.80E-06	3.43E-10	1.50E-09
Formaldehyde	0.08	9.19E-06	4.03E-05
Hexane	1.80	2.21E-04	9.66E-04
Indeno(1,2,3-cd)pyrene	1.80E-06	2.21E-10	9.66E-10
Manganese	3.80E-04	4.66E-08	2.04E-07
Mercury	2.60E-04	3.19E-08	1.40E-07
Naphthalene	6.10E-04	7.48E-08	3.27E-07
Nickel	2.10E-03	2.57E-07	1.13E-06
Phenanthrene	1.70E-05	2.08E-09	9.13E-09
Pyrene	5.00E-06	6.13E-10	2.68E-09
Selenium	2.40E-05	2.94E-09	1.29E-08
Toluene	3.40E-03	4.17E-07	1.83E-06

Notes:

[a] The emissions factors, except for ammonia, are found in U.S. EPA AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[b] Calculated PTE rates based on parameters identified below.

Parameter	Value
Burner Rating (MMBtu/hr)	0.125
Natural Gas Heat Content (Btu/scf)	1,020
Potential Annual Operating Hours (hr/yr)	8,760
Pound to ton conversion factor (lb/ton)	2,000
Number of units	1

[c] The carbon dioxide equivalent (CO_2e) PTE is based off the following factors from 40 CFR 98 Table A-1 to Subpart A of part 98 Global Warming Potentials:

GHG	Global Warming Potential
CO_2	1
CH_4	28
N_2O	265

[d] Emissions factors for ammonia obtained from U.S. EPA WebFIRE for uncontrolled external combustion industial natural gas boiler SCC 10200602.

Table B-14
IA05 "Air Compressor Area Heater (1 unit, 0.125 MMBTU/hr)" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Regulated Air Pollutants	Emissions Factor[a]	Potential Emissions[b]	
	(lb/mmscf)	(lb/hr)	(ton/yr)
PM / PM_{10} / $PM_{2.5}$	7.6	9.31E-04	4.08E-03
NO_x	100	0.01	0.05
SO_2	0.6	7.35E-05	3.22E-04
CO	84	0.01	0.05
Lead	5.00E-04	6.13E-08	2.68E-07
VOC	5.5	6.74E-04	2.95E-03
CO_2	120,000	14.71	64.4
CH_4	2.3	2.82E-04	1.23E-03
N_2O	2.2	2.70E-04	1.18E-03
CO_2e[c]	N/A	14.79	64.8
Ammonia[d]	3.2	3.92E-04	1.72E-03
Hazardous Air Pollutants	**Emissions Factor[a]**	**Potential Emissions[b]**	
	(lb/mmscf)	(lb/hr)	(ton/yr)
2-Methylnapthalene	2.40E-05	2.94E-09	1.29E-08
3-Methylchlorantrene	1.80E-06	2.21E-10	9.66E-10
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.96E-09	8.59E-09
Acenaphthene	1.80E-06	2.21E-10	9.66E-10
Acenaphthylene	1.80E-06	2.21E-10	9.66E-10
Anthracene	2.40E-06	2.94E-10	1.29E-09
Arsenic	2.00E-04	2.45E-08	1.07E-07
Benz(a)anthracene	1.80E-06	2.21E-10	9.66E-10
Benzene	2.10E-03	2.57E-07	1.13E-06
Benzo(a)pyrene	1.20E-06	1.47E-10	6.44E-10
Benzo(b)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Benzo(g,h,i)perylene	1.20E-06	1.47E-10	6.44E-10
Benzo(k)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Beryllium	1.20E-05	1.47E-09	6.44E-09
Cadmium	1.10E-03	1.35E-07	5.90E-07
Chromium	1.40E-03	1.72E-07	7.51E-07
Chrysene	1.80E-06	2.21E-10	9.66E-10
Cobalt	8.40E-05	1.03E-08	4.51E-08
Dibenzo(a,h)anthracene	1.20E-06	1.47E-10	6.44E-10
Dichlorobenzene	1.20E-03	1.47E-07	6.44E-07
Fluoranthene	3.00E-06	3.68E-10	1.61E-09
Fluorene	2.80E-06	3.43E-10	1.50E-09
Formaldehyde	0.08	9.19E-06	4.03E-05
Hexane	1.80	2.21E-04	9.66E-04
Indeno(1,2,3-cd)pyrene	1.80E-06	2.21E-10	9.66E-10
Manganese	3.80E-04	4.66E-08	2.04E-07
Mercury	2.60E-04	3.19E-08	1.40E-07
Naphthalene	6.10E-04	7.48E-08	3.27E-07
Nickel	2.10E-03	2.57E-07	1.13E-06
Phenanthrene	1.70E-05	2.08E-09	9.13E-09
Pyrene	5.00E-06	6.13E-10	2.68E-09
Selenium	2.40E-05	2.94E-09	1.29E-08
Toluene	3.40E-03	4.17E-07	1.83E-06

Notes:

[a] The emissions factors, except for ammonia, are found in U.S. EPA AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[b] Calculated PTE rates based on parameters identified below.

Parameter	Value
Burner Rating (MMBtu/hr)	0.125
Natural Gas Heat Content (Btu/scf)	1,020
Potential Annual Operating Hours (hr/yr)	8,760
Pound to ton conversion factor (lb/ton)	2,000
Number of units	1

[c] The carbon dioxide equivalent (CO_2e) PTE is based off the following factors from 40 CFR 98 Table A-1 to Subpart A of part 98 Global Warming Potentials:

GHG	Global Warming Potential
CO_2	1
CH_4	28
N_2O	265

[d] Emissions factors for ammonia obtained from U.S. EPA WebFIRE for uncontrolled external combustion industial natural gas boiler SCC 10200602.

Table B-15
IA06 "Boiler Room Heater (1 unit, 0.125 MMBtu/hr)" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Regulated Air Pollutants	Emissions Factor[a]	Potential Emissions[b]	
	(lb/mmscf)	(lb/hr)	(ton/yr)
PM / PM_{10} / $PM_{2.5}$	7.6	9.31E-04	4.08E-03
NO_x	100	0.01	0.05
SO_2	0.6	7.35E-05	3.22E-04
CO	84	0.01	0.05
Lead	5.00E-04	6.13E-08	2.68E-07
VOC	5.5	6.74E-04	2.95E-03
CO_2	120,000	14.71	64.4
CH_4	2.3	2.82E-04	1.23E-03
N_2O	2.2	2.70E-04	1.18E-03
CO_2e[c]	N/A	14.79	64.8
Ammonia[d]	3.2	3.92E-04	1.72E-03
Hazardous Air Pollutants	**Emissions Factor[a]**	**Potential Emissions[b]**	
	(lb/mmscf)	(lb/hr)	(ton/yr)
2-Methylnapthalene	2.40E-05	2.94E-09	1.29E-08
3-Methylchlorantrene	1.80E-06	2.21E-10	9.66E-10
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.96E-09	8.59E-09
Acenaphthene	1.80E-06	2.21E-10	9.66E-10
Acenaphthylene	1.80E-06	2.21E-10	9.66E-10
Anthracene	2.40E-06	2.94E-10	1.29E-09
Arsenic	2.00E-04	2.45E-08	1.07E-07
Benz(a)anthracene	1.80E-06	2.21E-10	9.66E-10
Benzene	2.10E-03	2.57E-07	1.13E-06
Benzo(a)pyrene	1.20E-06	1.47E-10	6.44E-10
Benzo(b)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Benzo(g,h,i)perylene	1.20E-06	1.47E-10	6.44E-10
Benzo(k)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Beryllium	1.20E-05	1.47E-09	6.44E-09
Cadmium	1.10E-03	1.35E-07	5.90E-07
Chromium	1.40E-03	1.72E-07	7.51E-07
Chrysene	1.80E-06	2.21E-10	9.66E-10
Cobalt	8.40E-05	1.03E-08	4.51E-08
Dibenzo(a,h)anthracene	1.20E-06	1.47E-10	6.44E-10
Dichlorobenzene	1.20E-03	1.47E-07	6.44E-07
Fluoranthene	3.00E-06	3.68E-10	1.61E-09
Fluorene	2.80E-06	3.43E-10	1.50E-09
Formaldehyde	0.08	9.19E-06	4.03E-05
Hexane	1.80	2.21E-04	9.66E-04
Indeno(1,2,3-cd)pyrene	1.80E-06	2.21E-10	9.66E-10
Manganese	3.80E-04	4.66E-08	2.04E-07
Mercury	2.60E-04	3.19E-08	1.40E-07
Naphthalene	6.10E-04	7.48E-08	3.27E-07
Nickel	2.10E-03	2.57E-07	1.13E-06
Phenanthrene	1.70E-05	2.08E-09	9.13E-09
Pyrene	5.00E-06	6.13E-10	2.68E-09
Selenium	2.40E-05	2.94E-09	1.29E-08
Toluene	3.40E-03	4.17E-07	1.83E-06

Notes:

[a] The emissions factors, except for ammonia, are found in U.S. EPA AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[b] Calculated PTE rates based on parameters identified below.

Parameter	Value
Burner Rating (MMBtu/hr)	0.125
Natural Gas Heat Content (Btu/scf)	1,020
Potential Annual Operating Hours (hr/yr)	8,760
Pound to ton conversion factor (lb/ton)	2,000
Number of units	1

[c] The carbon dioxide equivalent (CO_2e) PTE is based off the following factors from 40 CFR 98 Table A-1 to Subpart A of part 98 Global Warming Potentials:

GHG	Global Warming Potential
CO_2	1
CH_4	28
N_2O	265

[d] Emissions factors for ammonia obtained from U.S. EPA WebFIRE for uncontrolled external combustion industial natural gas boiler SCC 10200602.

Table B-16
IA07 "Starch Room Heater (1 unit, 0.125 MMBtu/hr)" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Regulated Air Pollutants	Emissions Factor[a]	Potential Emissions[b]	
	(lb/mmscf)	(lb/hr)	(ton/yr)
PM / PM_{10} / $PM_{2.5}$	7.6	9.31E-04	4.08E-03
NO_x	100	0.01	0.05
SO_2	0.6	7.35E-05	3.22E-04
CO	84	0.01	0.05
Lead	5.00E-04	6.13E-08	2.68E-07
VOC	5.5	6.74E-04	2.95E-03
CO_2	120,000	14.71	64.4
CH_4	2.3	2.82E-04	1.23E-03
N_2O	2.2	2.70E-04	1.18E-03
CO_2e[c]	N/A	14.79	64.8
Ammonia[d]	3.2	3.92E-04	1.72E-03
Hazardous Air Pollutants	**Emissions Factor[a]**	**Potential Emissions[b]**	
	(lb/mmscf)	(lb/hr)	(ton/yr)
2-Methylnapthalene	2.40E-05	2.94E-09	1.29E-08
3-Methylchlorantrene	1.80E-06	2.21E-10	9.66E-10
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.96E-09	8.59E-09
Acenaphthene	1.80E-06	2.21E-10	9.66E-10
Acenaphthylene	1.80E-06	2.21E-10	9.66E-10
Anthracene	2.40E-06	2.94E-10	1.29E-09
Arsenic	2.00E-04	2.45E-08	1.07E-07
Benz(a)anthracene	1.80E-06	2.21E-10	9.66E-10
Benzene	2.10E-03	2.57E-07	1.13E-06
Benzo(a)pyrene	1.20E-06	1.47E-10	6.44E-10
Benzo(b)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Benzo(g,h,i)perylene	1.20E-06	1.47E-10	6.44E-10
Benzo(k)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Beryllium	1.20E-05	1.47E-09	6.44E-09
Cadmium	1.10E-03	1.35E-07	5.90E-07
Chromium	1.40E-03	1.72E-07	7.51E-07
Chrysene	1.80E-06	2.21E-10	9.66E-10
Cobalt	8.40E-05	1.03E-08	4.51E-08
Dibenzo(a,h)anthracene	1.20E-06	1.47E-10	6.44E-10
Dichlorobenzene	1.20E-03	1.47E-07	6.44E-07
Fluoranthene	3.00E-06	3.68E-10	1.61E-09
Fluorene	2.80E-06	3.43E-10	1.50E-09
Formaldehyde	0.08	9.19E-06	4.03E-05
Hexane	1.80	2.21E-04	9.66E-04
Indeno(1,2,3-cd)pyrene	1.80E-06	2.21E-10	9.66E-10
Manganese	3.80E-04	4.66E-08	2.04E-07
Mercury	2.60E-04	3.19E-08	1.40E-07
Naphthalene	6.10E-04	7.48E-08	3.27E-07
Nickel	2.10E-03	2.57E-07	1.13E-06
Phenanthrene	1.70E-05	2.08E-09	9.13E-09
Pyrene	5.00E-06	6.13E-10	2.68E-09
Selenium	2.40E-05	2.94E-09	1.29E-08
Toluene	3.40E-03	4.17E-07	1.83E-06

Notes:

[a] The emissions factors, except for ammonia, are found in U.S. EPA AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[b] Calculated PTE rates based on parameters identified below.

Parameter	Value
Burner Rating (MMBtu/hr)	0.125
Natural Gas Heat Content (Btu/scf)	1,020
Potential Annual Operating Hours (hr/yr)	8,760
Pound to ton conversion factor (lb/ton)	2,000
Number of units	1

[c] The carbon dioxide equivalent (CO_2e) PTE is based off the following factors from 40 CFR 98 Table A-1 to Subpart A of part 98 Global Warming Potentials:

GHG	Global Warming Potential
CO_2	1
CH_4	28
N_2O	265

[d] Emissions factors for ammonia obtained from U.S. EPA WebFIRE for uncontrolled external combustion industial natural gas boiler SCC 10200602.

Table B-17
IA08 "Starch Silo Loading and Kitchen" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Pollutant	Uncontrolled Emissions Factor [(b)]	Controlled Emissions Factor	Potential Emissions - Controlled[(a)]	
	(lb/ton starch)	(lb/ton starch)	(lb/hr)	(tpy)
PM	0.18	1.80E-03	1.63E-03	4.95E-03
PM_{10}	0.06	5.90E-04	5.35E-04	1.62E-03
$PM_{2.5}$	0.01	1.00E-04	9.07E-05	2.75E-04

Notes:

[(a)] Calculated PTE rates based on parameters identified below.

Parameter	Value
Starch Usage Rate (lb starch/Msf)[(c)]	2.2
PM Control Efficiency	99.0%
PM_{10} Control Efficiency	99.0%
$PM_{2.5}$ Control Efficiency	99.0%
Production Limit (Msf/yr)	5,000,000
Physical Machine Capacity (Msf/hr)	825
Operating Time (hr/yr)	8,760
Pounds per ton (lb/ton)	2,000
2025 Facility-wide Starch Usage Rate (lb/yr)[(d)]	3,793,402

[(b)] Emissions factors come from U.S. EPA AP-42 Table 9.9.1-1 and are adjusted to account for fabric filter collection efficiency per U.S. EPA Table B.2-3.

[(c)] The starch usage rate is based on the 2025 Facility-wide starch usage divided by Production limit, then multiplied by the Production Ratio defined in Table B-5.

[(d)] Hourly emissions are based on hourly physical machine capacity while annual emissions are based on requested production limit.

Table B-18
IA09 "Electrical Room Heater (1 unit, 0.125 MMBtu/hr)" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Regulated Air Pollutants	Emissions Factor[a]	Potential Emissions[b]	
	(lb/mmscf)	(lb/hr)	(ton/yr)
PM / PM_{10} / $PM_{2.5}$	7.6	9.31E-04	4.08E-03
NO_x	100	0.01	0.05
SO_2	0.6	7.35E-05	3.22E-04
CO	84	0.01	0.05
Lead	5.00E-04	6.13E-08	2.68E-07
VOC	5.5	6.74E-04	2.95E-03
CO_2	120,000	14.71	64.4
CH_4	2.3	2.82E-04	1.23E-03
N_2O	2.2	2.70E-04	1.18E-03
CO_2e[c]	N/A	14.79	64.8
Ammonia[d]	3.2	3.92E-04	1.72E-03
Hazardous Air Pollutants	**Emissions Factor[a]**	**Potential Emissions[b]**	
	(lb/mmscf)	(lb/hr)	(ton/yr)
2-Methylnapthalene	2.40E-05	2.94E-09	1.29E-08
3-Methylchlorantrene	1.80E-06	2.21E-10	9.66E-10
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.96E-09	8.59E-09
Acenaphthene	1.80E-06	2.21E-10	9.66E-10
Acenaphthylene	1.80E-06	2.21E-10	9.66E-10
Anthracene	2.40E-06	2.94E-10	1.29E-09
Arsenic	2.00E-04	2.45E-08	1.07E-07
Benz(a)anthracene	1.80E-06	2.21E-10	9.66E-10
Benzene	2.10E-03	2.57E-07	1.13E-06
Benzo(a)pyrene	1.20E-06	1.47E-10	6.44E-10
Benzo(b)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Benzo(g,h,i)perylene	1.20E-06	1.47E-10	6.44E-10
Benzo(k)fluoranthene	1.80E-06	2.21E-10	9.66E-10
Beryllium	1.20E-05	1.47E-09	6.44E-09
Cadmium	1.10E-03	1.35E-07	5.90E-07
Chromium	1.40E-03	1.72E-07	7.51E-07
Chrysene	1.80E-06	2.21E-10	9.66E-10
Cobalt	8.40E-05	1.03E-08	4.51E-08
Dibenzo(a,h)anthracene	1.20E-06	1.47E-10	6.44E-10
Dichlorobenzene	1.20E-03	1.47E-07	6.44E-07
Fluoranthene	3.00E-06	3.68E-10	1.61E-09
Fluorene	2.80E-06	3.43E-10	1.50E-09
Formaldehyde	0.08	9.19E-06	4.03E-05
Hexane	1.80	2.21E-04	9.66E-04
Indeno(1,2,3-cd)pyrene	1.80E-06	2.21E-10	9.66E-10
Manganese	3.80E-04	4.66E-08	2.04E-07
Mercury	2.60E-04	3.19E-08	1.40E-07
Naphthalene	6.10E-04	7.48E-08	3.27E-07
Nickel	2.10E-03	2.57E-07	1.13E-06
Phenanthrene	1.70E-05	2.08E-09	9.13E-09
Pyrene	5.00E-06	6.13E-10	2.68E-09
Selenium	2.40E-05	2.94E-09	1.29E-08
Toluene	3.40E-03	4.17E-07	1.83E-06

Notes:

[a] The emissions factors, except for ammonia, are found in U.S. EPA AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[b] Calculated PTE rates based on parameters identified below.

Parameter	Value
Burner Rating (MMBtu/hr)	0.125
Natural Gas Heat Content (Btu/scf)	1,020
Potential Annual Operating Hours (hr/yr)	8,760
Pound to ton conversion factor (lb/ton)	2,000
Number of units	1

[c] The carbon dioxide equivalent (CO_2e) PTE is based off the following factors from 40 CFR 98 Table A-1 to Subpart A of part 98 Global Warming Potentials:

GHG	Global Warming Potential
CO_2	1
CH_4	28
N_2O	265

[d] Emissions factors for ammonia obtained from U.S. EPA WebFIRE for uncontrolled external combustion industial natural gas boiler SCC 10200602.

Table B-19
IA10 "Three Rooftop AHUs" PTE Calculations
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Regulated Air Pollutants	Emissions Factor[a]	Potential Emissions[b]	
	(lb/MMscf)	(lb/hr)	(tpy)
PM / PM_{10} / $PM_{2.5}$	7.6	0.02	0.28
NO_x	100	0.28	3.64
SO_2	0.6	1.66E-03	0.02
CO	84	0.23	3.05
Lead	5.00E-04	1.38E-06	1.82E-05
VOC	5.5	0.02	0.20
CO_2	120,000	332	4,364
CH_4	2.3	6.37E-03	0.08
N_2O	0.64	1.77E-03	0.02
CO_2e[c]	N/A	333	4,373
Ammonia[d]	3.2	8.86E-03	0.12
Hazardous Air Pollutants	**Emissions Factor[a]**	**Potential Emissions[b]**	
	(lb/MMscf)	(lb/hr)	(tpy)
2-Methylnapthalene	2.40E-05	6.64E-08	8.73E-07
3-Methylchlorantrene	1.80E-06	4.98E-09	6.55E-08
7,12-Dimethylbenz(a)anthracene	1.60E-05	4.43E-08	5.82E-07
Acenaphthene	1.80E-06	4.98E-09	6.55E-08
Acenaphthylene	1.80E-06	4.98E-09	6.55E-08
Anthracene	2.40E-06	6.64E-09	8.73E-08
Arsenic	2.00E-04	5.54E-07	7.27E-06
Benz(a)anthracene	1.80E-06	4.98E-09	6.55E-08
Benzene	2.10E-03	5.81E-06	7.64E-05
Benzo(a)pyrene	1.20E-06	3.32E-09	4.36E-08
Benzo(b)fluoranthene	1.80E-06	4.98E-09	6.55E-08
Benzo(g,h,i)perylene	1.20E-06	3.32E-09	4.36E-08
Benzo(k)fluoranthene	1.80E-06	4.98E-09	6.55E-08
Beryllium	1.20E-05	3.32E-08	4.36E-07
Cadmium	1.10E-03	3.04E-06	4.00E-05
Chromium	1.40E-03	3.87E-06	5.09E-05
Chrysene	1.80E-06	4.98E-09	6.55E-08
Cobalt	8.40E-05	2.32E-07	3.05E-06
Dibenzo(a,h)anthracene	1.20E-06	3.32E-09	4.36E-08
Dichlorobenzene	1.20E-03	3.32E-06	4.36E-05
Fluoranthene	3.00E-06	8.30E-09	1.09E-07
Fluorene	2.80E-06	7.75E-09	1.02E-07
Formaldehyde	0.08	2.08E-04	2.73E-03
Hexane	1.80	4.98E-03	0.07
Indeno(1,2,3-cd)pyrene	1.80E-06	4.98E-09	6.55E-08
Manganese	3.80E-04	1.05E-06	1.38E-05
Mercury	2.60E-04	7.20E-07	9.46E-06
Naphthalene	6.10E-04	1.69E-06	2.22E-05
Nickel	2.10E-03	5.81E-06	7.64E-05
Phenanthrene	1.70E-05	4.71E-08	6.18E-07
Pyrene	5.00E-06	1.38E-08	1.82E-07
Selenium	2.40E-05	6.64E-08	8.73E-07
Toluene	3.40E-03	9.41E-06	1.24E-04

Notes:

[a] The emissions factors, except for ammonia, are found in U.S. EPA AP-42 Section 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[b] Calculated PTE rates based on parameters identified below.

Parameter	Value
Burner Rating (MMBtu/hr)	2.823
Natural Gas Heat Content (Btu/scf)	1,020
Operating Time (hr/yr)	8,760
Pounds per ton (lb/ton)	2,000
Number of units	3

[c] The carbon dioxide equivalent (CO_2e) PTE is based off the following factors from 40 CFR 98 Table A-1 to Subpart A of part 98 Global Warming Potentials:

GHG	Global Warming Potential
CO_2	1
CH_4	28
N_2O	265

[d] Emissions factors for ammonia obtained from U.S. EPA WebFIRE for uncontrolled external combustion industrial natural gas boiler SCC 10200602.

APPENDIX C -
MATERIALS EVALUATION WORKSHEET

Table C-1
Materials Evaluation Worksheet
Kruger Packaging (USA), LLC - Elizabethtown Box Plant, Elizabethtown, Hardin County, Kentucky

Ink	Density (lb/gal)	VOC[a,b]	
		wt%	Content (lb/gal)
HG PMS 485U RED MW	9.87	0.22%	0.02
HG GCMI 38 BLUE	10.30	0.33%	0.03
HG PMS 339U GREEN MW	9.80	0.38%	0.04
HG PMS 342U GREEN MW	9.75	0.26%	0.03
HG PMS 556U GREEN MW	9.60	0.32%	0.03
HG PMS 3005U BLUE MW	9.90	0.25%	0.02
HG PMS 376U GREEN MW	9.83	0.35%	0.03
HG PMS 361U GREEN KFT	11.65	0.59%	0.07
Q-SELECT WHITE BASE	12.67	0.95%	0.12
CLASSIC CORRUGATED EXTENDER	**10.22**	**1.13%**	**0.12**
HIGH GRAPHICS FAST DRY CORRUGATED EXTENDER	8.71	0.91%	0.08
HG PMS 2995U BLUE MW	10.25	0.44%	0.05
HG PMS 356C GREEN MW	9.53	0.23%	0.02
HG PMS 476U BROWN KFT	11.25	0.51%	0.06
HGS GCMI 31 BLUE	10.56	0.38%	0.04
HGS PMS 286U BLUE KFT	11.85	0.64%	0.08
HG PMS 281U BLUE KFT	11.76	0.45%	0.05
Q-CORR DEFOAMER	8.40	0.00%	0.00
HG PMS 3435U GREEN KFT	11.10	0.42%	0.05
HG GCMI 52 BROWN	10.30	0.22%	0.02
HG PMS 2728U BLUE KFT	11.80	0.69%	0.08
TITAN WHITE	14.20	0.14%	0.02
HG PMS 7620U RED KFT	11.21	0.57%	0.06
Q-CORR SLOW DRY	10.50	0.00%	0.00
HG PMS 2766U BLUE MW	10.10	0.39%	0.04
HG PMS 2985U BLUE MW	9.95	0.38%	0.04
HG PMS 314U BLUE KFT	11.60	0.63%	0.07
HG PMS 287U BLUE MW	10.20	0.23%	0.02
HG PMS 287U BLUE FDCT MW	9.70	0.13%	0.01
HG DENSE DISPLAY BLACK	10.15	0.04%	0.00
KRUGER GCMI 90 BLACK	9.70	0.15%	0.01
HG PMS 431U GRAY PL MW	10.32	0.38%	0.04
HG PMS 2935U BLUE KFT	11.35	0.52%	0.06
HG SM PMS 7499U TAN MW	10.40	0.47%	0.05
HGS PMS REFLEX BLUE U MW	10.10	0.32%	0.03
HGS GCMI 34 BLUE	10.50	0.41%	0.04
HGS GCMI 3229 BLUE	10.38	0.45%	0.05
HG PMS 567C GREEN KFT	9.89	0.20%	0.02
HG SM N&N ORANGE KFT	12.10	0.46%	0.06
HG PMS 2415U PURPLE KFT	11.48	0.56%	0.06
HGS PMS 285U BLUE MW	10.05	0.37%	0.04
HG SM 2612C PURPLE KFT	12.05	0.47%	0.06
HG PMS 4505C BROWN MW	10.58	0.31%	0.03
HG PMS 155U ORANGE MW	10.26	0.39%	0.04
HG PMS WARM GRAY 11C MW	9.89	0.44%	0.04
HG PMS 2748U BLUE KFT	11.50	0.56%	0.06
HG PMS 2593C PURPLE KFT	11.89	0.74%	0.09
HG GCMI 81 ORANGE	10.90	0.32%	0.03
HG PMS 316U BLUE MW	10.48	0.30%	0.03
HG PMS 2347U RED KFT	11.25	0.44%	0.05
HG GCMI 13 YELLOW	10.60	0.42%	0.04
HG GCMI 103 YELLOW	10.85	0.43%	0.05
HG GCMI 81 ORANGE	10.42	0.33%	0.03
HG GCMI 73 RED	10.20	0.34%	0.03
HG GCMI 74 RED	10.30	0.28%	0.03
HG GCMI 75 RED	10.35	0.31%	0.03
HG GCMI 76 RED	10.36	0.30%	0.03
HG GCMI 33 BLUE	10.01	0.24%	0.02
HG GCMI 3086 BLUE	10.60	0.46%	0.05
HG GCMI 39 BLUE	9.89	0.30%	0.03
HG GCMI 20 GREEN	10.75	0.32%	0.03
HG GCMI 21 GREEN	10.55	0.33%	0.03
HG GCMI 24 GREEN	10.60	0.32%	0.03
HG GCMI 25 GREEN	10.72	0.31%	0.03
HG GCMI 29 GREEN	10.60	0.42%	0.04
HG GCMI 300 BLUE	10.30	0.39%	0.04
ANILOX CLEANER	8.75	0.00%	0.00
HG GCMI 609 MAROON	10.28	0.31%	0.03
HG GCMI 91 WHITE	12.45	0.94%	0.12
HG GCMI 984 PINK	10.98	0.50%	0.05
HG GCMI 82 ORANGE	10.40	0.33%	0.03
HG GCMI 11 YELLOW	10.42	0.34%	0.04
HG GCMI 10 YELLOW	10.55	0.45%	0.05
HG GCMI 394 BLUE	10.45	0.33%	0.03
HG GCMI 78 RED	10.21	0.40%	0.04
HG PMS 356U GREEN MW	10.01	0.27%	0.03
PH STABILIZER	7.59	0.00%	0.00
HG GCMI 523 BROWN	10.40	0.58%	0.06
HG PMS REFLEX BLUE U MW	10.43	0.36%	0.04
HG PMS 185U RED MW	9.90	0.55%	0.05
HG PMS 3015U BLUE MW	10.25	0.42%	0.04
HG PMS 262U PURPLE MW	10.43	0.55%	0.06
HG PMS 431U GRAY MW	10.50	0.43%	0.05
HG PMS 202U RED KFT	11.10	0.62%	0.07
Q-SELECT YELLOW BASE	9.56	0.51%	0.05
Q-SELECT ORANGE BASE	9.90	0.47%	0.05
Q-SELECT BS RED BASE	9.60	0.51%	0.05
Q-SELECT YS RED BASE	9.65	0.16%	0.02
Q-SELECT RUBINE RED BASE	9.58	0.39%	0.04
Q-SELECT RHODAMINE RED BASE	9.35	0.10%	0.01
Q-SELECT GS BLUE BASE	9.80	0.33%	0.03
Q-SELECT VIOLET BASE	9.65	0.41%	0.04
Q-SELECT GREEN BASE	9.45	0.61%	0.06
Q-SELECT BLACK BASE	9.90	0.30%	0.03
HG PMS 319U BLUE KFT	11.75	0.98%	0.12
HG PMS 1665U ORANGE KFT	11.35	0.48%	0.05
QUICK FIX	9.02	0.00%	0.00
HGS PMS 2617U PURPLE MW	10.35	0.30%	0.03
Q-CORR NON RUB WAX	8.98	0.11%	0.01
HG PMS 7499U TAN MW	10.41	0.56%	0.06
HG GCMI 30 BLUE FD	9.89	0.22%	0.02
HGS PMS 7455C BLUE MW	10.39	0.46%	0.05
HGS PMS 281C BLUE MW	10.22	0.17%	0.02
HG PMS 871C NON-METALLIC GOLD MW	10.77	0.26%	0.03
HG SM GE LIGHT BLUE MW	10.66	0.32%	0.03
HG SM GE DARK BLUE MW	10.38	0.19%	0.02
HG SM GE GOLD MW	10.28	0.33%	0.03
HG PMS 5473U GREEN MW	10.45	0.32%	0.03

Notes:

[a] Density and VOC content obtained from SDS located in Appendix E.

[b] VOC content calculated by multiplying the Density in lb/gal and VOC Content percentage.

[c] CLASSIC CORRUGATED EXTENDER ink has the largest VOC Content in pounds per gallon and therefore is used in the emissions calculations for Five Converting Lines - Printing and Glue Application (EU04).

APPENDIX D -
EQUIPMENT SPECIFICATION SHEETS

NOTE:
- EVOL 4FGR-115 (DUAL SLOTTER)
- DUCT FOR EXHAUST OF BLOWER : UPPER ARRANGEMENT(EXHAUST TO CREASER SLOTTER SIDE)
- HEIGHT OF DELIVERY CONVEYOR : 785MM FROM FLOOR LEVEL
- FG : MD TYPE
- GLUE MECHANISM : GLUE GUN SYSTEM
- EXHAUST FROM SUCTION BLOWER AT FOLDING UNIT : CONNECT TO DUST COLLECTOR
- SAFETY FENCE AT OPERATION SIDE OF FOLDING UNIT : NEED
- CE : STD(CE-B TYPE)
- CE BUNDLE COMPRESSION DEVISE : NONE
- WIDTH OF SCRAP CONVEYOR : 1200mm
- DUST COLLECTOR AND EXHAUST DUCTS : SUPPLIED BY CUSTOMER

2. ELEC. PRIMARY POWER RECEIVING POINT FROM CUSTOMER
(1)FOR UNIT(FEE TO CE) CONTROL PANEL
(2)FOR GLUE GUN CONTROL PANEL (OPTION)
(3)FOR AC VECTOR MOTOR AND PLC
3. ELEC. DATA COMMUNICATION CABLE CONNECTING POINT FROM CNC OPERATION PANEL
(1)FOR PROFINET
(2)FOR GLUE GUN(OPTION)
4. ELEC. CONNECTING POINT OF E-STOP SIGNAL FOR PERIPHERAL EQUIPMENT
(1)EXHAUST DUCT FAULT ALARM
(2)PALLETIZER FEEDING STOP
(3)STRAPPER FEEDING STOP
(4)AIR COMPRESSOR FAULT ALARM
(5)WIN BOX SLITTER FEEDING STOP
5. ELEC. CONNECTING POINT FOR EVOL STATES SIGNAL
(1)RUNNING x2 (2)PULSE OF FED SHEETS x1

1. ELEC. PRIMARY POWER DISTRIBUTING POINT
(1)TO CNC OPERATION PANEL
(2)TO COOLER/EVAPORATOR IN CNC OPERATION PANEL

6. ELEC PRIMARY POWER RECEIVING POINT FOR CNC OPERATION PANEL FROM POWER PANEL
7. ELEC. DATA COMMUNICATION CABLE CONNECTING POINT FROM MAIN DRIVE POWER ENTRY PANEL
(1)FOR PROFINET
8. ELEC CONNECTING POINT FOR REMOTE MAINTENANCE LAN CABLE FROM CUSTOMER

9. ELEC. CONNECTING POINT OF E-STOP SIGNAL FOR PERIPHERAL EQUIPMENT
10. ELEC. CONNECTING POINT FOR
(1)PREFEEDER INTERFACE SIGNAL AND COMMUNICATION
(2)TYING MACHINE INTERFACE SIGNAL(OPTION)
(3)JOGGER INTERFACE SIGNAL (OPTION)

11. ELEC.PRIMARY POWER RECEIVING POINT FOR GLUE GUN CONTROL PANEL FROM POWER PANEL (OPTION)
12. ELEC CONNECTING POINT FOR ON-LINE DATA LINK FROM CUSTOMER
13. ELEC CONNECTING POINT FOR PALLETIZER DATA LINK FROM PALLETIZER
14. ELEC DATA COMMUNICATION CABLE CONNECTING POINT FROM MAIN DRIVE POWER ENTRY PANEL (1)FOR GLUE GUN (OPTION)

NOTES:
1. THIS DRAWING SHOWS THE LAYOUT OF THE EVOL 4FGR-115 FLEXO. FOLDER GLUER.
2. ALL DIMENSIONS ARE INDICATED IN METRIC.
3. SUCTION BLOWER EXHAUST CAPACITY.
•FEEDING UNIT + PRINTING UNITS(1C-4C):720m³/min
•FOLDING UNIT :100m³/min
4. AIR CONNECTION & WATER CONNECTION CAPACITY.
(AIR)
•TOTAL(FEEDING UNIT-COUNTER EJECTOR):2005NL/min. 0.6MPa TO 0.7MPa
•DUAL SLOTTER UNIT : 550NL/min. 0.6MPa TO 0.7MPa
•AIR GUN FOR COUNTER EJECTOR :1500NL/min. 0.6MPa TO 0.7MPa
•GLUE GUN : 75NL/min. 0.6MPa TO 0.7MPa
(WATER)
•TOTAL : 10L/min/1 PRINTING UNIT. 0.2MPa (40L/min/4 PRINTING UNIT)

DETAIL P(S=1:15)
(INTERFACE OF CONNECTING CONVEYOR)

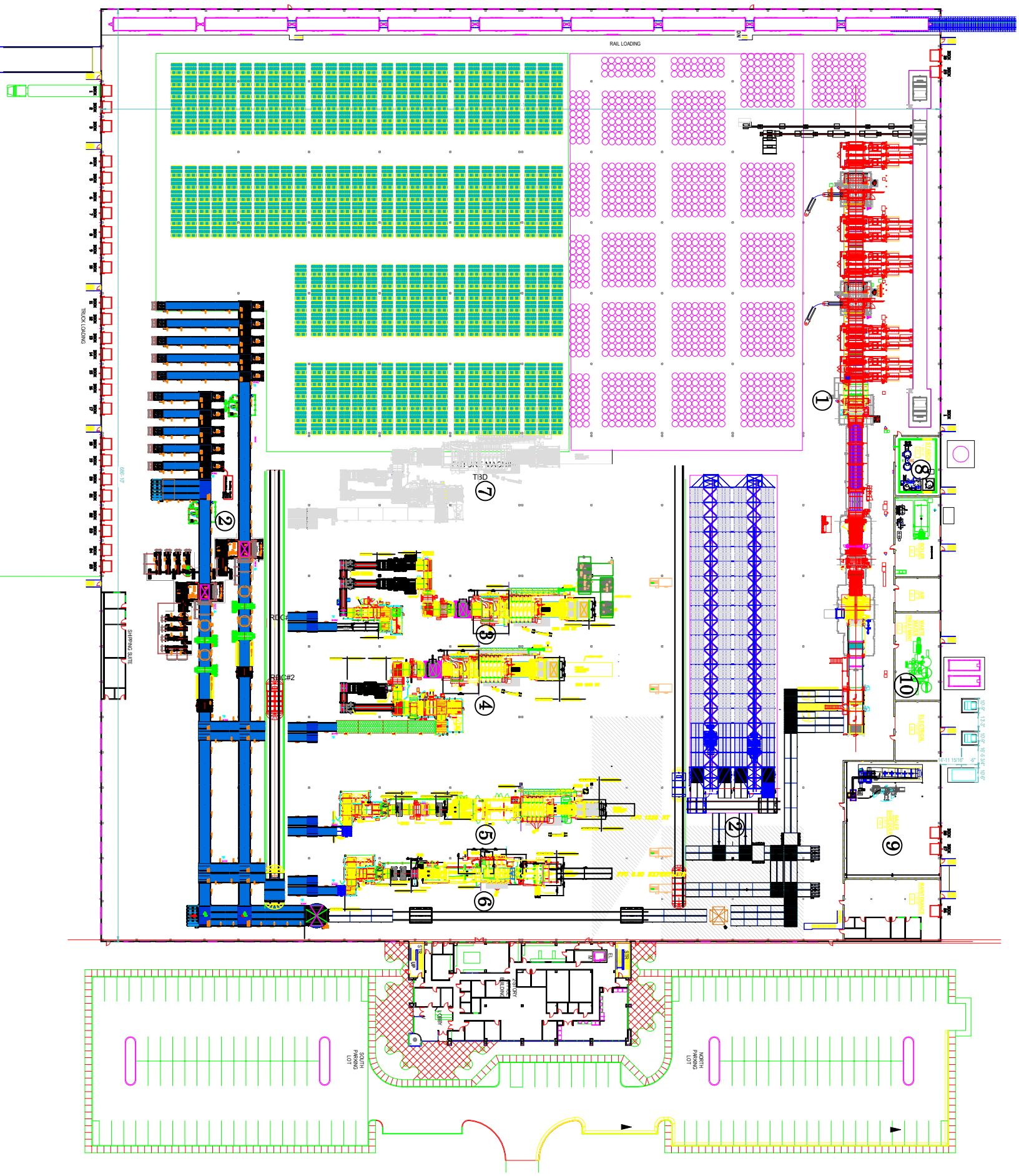
DETAIL Y (S=1:10)

VIEW E (S=1:10)

NO.	NAME	QT.	MATERIAL	NOMINAL SIZE	DWG NO. OF MSL NO.	WT.	REMARKS

MARK	REVISION	ITEM No.	DATE	BY	ORDER NO.		
CHECKED	YA41114	APPROVED	T. IWAI	SCALE	1:25	DWG NO.	YA41183
DATE/FILE	EVOL 4FGR-115	CHECKED	H. BOSAKA				
		DRAWN	K. TAKEMOTO				

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SHIPPING GATE
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TI3D
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4
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10
LOBBY
SOUTH PARKING LOT
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3-Pass Scotch Marine
Compact Shipping Design
100 to 2500 BHP
15 to 350 PSIG Steam
30 to 160 PSIG Hot Water



500 SERIES

4-Pass Scotch Marine
Wetback Design
30 to 2000 BHP
15 to 350 PSIG Steam
30 to 160 PSIG Hot Water



OHIO SPECIAL

3-Pass Wetback Design
100 to 225 BHP
Based on 5 Sq. ft of heating surface
* Boiler Operator Exempt



400 SERIES

3-Pass Scotch Marine
Wetback Design
30 to 2000 BHP
15 to 350 PSIG Steam
30 to 160 PSIG Hot Water

250 SERIES

2-Pass Scotch Marine
Compact Shipping Design
120 to 2000 BHP
15 to 350 PSIG Steam
30 to 160 PSIG Hot Water





Enhanced Firetubes

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Dryback Design
15 to 800 BHP
15 to 350 PSIG Steam
30 to 160 PSIG Hot Water





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Capacities from 20 to 1000 BHP.
670 to 33475 MBTU/HR.

STEAM
Pressures from 15 to 450 PSI.

HOT WATER
Section I and
Section IV



Shown with
Optional Skid Package



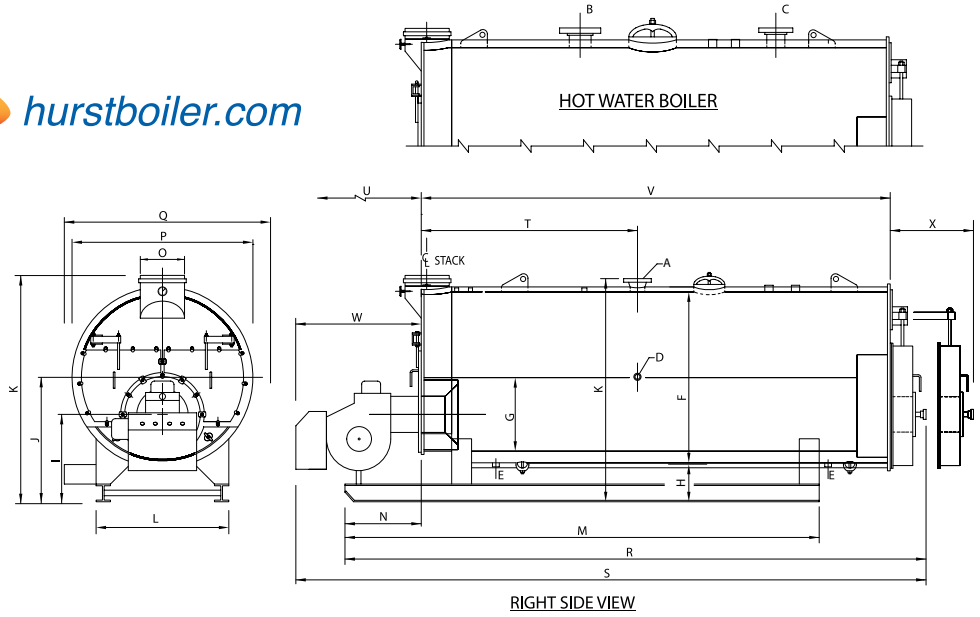
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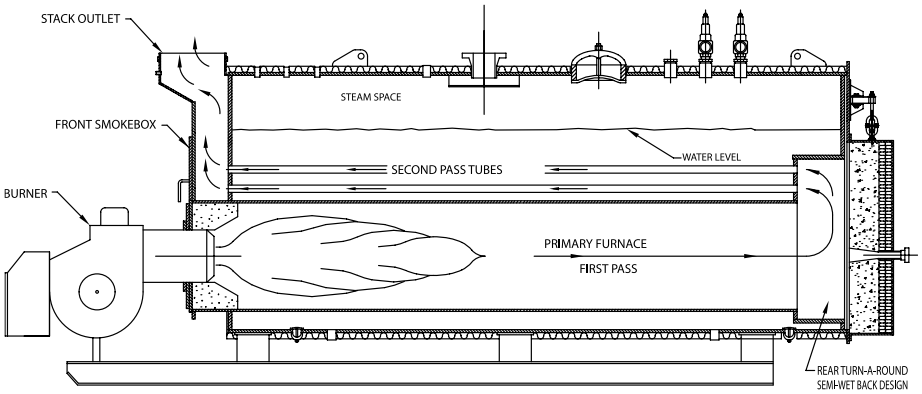
Designed, constructed and stamped in accordance with the requirements of the ASME Boiler Codes.

BOILER SPECIFICATIONS

	BOILER HORSEPOWER			20	25	30	40	50	60	70	80	100	125	150	
	STEAM OUTPUT	FROM &@ 212°	LBS/HR	690	862	1035	1380	1725	2070	2415	2760	3450	4312	5175	
	GROSS OUTPUT		MBH	670	837	1004	1339	1675	2008	2343	2678	3348	4184	5021	
	FIRING RATE GAS	1,000 BTU/CF	CFH	840	1050	1260	1680	2100	2520	2940	3360	4200	5250	6300	
	FIRING RATE LP GAS	91,500 BTU	GPH	9.2	11.5	13.8	18.4	23	27.5	32.1	36.7	45.9	57.3	68.8	
	FIRING RATE OIL #2	140,000 BTU	GPH	6	7.5	9	12	15	18	20.7	24	30	37.5	45	
	FIRING RATE HEAVY OIL	150,000 BTU	GPH	5.6	7	8.4	11.2	14	16.8	19.3	22.4	28	35	42	
A	*NOTE: 1 STEAM OUTLET SIZE	150 PSI	IN	1.25	1.25	1.5	1.5	2	2	2.5	2.5	4	4	4	A
A	*NOTE: 2 STEAM OUTLET SIZE	15 PSI	IN	3	3	4	4	4	6	6	6	6	6	8	A
B	*NOTE: 2 WATER SUPPLY SIZE	30 PSI	IN	3	3	3	4	4	4	6	6	6	6	8	B
C	*NOTE: 2 WATER RETURN SIZE	30 PSI	IN	2.5	2.5	3	3	4	4	4	4	6	6	6	C
D	FEEDWATER CONNECTION SIZE		IN	0.75	0.75	0.75	1	1	1	1.25	1.25	1.25	1.25	1.25	D
E	BLOWDOWN CONNECTION (BTM)	HIGH PRESS.	IN	1	1	1	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	E
E	BLOWDOWN CONNECTION (BTM)	LOW PRESS. & HW	IN	1.25	1.25	1.25	1.25	1.25	1.5	1.5	1.5	1.5	1.5	1.5	E
F	SHELL INSIDE DIAMETER		IN	40	40	40	42	42	46	46	48	48	54	54	F
G	FURNACE O.D.		IN	16	16	18	18	20	22	22	24	26	28	28	G
H	SHELL TO FLOOR		IN	14	14	14	14	14	14	14	14	14	14	14	H
I	CENT.LINE FURN. TO FLOOR		IN	27.31	27.31	27.31	27.31	29.188	29.13	29.13	31.688	31.88	34.438	34.438	I
J	CENT.LINE BOILER. TO FLOOR		IN	34.31	34.31	34.31	35.31	35.31	37.313	37.313	38.313	35.313	41.313	41.313	J
K	STACK OUTLET HEIGHT		IN	60.63	60.63	60.63	62.63	62.63	66.63	66.63	68.63	68.63	74.63	74.63	K
L	SKID & SADDLE WIDTH		IN	36	36	36	36	36	40	40	40	40	44	44	L
M	SKID LENGTH		IN	104	104	104	118	124	138	138	138	172	176	188	M
N	SKID TO FRONT PLATE		IN	21.25	21.25	21.25	23.25	22.25	24.25	24.25	24.25	27.25	30.188	30.188	N
O	STACK OUTSIDE DIA.		IN	10	10	10	12	12	14	14	14	16	16	16	O
P	WIDTH WITH NO TRIM		IN	45.625	45.625	45.625	48.63	48.63	52.13	52.13	54.13	54.13	60.13	60.13	P
Q	WIDTH WITH STD. TRIM		IN	55	55	55	58	58	64	64	64	66	72	72	Q
R	LENGTH WITHOUT BURNER		IN	133.38	133.38	133.38	147.38	153.38	168.38	168.38	168.38	202.38	205.38	217.38	R
S	LENGTH WITH STD. BURNER		IN	144.25	144.25	148.75	160.63	167.53	184.75	184.75	185	216	220.68	232.68	S
T	STEAM & FD/WTR. LOCATION		IN	46.75	46.75	46.75	46.75	48	54.75	54.75	54.75	64.75	64.813	64.813	T
U	TUBE REMOVAL FROM FRONT		IN	84	84	84	96	102	114	114	114	143	143	155	U
V	LENGTH OVER END PLATES		IN	97	97	97	109	116	129	129	129	160	160	172	V
W	BURNER EXTEN'SN. APPROX.	STND. BURNER	IN	32	32	36.5	36.5	36.5	40.75	40.75	40.75	41.25	45.5	45.5	W
X	REAR DOOR SWING CLEARANCE		IN	48	48	48	50	50	54	54	56	56	60	60	X
	WATER CAPACITY FLOODED		GAL.	443	438	414	531	527	709	704	746	859	1127	1215	
	WATER CAPACITY, OPERATING		GAL.	323	318	348	409	446	577	571	626	765	950	1025	
	APPROX. SHIPPING WEIGHT	150 PSI	LBS.	4325	4425	4550	5000	5425	6890	7000	7500	8800	10500	10975	
	APPROX. SHIPPING WEIGHT	LOW PRESS.	LBS.	4150	4250	4450	4890	5315	6500	6600	7050	8225	9650	10400	
	BOILER HORSEPOWER			**20**	**25**	**30**	**40**	**50**	**60**	**70**	**80**	**100**	**125**	**150**	

NOTE:1 3"& ABOVE ARE 300# ANSI FLANGE.
NOTE:2 4" & ABOVE ARE 150# ANSI FLANGE.
NOTE: DO NOT USE FOR CONSTRUCTION, DIM. [S] & [W] ARE DEPENDENT ON SPECIFIC BURNER SELECTION.

ALL DIMENSIONS ARE IN INCHES
CERTIFIED DRAWING AVAILABLE UPON REQUEST.
DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.



RIGHT SIDE SECTION VIEW

	200	250	300	350	400	500	600	700	800	900	1000	
	6900	8625	10350	12075	13800	17250	20700	24150	27600	31050	34500	
	6695	8369	10042	11716	13390	16738	20085	23432	26780	30128	33475	
	8400	10500	12600	14700	16800	21000	25200	29400	33600	37800	42000	
	91.8	114.7	137.7	160.6	183.6	229.5	275.4	321	367	413	460	
	60	75	90	105	120	150	180	210	240	270	300	
	56	70	84	98	112	140	168	196	224	252	280	
A	4	6	6	6	6	6	8	8	8	8	8	A
AA	8	10	10	10	10	10	12	12	12	14	14	AA
AB	8	10	10	10	10	10	12	12	12	12	12	AB
AC	6	8	8	8	8	8	10	10	10	12	12	AC
AD	1.5	1.5	2	2	2	2	2	2.5	2.5	2.5	2.5	AD
AE	1.25	1.25	1.5	1.5	1.5	1.5	2	2	2	2	2	AE
AE	2	2	2	2	2	2	2	2	2	2	2	AE
AF	63	63	68	68	76	76	78	78	78	83	83	AF
AG	32	32	36	36	42	42	42	42	42	48	48	AG
AH	16	16	14	14	15	15	15	15	15	18.5	18.5	AH
AI	37.5	37.5	39.5	39.5	41.625	41.625	41.625	41.625	41.625	48.13	48.13	AI
AJ	47.88	47.88	50.38	50.38	53.5	53.5	54.5	54.5	54.5	60.5	60.5	AJ
AK	85.75	85.75	90.75	90.75	98	98	100	100	100	109	109	AK
AL	54	54	56	56	62	62	60	60	60	64	64	AL
AM	176	176	204	204	204	204	252	294	318	321	321	AM
AN	30.25	30.25	31.25	31.25	35.25	35.25	52.5	52.5	52.5	53.13	53.13	AN
AO	18	18	20	20	24	24	28	32	32	34	34	AO
AP	69.25	69.25	74.25	74.25	82.75	82.75	85	85	85	89.75	89.75	AP
AQ	82	82	85	85	93	93	95	95	95	101	101	AQ
AR	206.38	206.38	234.38	234.38	237.38	273.88	297.38	339.38	363.38	366.38	366.38	AR
AS	221.75	235.5	263.13	263.13	262.13	303.38	310	352.13	376.13	380.63	380.63	AS
AT	64.81	64.81	74.81	74.81	76.88	91.88	87.88	111.88	129.88	144	144	AT
AU	144	144	168	168	162	198	198	240	264	264	264	AU
AV	161	161	188	188	187.25	223.25	229.88	271.88	295.88	296.25	296.25	AV
AW	45.5	59.25	59.25	59.25	59.25	64.25	64.25	64.25	64.25	69.5	69.5	AW
AX	64	64	66	66	70	70	70	70	70	73	73	AX
	1545	1510	1993	1968	2346	2764	3006	3511	3830	4073	3966	
	1196	1162	1557	1532	1822	2129	2390	2772	3021	3457	3349	
	13950	14400	18250	18575	24500	27125	30000	33300	35700	42300	43250	
	12930	13400	17975	18300	24200	26800	29600	32900	35300	40200	41200	
	200	250	300	350	400	500	600	700	800	900	1000	

BOILER DESIGN: Two-Pass "Scotch Marine" Firetube design with "Semi-Wetback" construction.

Pressure designs for steam are:
20-150 HP. > 450 PSI max.
200-350 HP. > 400 PSI max.
400-1000 HP. > 350 PSI max.

Hot Water pressure models available from 30-160 psi at 250° F MAX. High pressure, high temperature Section I hot water boilers available also. Factory assembled and tested to ASME code, UL, and CSD-1 standards.

STEAM MODEL TRIM: Safety relief valve, operating pressure control, high limit pressure control with manual reset, steam pressure gauge with syphon, combination pump control and low water cut-off with gauge glass assembly and drain valve, auxiliary low water cut-off with manual reset.

HOT WATER MODEL TRIM: Safety relief valve, operating temperature control, high limit temperature control with manual reset, combination pressure & temperature gauge, low water cut-off control with manual reset.

BURNER: Matched UL listed "forced draft" power burners with factory pre-piped, wired and tested fuel configurations for natural gas, propane (LP) gas, No. 2 (diesel) oil, No. 6 heavy oil or combination of both gas/oil.

MORE MODELS
CHOICES
SOLUTIONS



OIL, GAS AND DUAL FUEL

Monoblock Burners

CAPACITY 0.4 - 49.9 MMBtu/h



© Oilon

Low emission combustion technology

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WDx00i Burners - Inbuilt Control System

20-24 Gas Burners
0.4 - 12.49 MMBtu/h

25-30 Dual Fuel Burners
Gas/Light Fuel Oil
0.4 - 12.49 MMBtu/h

31-34 Light Fuel Oil Burners
14.6 - 91.7 MMBtu/h

WDx00 Burners - Separate Control Cabinet

48-58 Gas Burners
1.5 - 49.9 MMBtu/h

58-72 Dual Fuel Burners
Gas/Light Fuel Oil
2.1 - 49.9 MMBtu/h

73-76 Light Fuel Oil Burners
6.0 - 20.6 MMBtu/h

Choosing the burner

A. Procedure

1 Establish relevant boiler and application information
- boiler capacity and efficiency, or required burner capacity
- furnace back-pressure
- fuel/fuels to be used
- burner fuel inlet pressure
- burner capacity regulation method

2 Calculate the burner capacity. Burner capacity = boiler capacity/ efficiency
Example: boiler capacity of 663 hp (6,500 kw), efficiency of 90 % → burner capacity = 22.176 MBtu/h (6,500 kW) / 0.9 = 24.636 MBtu/h (7,220 kW).

3 Gas burners: Required gas flow [ft³/h] = (burner capacity [MBtu])/gas's calorific value [Btu/ft³]. Example: required burner capacity = 24.636 MBtu/h → required gas flow = 24.636 MBtu/h x 1,030 Btu/ft³ = 23.918 ft³/h, where 1,030 Btu/ft³ is the calorific value of natural gas.

Oil burners: Calculate the required oil flow [lb/h]. Required oil flow [lb/h] = (burner capacity [MBtu])/ the oil's calorific value [Btu/lb]. Example: required burner capacity = 24.636 MBtu/h → required oil flow = (24.636 MBtu/hx140,000 Btu/gal = 176 gal/h, where 140,000 Btu/gal is the calorific value of light oil.

4. See relevant brochure for burner capacity/back pressure graphs: The graphs indicate the burner operating range. For example, the boiler back pressure with a burner capacity of 24.636 MBtu/h is 7.2 "W.C. Looking at the adjoining graph, plot your burner capacity along the horizontal axis. On the vertical axis plot your boiler back-pressure. Where the two lines meet, defines the required burner type. The optimum burner is best chosen by ensuring that the plotted operating point is as close as possible to the right hand edge of the corresponding operating envelope. Different fuels and capacity regulation methods require separate graphs. The fuel calorific value is stated on the graphs.

5. Gas and dual fuel burner valve selection: Choose a large enough valve, using the gas valve selection table. Note that the values in the selection table apply when the furnace back pressure is 0 "WC. Therefore, you must subtract the furnace back pressure from the actual gas inlet pressure and choose the valve on the basis of the value thus obtained. The ratings shown in the table apply to natural gas.

For example, when the gas inlet pressure of the burner is 40 "WC, boiler back pressure is 7 "WC, and required burner capacity is 24.636 MBtu/h, the effective pressure is 40 "WC – 7 "WC = 33 "WC. For the GP-700 M burner, for example, you should choose a valve allowing a minimum burner capacity of 24.636 MBtu/h with 33 "WC gas inlet pressure → in this case, valve Ansi 4".

6. Check that the outer dimensions of the burner, especially those of the combustion head, are suitable for the application; the length of the combustion head should be such that, when mounted, the combustion head is even with the furnace wall or about 0.4 to 0.8 inches inside the furnace (see 'Masonry' figure).

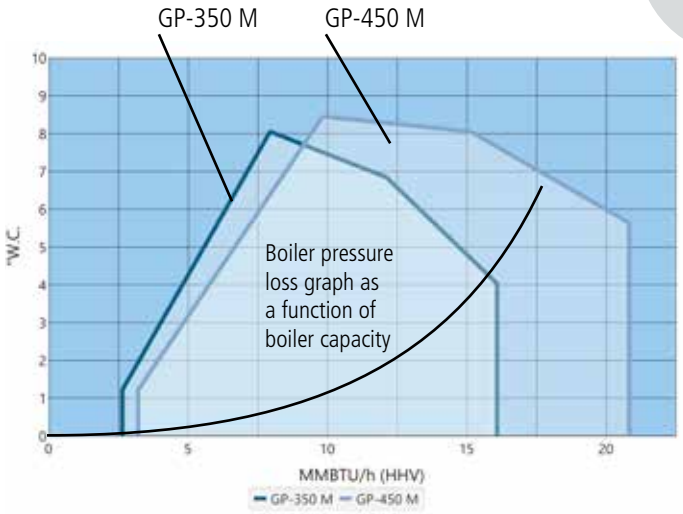
7. Check the flame dimensions in the flame dimension table. Please note that the flame must not come in to contact the walls of the furnace.

8. Accessory requirements must also be taken into consideration: gas pressure regulator, oil pumping unit, boiler thermostats/ pressostats.

B. Equations and rules of thumb

1. Burner capacity = boiler capacity / 0.9 (when boiler efficiency is 90 %)
2. Steam boilers: 1 boiler horsepower = 34.5 lb/h steam
3. Light oil: 1lb/h ≈ 20.0 MBtu/h burner capacity with calorific value 19.960 Btu/gal
   1 lb/h = 973,000 btu/h burner capacity with calorific value 139,000 Btu/gal
4. Natural gas: 1 ft³/h ≈ 1.030 MBtu/h burner capacity with calorific value 1,030 Btu/ft³
5. The amount of combustion air:
   - Gas burners: required amount of combustion air for each 34 MBtu/h of burner capacity is 13.5 ft³/h.
   1 ft³ of natural gas requires 11.3 ft³ of combustion air
   - Oil burners: required amount of combustion air for each gallon of oil burned [lb/h] is 49 ft³/h.
   1 gallon of light fuel oil requires 14.7 ft³ of combustion air.

An example of burner selection



The max. capacity of a hot water boiler is 14,000 MBtu/h, efficiency 0.9, and the corresponding burner capacity 14,000 MBtu/h / 0.9 = 15,555 MBtu/h. The graph indicates that a suitable gas burner for this capacity is the GP-450 M, as the pressure loss value for the boiler is located inside the area for the GP-450 M burner on the capacity/back pressure graph. The GP-350 M can also be used for this application, provided that the full boiler capacity is not required. Remember to take efficiency into account when relating the boiler pressure loss information to the burner capacity/back pressure graph.

NOx emissions

Nitrogen oxides (NOx) are compounds of nitrogen and oxygen, the most important of which are NO and NO2. Small amounts of nitrogen oxides also occur in nature, but the majority of them originate from human actions, mainly from logistics and energy production.

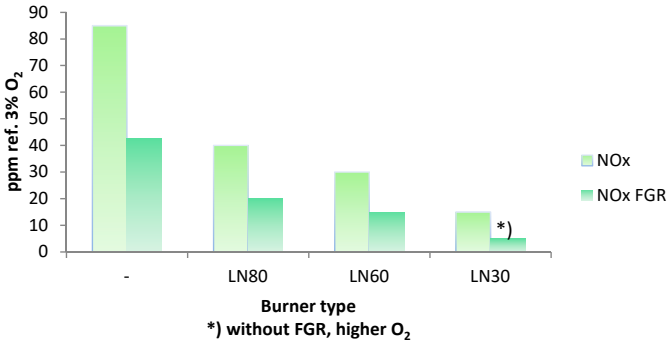
Nitrogen oxides form during all combustion processes, when the nitrogen present in the combustion air and/or fuel and the oxygen present in the combustion air, react at high temperatures.

Nitrogen oxides are harmful to humans and the environment in many ways. They are toxic and harmful to the respiratory system. Nitrogen oxides cause acidification and eutrophication of the environment, form ground-level ozone and harmful particulate emissions.

Increasingly stringent emission limits are being imposed all over the world to mitigate the adverse effects of nitrogen oxide emissions. The reduction of nitrogen oxides is the key priority in lowering emissions from traffic and energy production.

We are especially committed on reducing nitrous oxide (NOx) and particulate emissions. One of our most important goals when developing our products is to lower emission levels.

Effect of combustion head on NOx emissions, natural gas

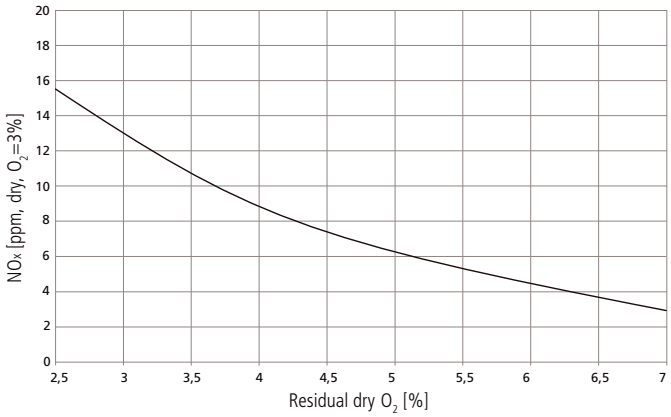


Combustion head

Low NOx emissions are achieved by innovative gas and air distribution and staging in the combustion head.

NOx emissions are also reduced with the use of internal/external FGR in order to reduce flame peak temperatures and combustion reaction speed. Emission values depend on the furnace geometry, the furnace load and the temperature of the boiler medium. Low NOx levels are mainly achieved on standard 2 or 3-pass boilers.

NO_x EMISSION DIAGRAM



NO_x emissions and required residual O_2 will vary depending on furnace geometry and conditions

Oilon WiseDrive - High efficiency with advanced automation

Oilon WiseDrive is an electronic fuel/air ratio control system. In the WiseDrive system separate servomotors are installed for combustion air dampers, fuel regulator(s) and optionally for combustion head control to control air flow in the combustion head. The ratio between fuel, combustion air and combustion head air flow is adjusted electronically. The WiseDrive system also takes care of burner control and safety functions.







High efficiency

Electronic fuel/air ratio control improves combustion efficiency and lowers emissions. The greatest benefits are achieved in dual fuel burners where the combustion of both the main and reserve fuels can be adjusted optimally and the O_2 control is in use. Significant energy savings can also be achieved by using variable speed drive (VSD) in the combustion air fan.

A versatile system

Oilon WiseDrive system can be connected to external systems via fieldbus connection. Data regarding burner status and combustion process can be read remotely. Also remote control (start, stop, reset) and settings (capacity controller, fuel selection) can be performed via fieldbus.

WiseDrive includes control sequences, fuel/air ratio and capacity control as well as leak testing of gas valves and much more in a single package.

WiseDrive (WD), an electronic regulator for controlling the fuel/air ratio – an energy-efficient and environmentally friendly solution

Electronic fuel/air ratio control of the burner brings the benefits of lower flue gas emissions, decreased consumption of energy and improved technical characteristics of the burner, such as more accurate regulation.

CONTROL SYSTEMS	WD100i/WD100	WD200i/WD200
Operation principle	Electronic fuel/air	Electronic fuel/air
Control unit	Siemens LMV 51	Siemens LMV 52
Available for fuels	LFO (KP) GAS (GP) GAS/LFO (GKP)	LFO (KP) GAS (GP) GAS/LFO (GKP)
O_2 control	Not available	Available*
VSD control	Not available	Standard
Control panel interface	Text display	Text display
External communication	Standard: Hardwired Modbus RTU Optional: Profibus Profinet	Standard: Hardwired Modbus RTU Optional: Profibus Profinet
Capacity control	Built in LMV51 4…20 mA output signal	Built in LMV52 4…20 mA output signal
FGR	Not available	Available**

*) Not available with inbuilt control system (50/90 burner series)

**) Not available with inbuilt control system

	Inbuilt control system		Separate Control Panel		
BURNER CONTROL SYSTEMS	**WD100i**	**WD200i**	**WD100**	**WD200**	
GP-50 M / GP-90 M	x	x	-	-	
GP-140 M…GP-280 M	x	x	x	x	
GP-350 M…GP-1200 M	-	-	x	x	
GP-140 M LN80…GP-1000 M LN80	-	-	x	x	
GP-600 M LN60 / GP-700 M-III LN60	-	-	x	x	*
GP-130 M LN30 / GP-250 M LN30	-	-	x	x	
GP-320 M LN30	-	-	x	x	**
GP-600 M LN30/GP-600 M-II LN30	-	-	x	x	
GKP-50 MH / GKP- 90 MH	x	x	-	-	
GKP-140 MH…GKP- 280 MH	x	x	-	-	
GKP-140 M…GKP-1200 M	-	-	x	x	
GKP-140 M LN80…GKP-700 M-III LN80	-	-	x	x	
KP-140 M...KP-280 M	x	-	-	-	
KP-350 M / KP-450 M	-	-	x	x	***

*) No stock model, longer delivery time
**) Coming to the market
***) Please, ask these model from Oilon Oy

Type labeling

GKP-700 M-II WD200 LN80 C2

Fuel:
- GP = Gas
- GKP = Gas, light fuel oil
- KP = Light fuel oil
- RP = Heavy fuel oil
- GRP = Gas, heavy fuel oil

Burner frame size categorization:
- 50…1200

Method of control:
- H = Two-stage
- M = Modulating
- MH = Modulating gas, two-stage oil

Burner capacity size categorization:
- -
- I
- II
- III

Control system (additional code):
- -
- WDx00 = Siemens LMV5
- WDx00i = Integrated Siemens LMV5

NOx-emissions (additional code):
- LN80 = 40 ppm (80mg/kWh)
- LN60 = 30 ppm (60mg/kWh)
- LN30 = 15 ppm (30mg/kWh)

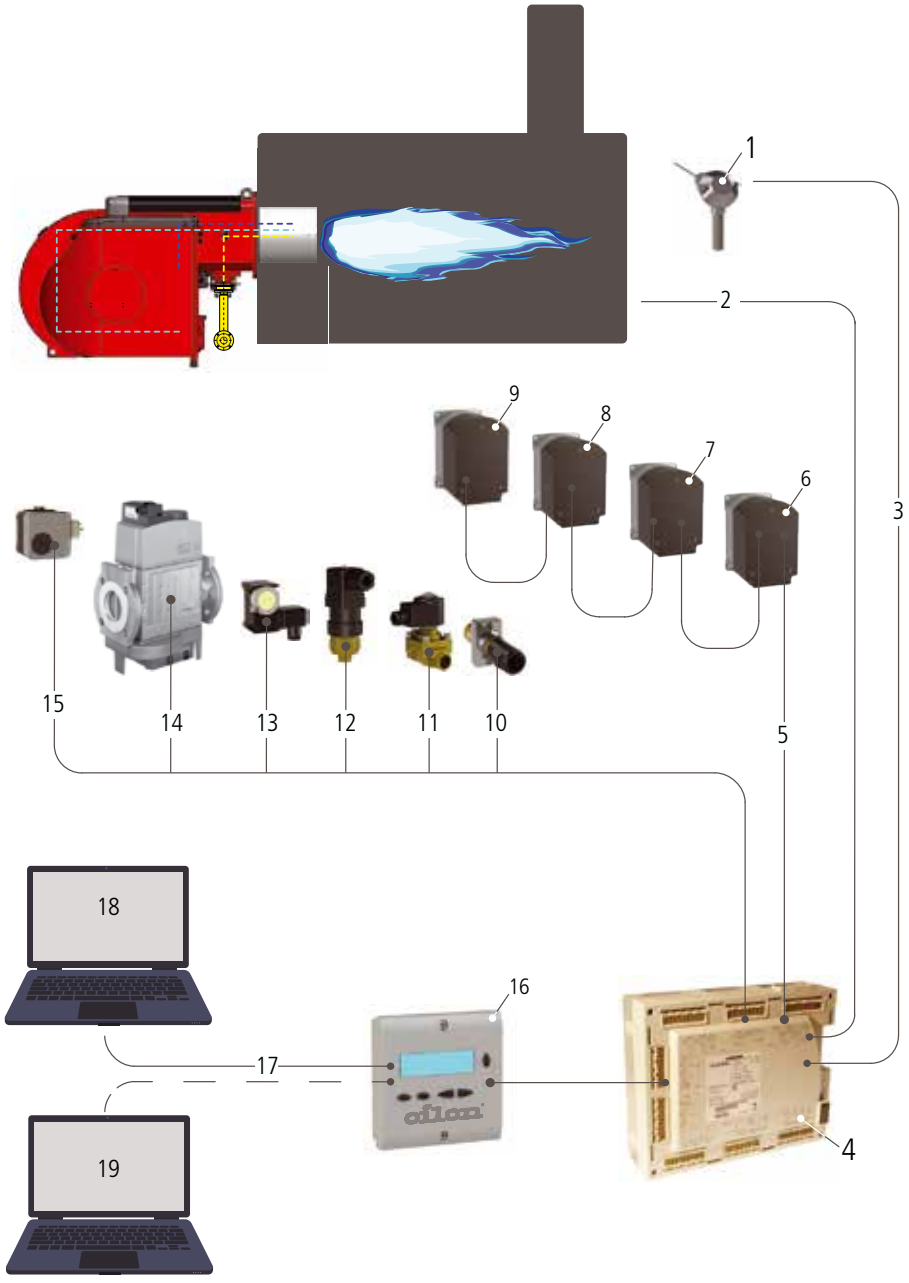
Combustion head length (additional code):
- -
- C1
- C2



WDx00i - Inbuilt Control System

WiseDrive WDx00i

Example of Oilon WiseDrive WD100
Electronic fuel/air ratio control system

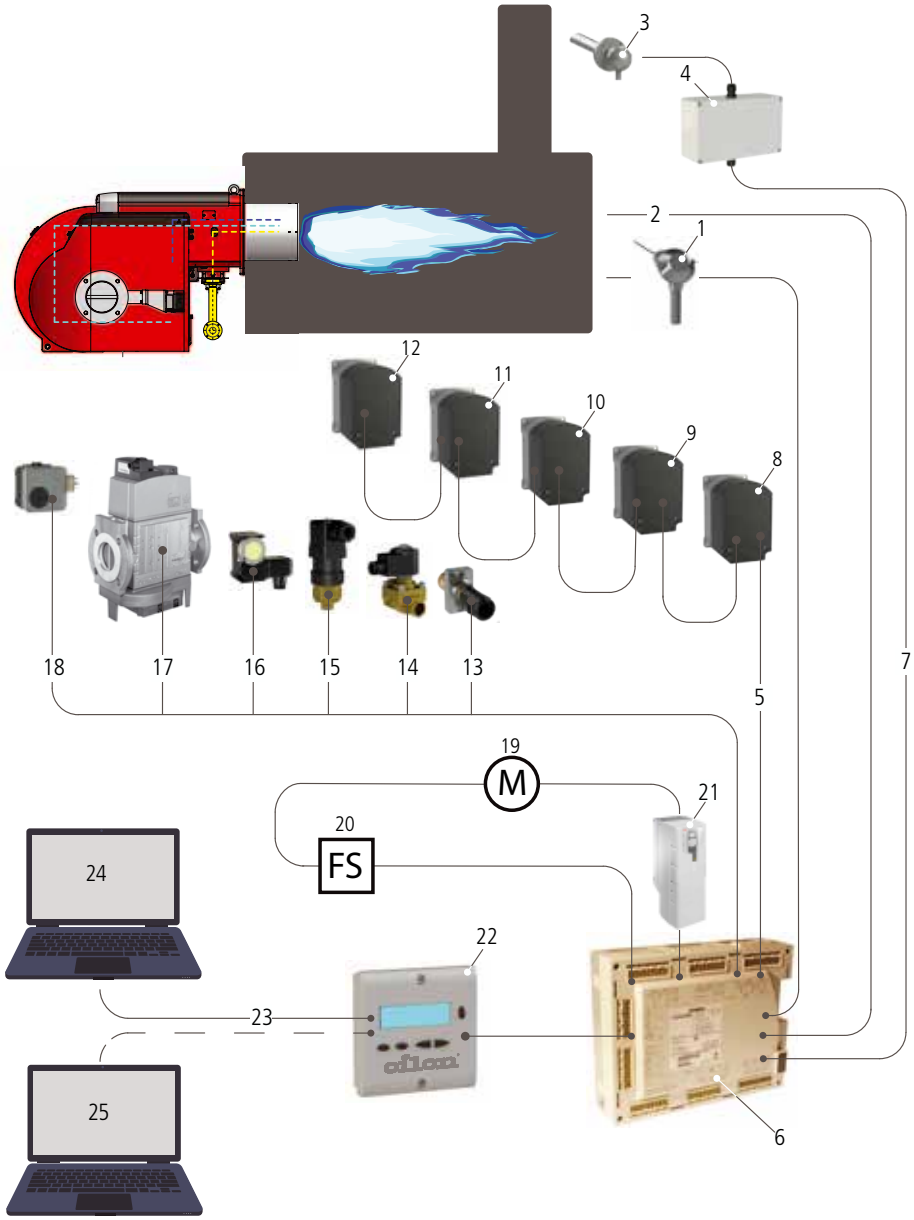


Examples of WiseDrive's functions:

- Control sequences and safety functions
- Fuel/air ratio control
- Combustion head control (option)
- Load control with inbuilt PID controller, control also by an external 4...20 mA signal
- Can be connected with external plant automation via bus. Modbus RTU as standard.
- Different access levels
- Input of parameters via text display operating panel or/and PC (check software and hardware requirements)

1. Boiler pressure/ Boiler temperature
2. Safety devices
3. CAN BUS
4. Control unit
5. CAN BUS - Servomotor
6. Gas damper
7. Air damper
8. Oil regulator
9. Combustion head regulator - Gas/Oil flame plate positioning
10. Flame detector
11. Oil valves
12. Oil pressure switch
13. Gas pressure switch
14. Gas valves
15. Air pressure switch
16. User interface
17. MOD-BUS
18. Control room
19. Service computer

Example of Oilon WiseDrive WD200i Electronic fuel/air ratio control system with O_2 control and variable speed drive (VSD)

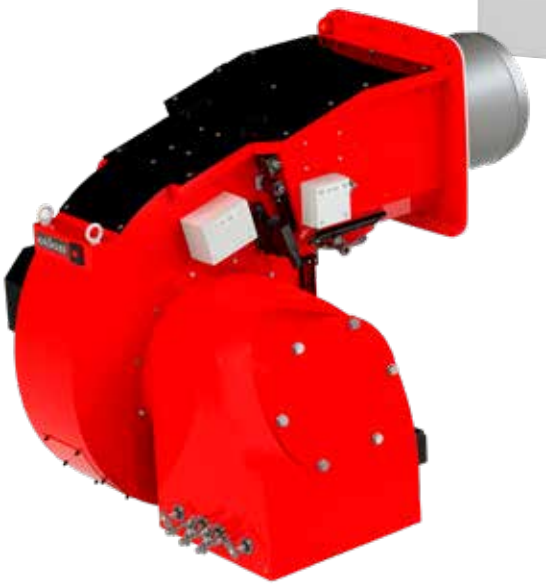


Examples of WiseDrive's functions

- Control sequences and safety functions
- Fuel/air ratio control
- Combustion head control (option)
- Load control with inbuilt PID controller, control also by an external 4...20 mA signal
- Can be connected with external plant automation via bus. Modbus RTU as standard.
- Different access levels
- Input of parameters via text display operating panel or/and PC (check software and hardware requirements)
- Fuel consumption reading (requires flow meter)
- Frequency converter control (requires rotation speed sensor)
- O_2 control (requires O_2 module and O_2 sensor)
- Flue gas temperature reading (requires temperature sensor)
- Combustion air temperature reading (requires temperature sensor)

1. Boiler temperature
2. Safety devices
3. O_2 sensor (option)
4. O_2 module
5. CAN BUS
6. Control unit
7. CAN BUS - Servomotor
8. Gas damper
9. Oil regulator
10. Combustion head regulation/ Gas/Oil flame disc positioning
11. Air damper
12. Flue gas damper, not available with inbuilt control system
13. Flame detector
14. Oil valves
15. Oil pressure switch
16. Gas pressure switch
17. Gas valves
18. Air pressure switch
19. Motor
20. Speed sensor
21. Frequency converter for variable speed drive
22. User interface
23. MOD-BUS
24. Control room
25. Service computer

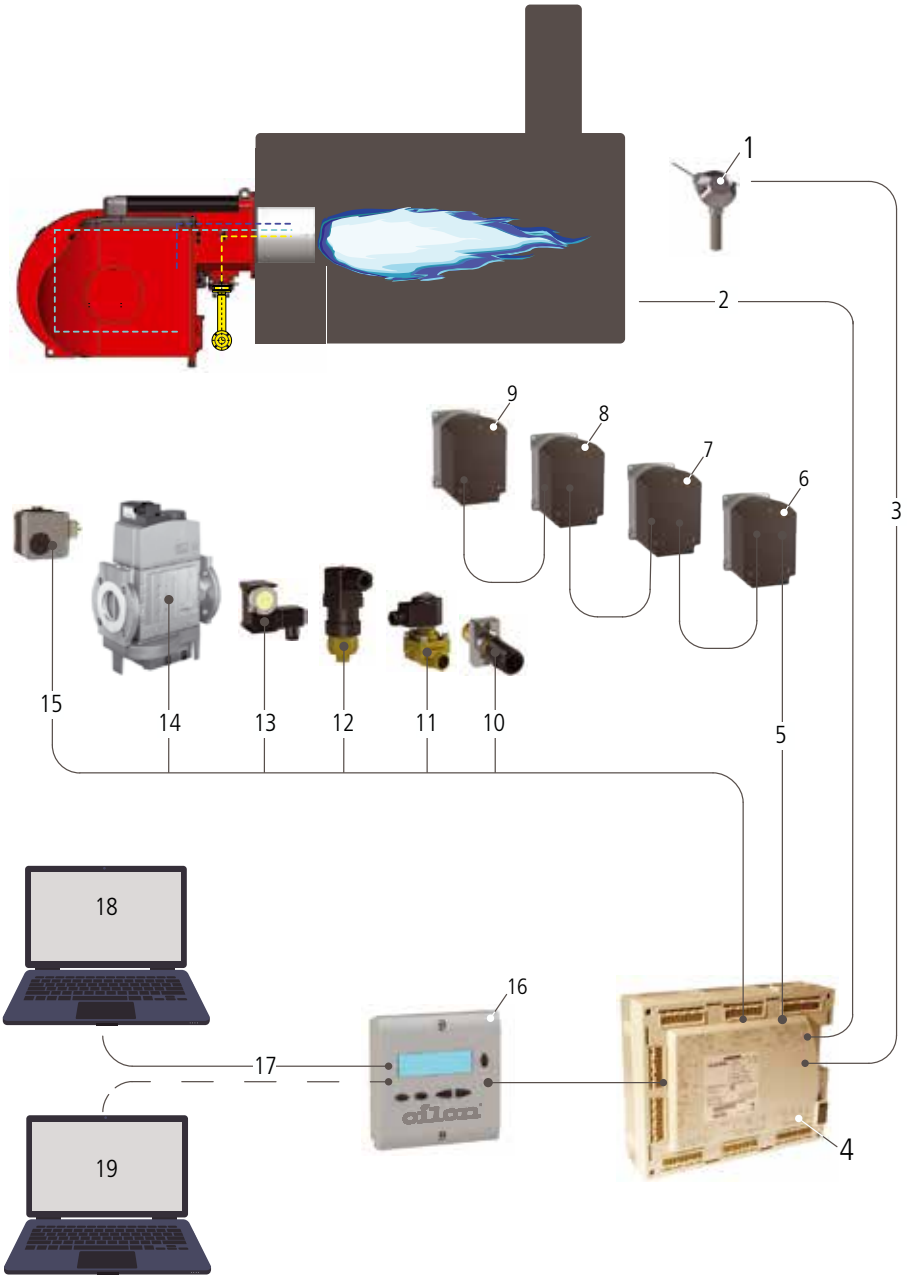




WDx00 - Separate Control Cabinet

WiseDrive WDx00

Example of Oilon WiseDrive WD100
Electronic fuel/air ratio control system

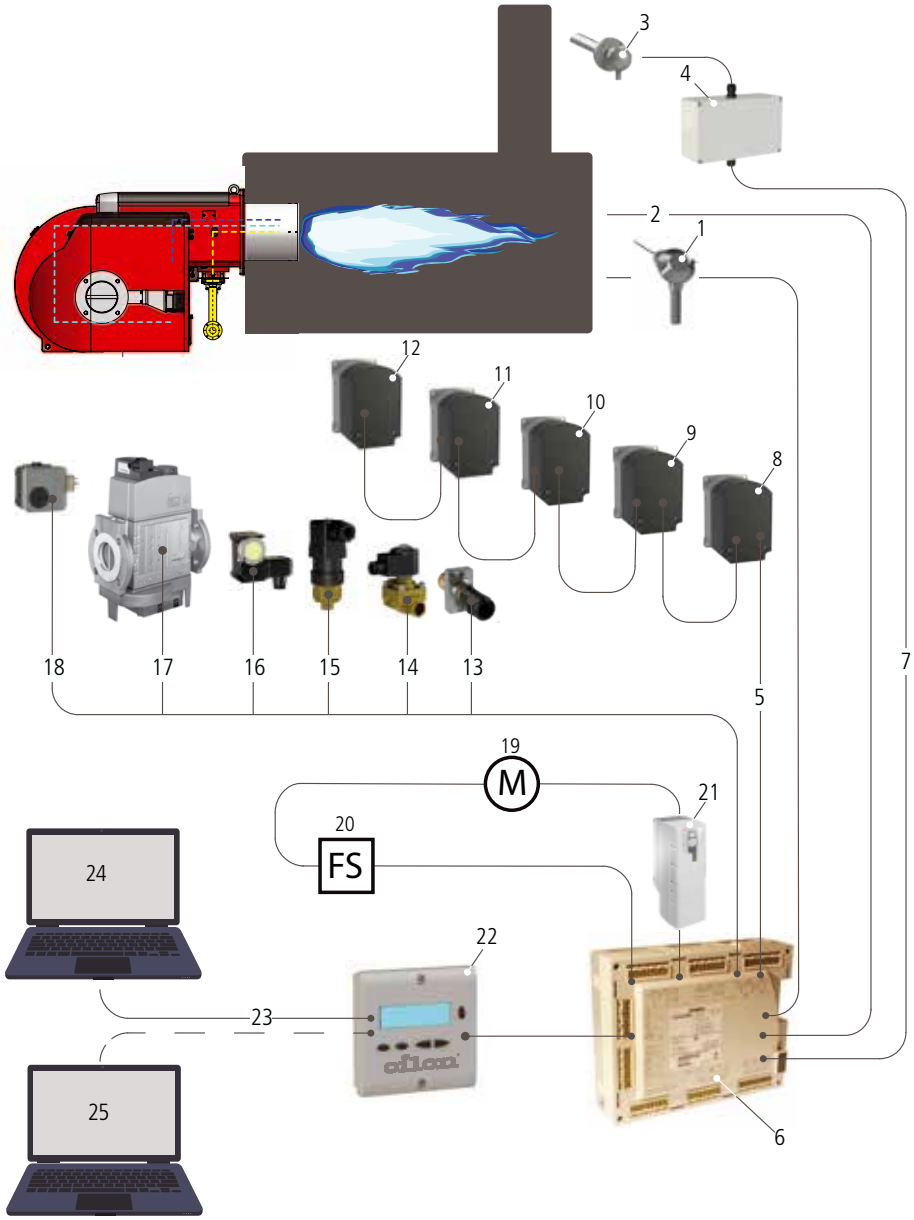


Examples of WiseDrive's functions:

- Control sequences and safety functions
- Fuel/air ratio control
- Combustion head control (option)
- Load control with inbuilt PID controller, control also by an external 4...20 mA signal
- Can be connected with external plant automation via bus. Modbus RTU as standard.
- Different access levels
- Input of parameters via text display operating panel or/and PC (check software and hardware requirements)

1. Boiler pressure/ Boiler temperature
2. Safety devices
3. CAN BUS
4. Control unit
5. CAN BUS - Servomotor
6. Gas damper
7. Air damper
8. Oil regulator
9. Combustion head regulator - Gas/Oil flame plate positioning
10. Flame detector
11. Oil valves
12. Oil pressure switch
13. Gas pressure switch
14. Gas valves
15. Air pressure switch
16. User interface
17. MOD-BUS
18. Control room
19. Service computer

Example of Oilon WiseDrive WD200 Electronic fuel/air ratio control system with O_2 control and variable speed drive (VSD)



Examples of WiseDrive's functions

- Control sequences and safety functions
- Fuel/air ratio control
- Combustion head control (option)
- Load control with inbuilt PID controller, control also by an external 4...20 mA signal
- Can be connected with external plant automation via bus. Modbus RTU as standard.
- Different access levels
- Input of parameters via text display operating panel or/and PC (check software and hardware requirements)
- Fuel consumption reading (requires flow meter)
- Frequency converter control (requires rotation speed sensor)
- O_2 control (requires O_2 module and O_2 sensor)
- Flue gas temperature reading (requires temperature sensor)
- Combustion air temperature reading (requires temperature sensor)

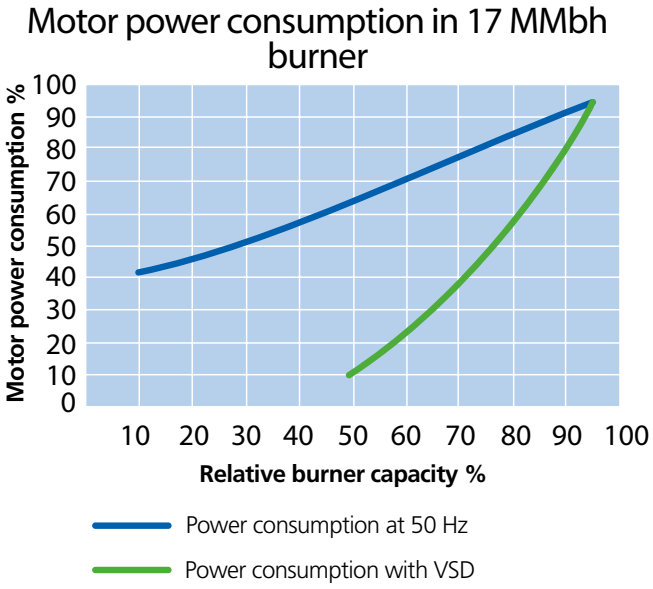
1. Boiler temperature
2. Safety devices
3. O_2 sensor (option)
4. O_2 module
5. CAN BUS
6. Control unit
7. CAN BUS - Servomotor
8. Gas damper
9. Oil regulator
10. Combustion head regulation/ Gas/Oil flame disc positioning
11. Air damper
12. Flue gas damper
13. Flame detector
14. Oil valves
15. Oil pressure switch
16. Gas pressure switch
17. Gas valves
18. Air pressure switch
19. Motor
20. Speed sensor
21. Frequency converter for variable speed drive
22. User interface
23. MOD-BUS
24. Control room
25. Service computer

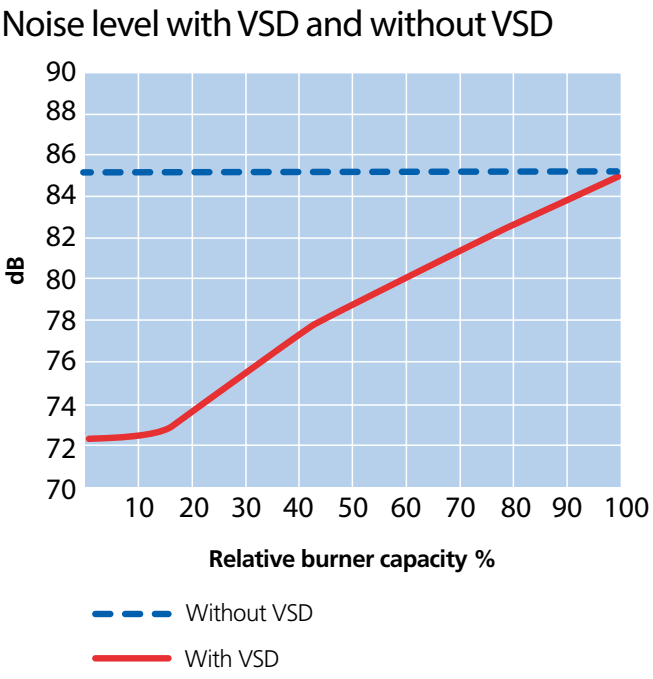
Cost savings using O_2 control and variable speed drive (VSD)

1. Effect of O_2 control on the combustion efficiency
   In a traditional burner, the O_2 level of flue gases is usually adjusted to about 4 %. When using WD200, a 2 % O_2 level can be reached. Two percent reduction in O_2 level means 1 % rise in efficiency.

2. VSD in fan motor saves electricity consumption

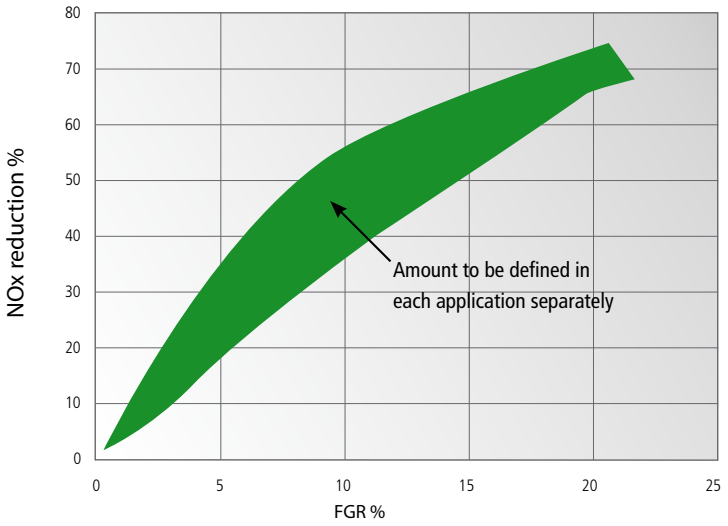
3. When using O_2 control and VSD in fan motor the annual cost savings are largest.





FGR - Flue Gas Recirculation

The effect of FGR in natural gas combustion



External Flue Gas Recirculation, FGR, is an effective low cost solution to achieve very low NOx emissions with various fuels.

A certain proportion of flue gas is led back to the furnace through burner. This causes the flame peak temperatures to drop and combustion reactions to slow down, which reduces NOx emissions.

Achievable reduction depends on many factors including burner type, boiler, combustion air temperature and the amount of recirculated flue gas, see relevant curve. When designing the assembly, it is important to notice the reduction of the burner maximum output caused by flue gas recirculation, depending on the FGR rate and flue gas temperature.

Flue gas recirculation is available as an option for a variety of new burners, or in many cases, as a retrofit to an existing burner.

Gas mixture temperature in FGR, standard application

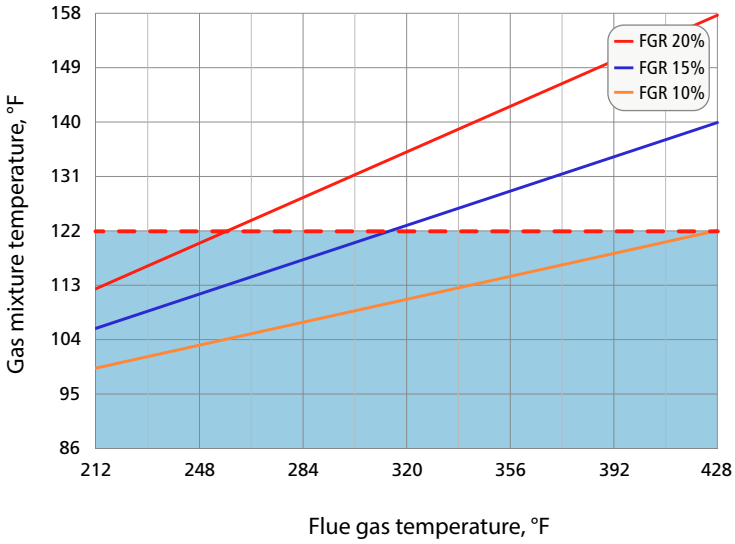
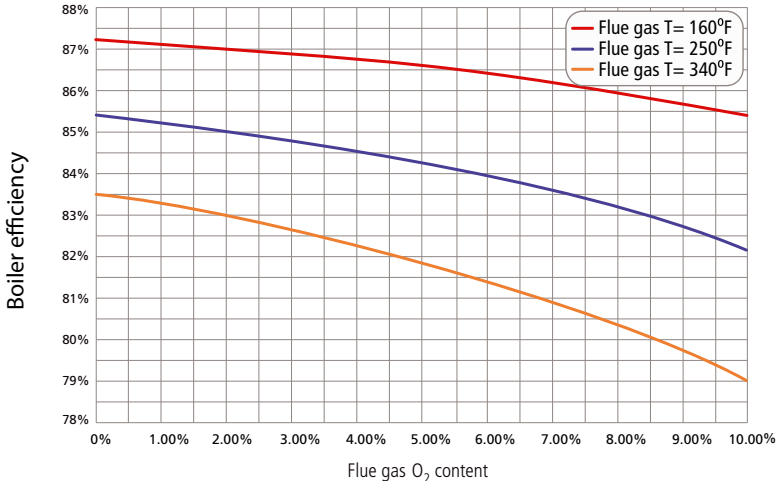


Diagram valid for 187 °F combustion air

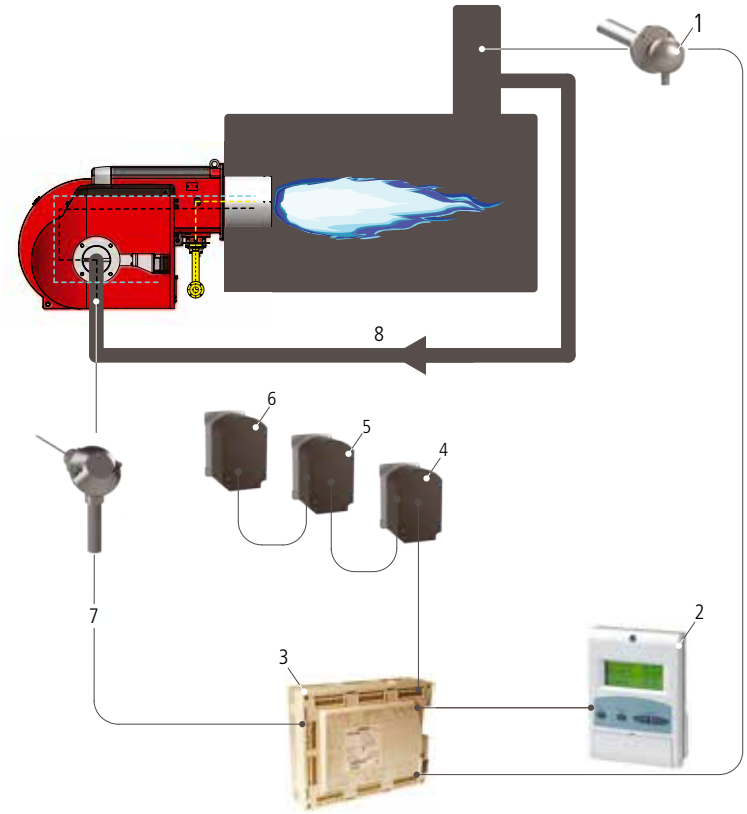
Recommended working range

Boiler efficiency



NO_x emissions and required residual O_2 will vary depending on furnace geometry and conditions

Oilon burner FGR application



Minimum required components:

- WD200 burner control system
- Flue gas damper with servomotor
- Flue gas inlet adapter
- Recirculation pipe (in customer scope)

1. O_2 sensor (option)
2. User interface
3. Control Unit
4. Gas damper
5. Air damper
6. Flue gas damper
7. Temperature sensor
8. Recirculation pipe

Example of application



Gas Burners

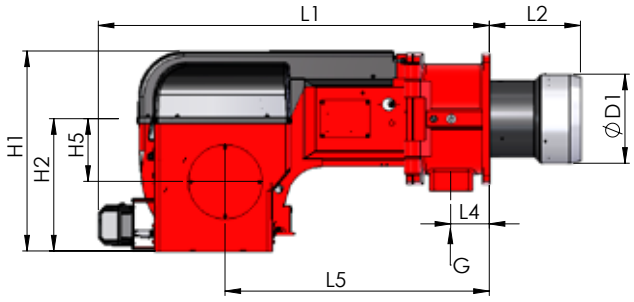
GP-140...280 M,GP-140...280 M LN80

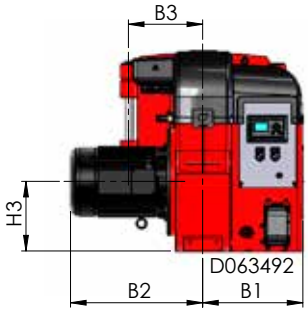
Technical Data

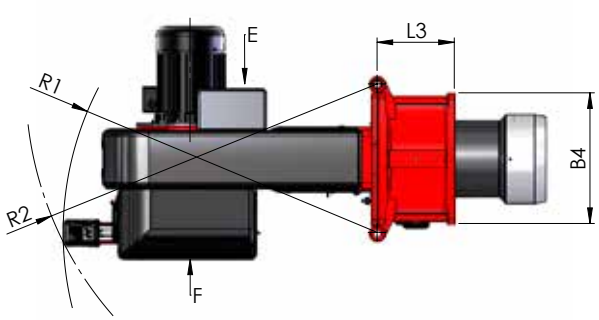
BURNER	GP-140 M	GP-150 M	GP-250 M	GP-280 M	GP-140 M LN80	GP-250 M LN80	GP-280 M LN80
Capacity MMBtu/h	1.5 - 8.9	1.7 - 10.2	1.4 - 9.8	1.9 - 12.49	1.4 -6.4	1.3 - 8.0	1.4 - 10.2
Burner motor 3~ 208-600 V 60 Hz Output hp Current A/460 V Speed rpm	 5.5 6.2 3510	 7.5 8.9 3510	 7.5 8.9 3510	 10 11.9 3510	 5.5 8.9 3510	 10 11.9 3510	 10 11.9 3510
Control unit	WDx00	WDx00	WDx00	WDx00	WDx00	WDx00	WDx00
Weight lb*	267	287	353	463	276	364	474

*) Only burner
Ratio level Gas 1:6 (100 – 16,6%)
Note! The weight varies according to delivery contents.

Dimensions







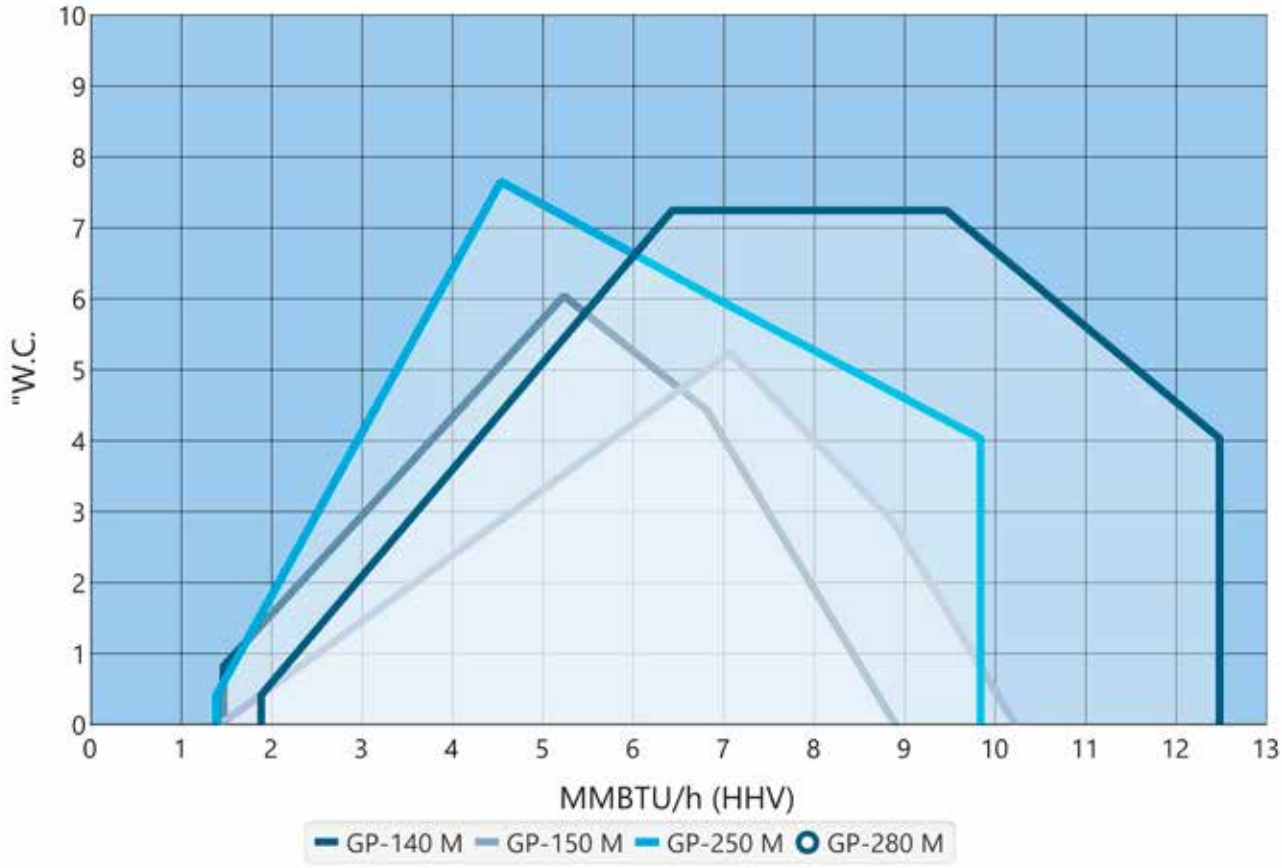
G = Gas inlet
E = Electrical connection
F = FGR - Flue Gas Recirculation

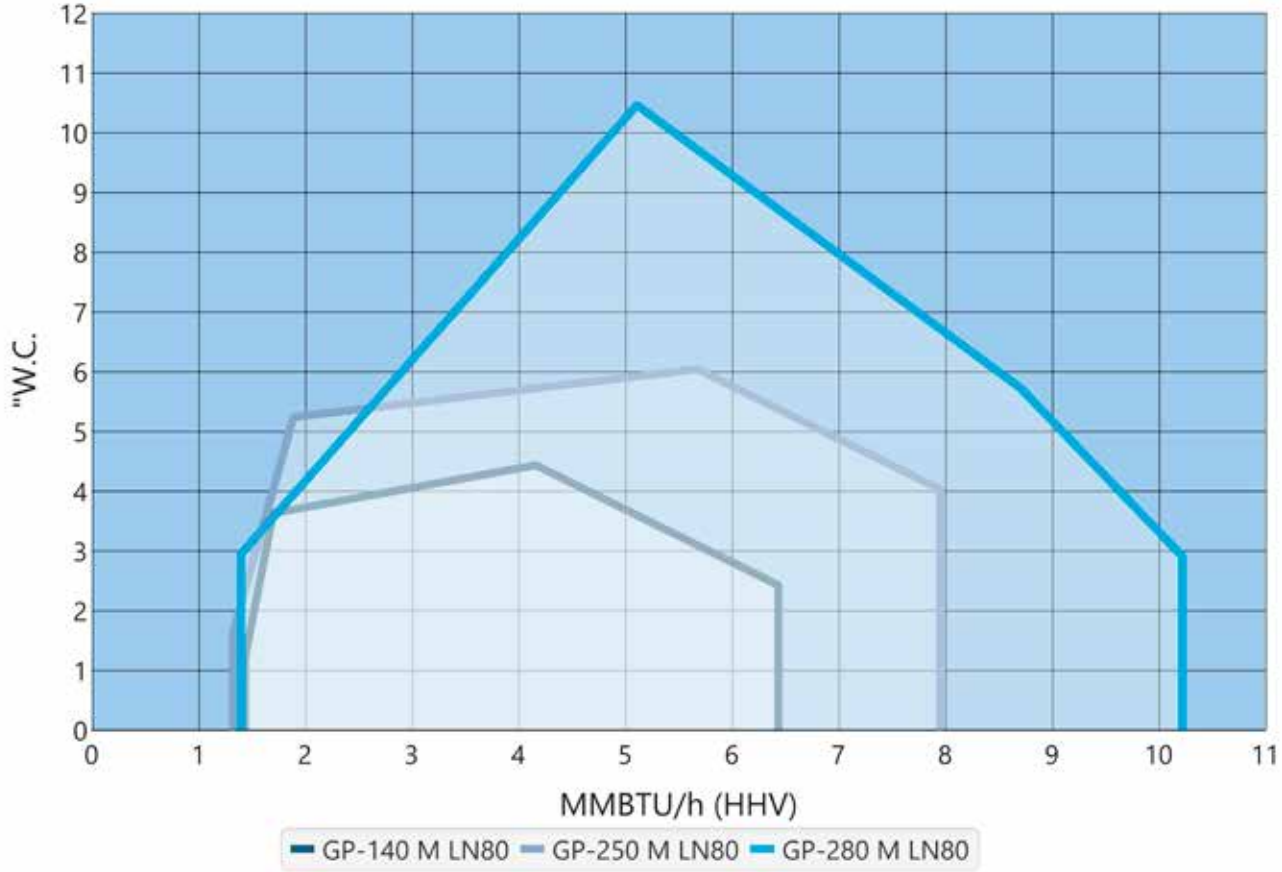
BURNER	L1	L2	L2		L3	L4	L5
			C1	C2			
GP-140 M	50.59	8.66	-	-	10.24	5.08	34.65
GP-150 M	50.59	9.06	-	-	10.24	5.08	34.65
GP-250 M	51.97	11.81	-	-	10.24	5.12	35.04
GP-280 M	51.97	12.28	-	-	10.24	5.12	35.04
GP-140 M LN80	50.59	16.93	-	-	10.24	5.08	34.65
GP-250 M LN80	51.97	-	16.54	21.65	10.24	5.12	35.04
GP-280 M LN80	51.97	-	16.54	21.65	10.24	5.12	35.04

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	R1	R2
GP-140 M	24.61	15.75	8.27	7.68	12.01	16.93	8.27	14.17	9.45	41.34	45.28
GP-150 M	24.61	15.75	8.27	7.68	12.01	18.90	8.27	14.17	10.63	41.34	45.28
GP-250 M	26.57	17.56	9.25	8.46	13.39	19.29	9.84	17.32	10.63	43.31	47.24
GP-280 M	26.57	17.56	9.25	8.46	13.39	19.29	9.84	17.32	11.81	43.31	47.24
GP-140 M LN80	24.61	15.75	8.27	7.68	12.01	16.93	8.27	14.17	9.45	41.34	45.28
GP-250 M LN80	26.57	17.56	9.25	8.46	13.39	19.29	9.84	17.32	10.08	43.31	47.24
GP-280 M LN80	26.57	17.56	9.25	8.46	13.39	19.29	9.84	17.32	10.87	43.31	47.24

Dimensions in inches.

Working Diagram





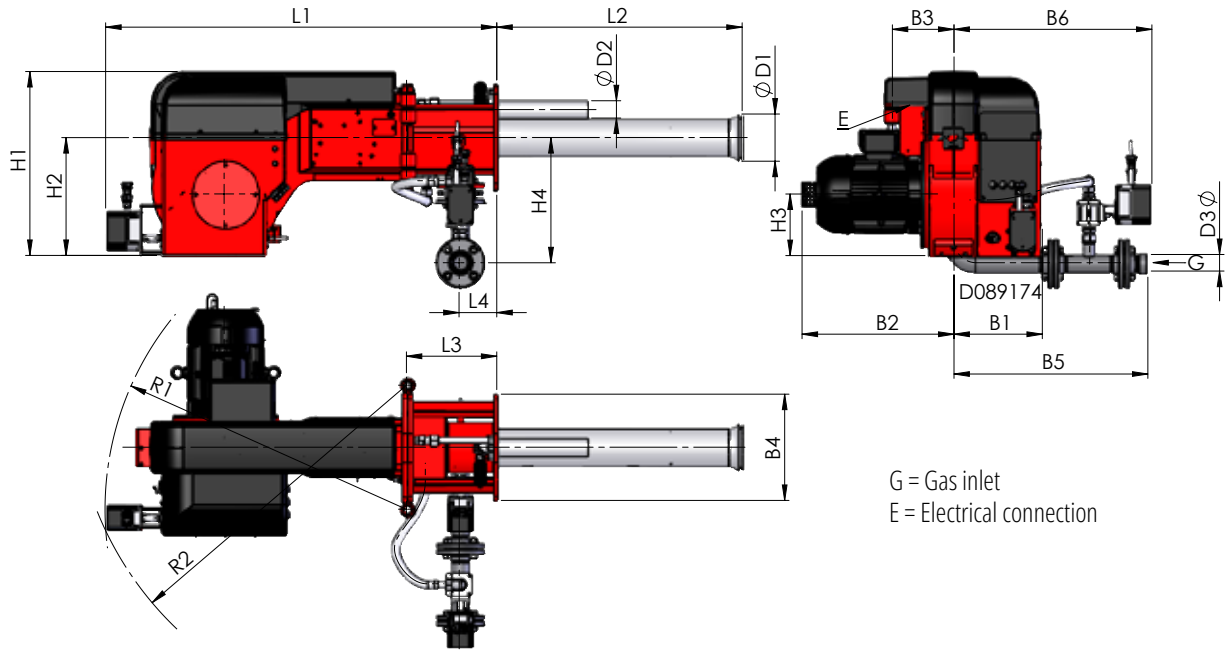
GP-130/250 M LN30

Technical Data

BURNER	GP-130 M LN30	GP-250 M LN30
Capacity MMBtu/h	1.0 - 3.5	1.9 - 7.3
Burner motor 3~ 208-600 V 60 Hz Output hp Current A/460 V Speed rpm, max.*	 7.5 8.9 3520	 10 11.9 3520
Control unit	WDx00	WDx00
Weight lb**	340	423

*) Frequency conventer mandatory
**) Only burner
Ratio level Gas GP-130 M LN30 1:3,5 (100 – 28,5%)
GP 250 M LN30 1:3,8 (100 – 26%)
Note! Weight varies according to the delivery contents.

Dimensions



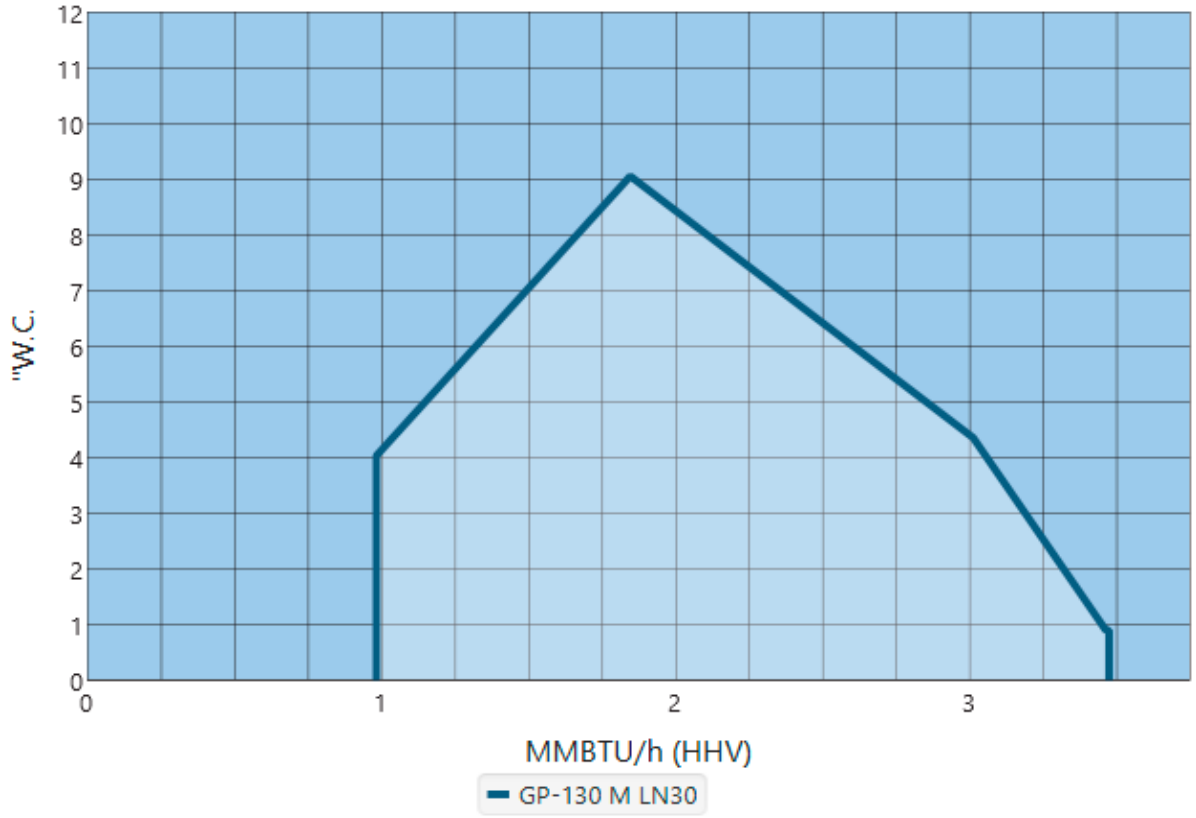
G = Gas inlet
E = Electrical connection

BURNER	L1	L2	L3	L4
GP-130 M LN30	52.56	32.76	12.13	5.08
GP-250 M LN30	56.02	41.14	14.49	9.69

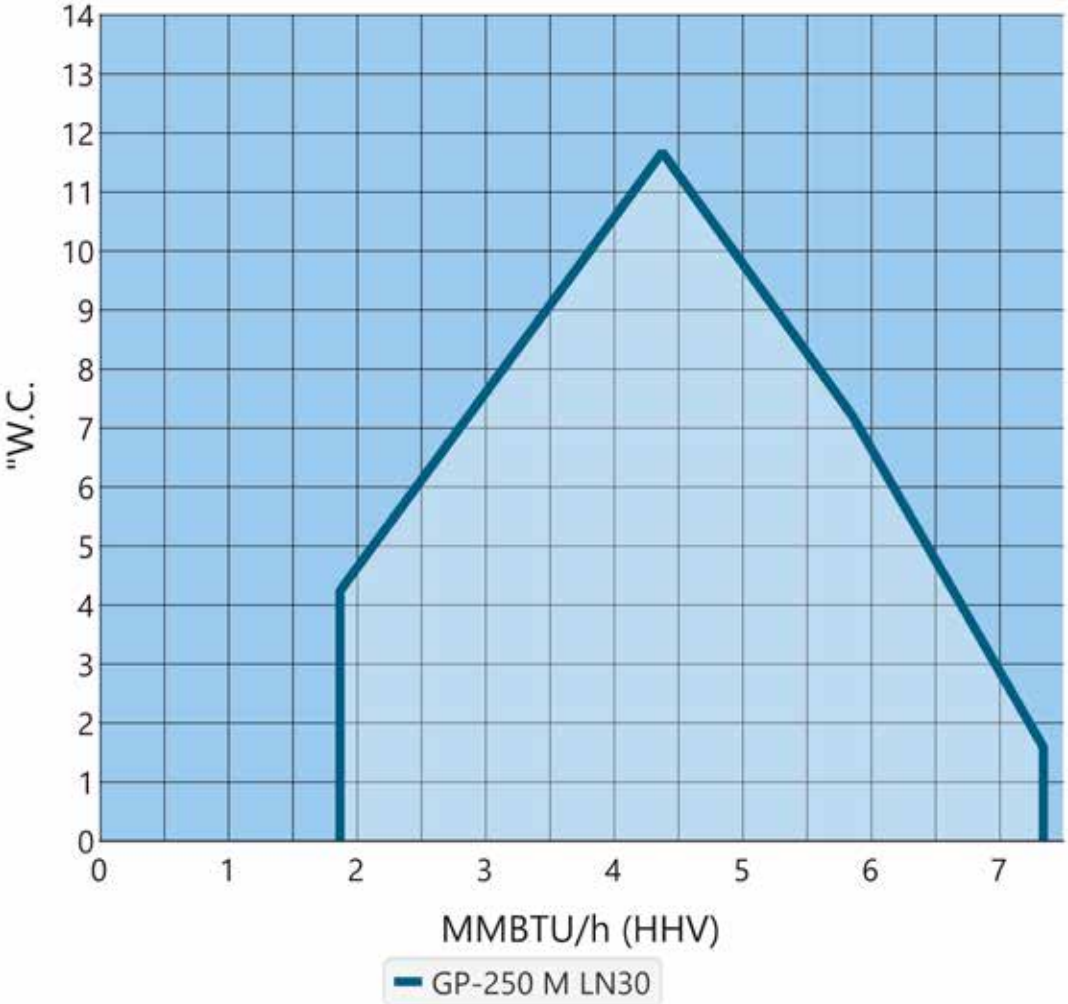
BURNER	H1	H2	H3	H4	B1	B2	B3	B4	B5	B6	ØD1	ØD2	ØD3	R1	R2
GP-130 M LN30	24.61	15.75	8.27	16.69	11.89	20.47	8.27	14.17	26.02	26.57	6.30	2.36	NPT 1"	41.34	45.28
GP-250 M LN30	26.57	17.56	9.25	22.40	13.31	20.87	9.84	17.32	24.21	21.77	9.84	2.36	NPT 3"	43.31	47.24

Dimensions in inches

Working Diagram



NO_x emissions, required residual O_2 and the working diagram will vary depending on furnace geometry and conditions. Please check Oilon Selection Tool from detailed working diagram depending on your application.



NO_x emissions, required residual O_2 and the working diagram will vary depending on furnace geometry and conditions. Please check Oilon Selection Tool from detailed working diagram depending on your application.

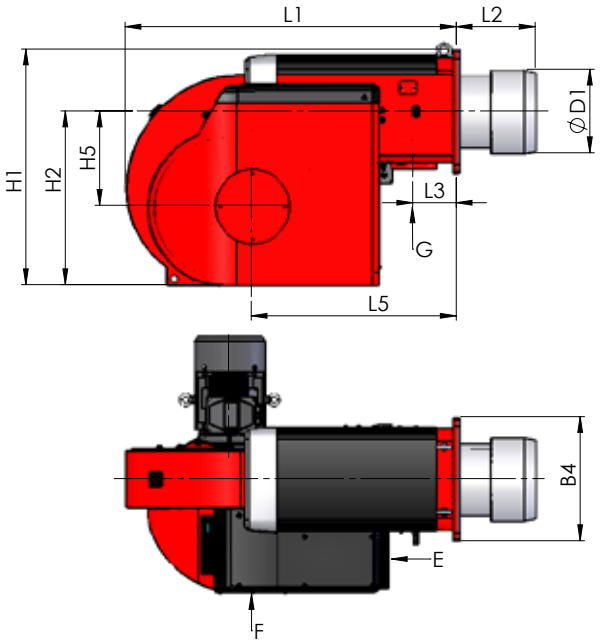
GP-350/450 M, GP-320...450 M LN80

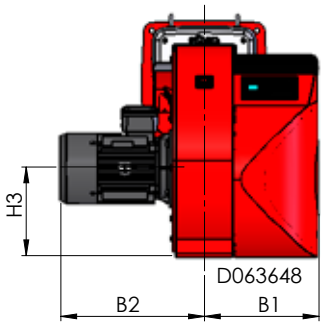
Technical Data

BURNER	GP-350 M	GP-450 M	GP-320 M LN80	GP-350 M LN80	GP-450 M LN80
Capacity MMBtu/h	2.6 -16.1	3.2 - 20.8	2.0 - 12.1	3.4 - 15.1	3.5 - 19.7
Burner motor 3~ 208-600 V 60 Hz Output hp Current A/460 V Speed rpm	 10 11.9 3510	 15 17 3510	 10 11.9 3510	 10 11.9 3510	 20 23.5 3510
Control unit	WDx00	WDx00	WDx00	WDx00	WDx00
Weight lb*	705	992	705	717	1023

*) Only burner
Ratio level Gas 1:6 (100 – 16,6%)
Note! The weight varies according to delivery contents.

Dimensions



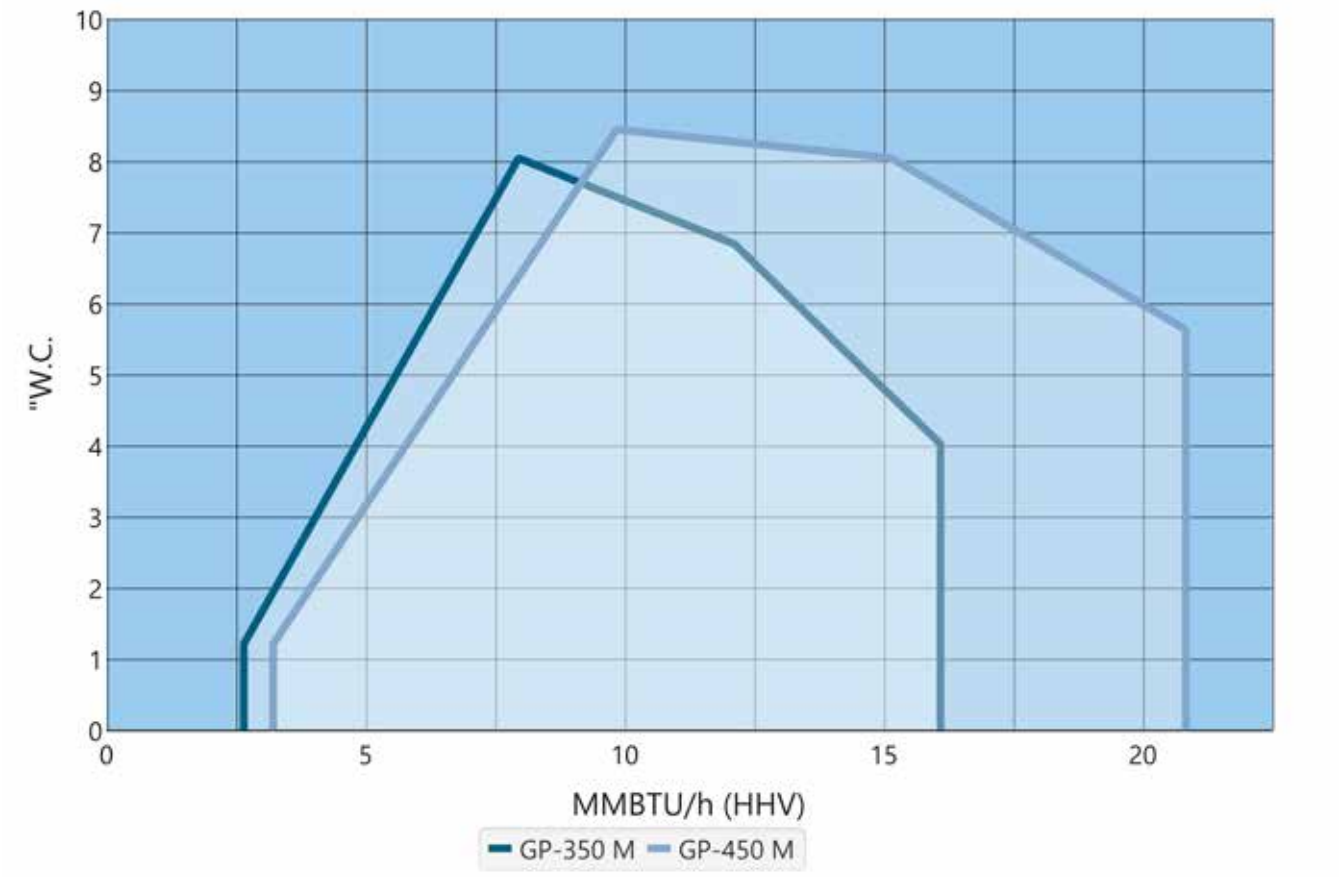


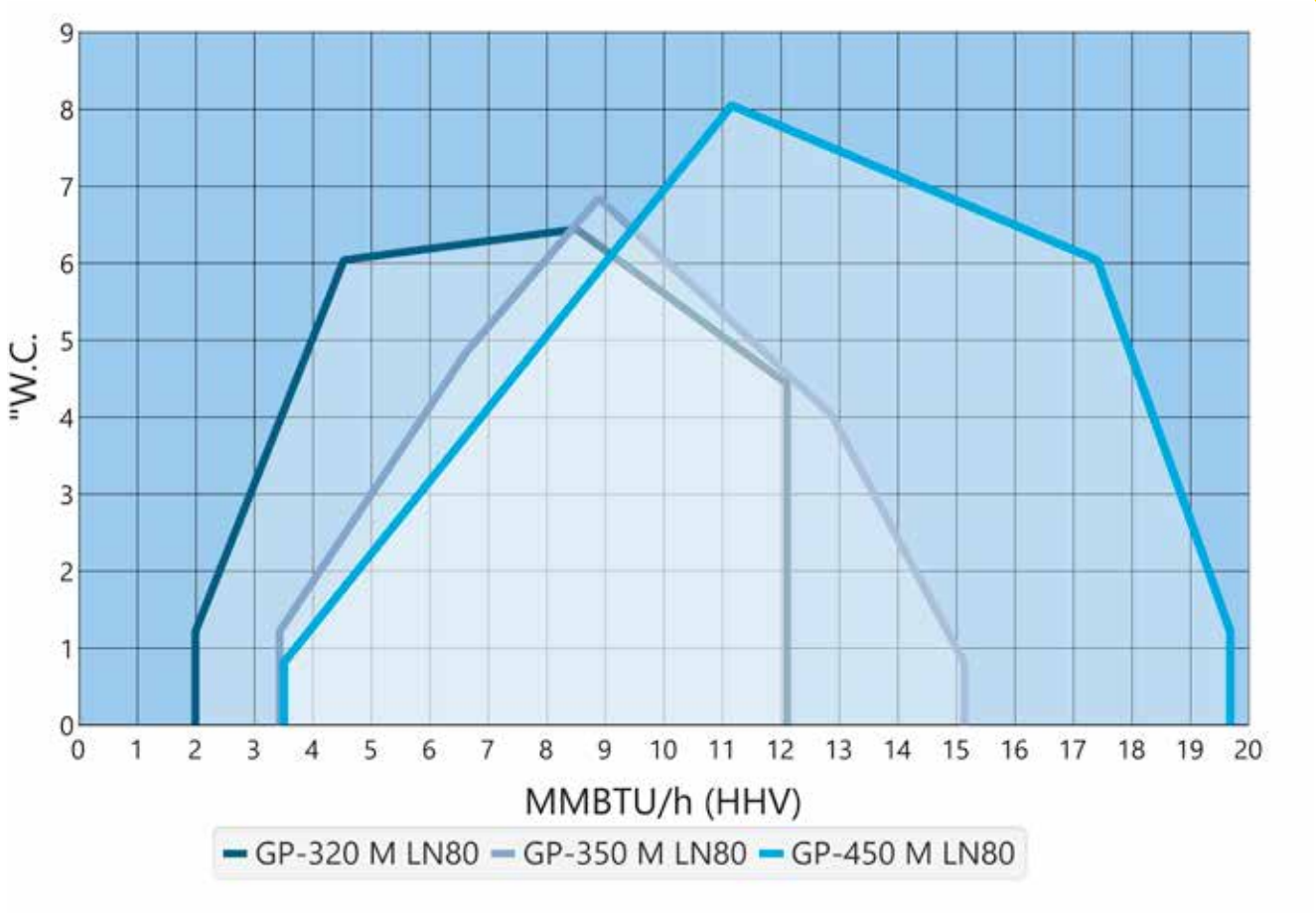
G = Gas inlet
E = Electrical connection
F = FGR - Flue Gas Recirculation

BURNER	L1	L2	L3	L5	H1	H2	H3	H5	B1	B2	B4	ØD1
GP-350 M	53.54	13.78	7.68	31.89	37.01	27.36	13.98	13.58	19.29	22.83	19.29	12.60
GP-450 M	57.87	13.78	7.68	35.83	41.34	30.31	15.55	16.54	20.08	25.59	21.65	14.57
GP-320 M LN80	53.54	19.69	7.68	31.89	37.01	27.36	13.98	13.58	19.29	19.29	19.29	11.89
GP-350 M LN80	53.54	18.90	7.68	31.89	37.01	27.36	13.98	13.58	19.29	22.83	19.29	12.76
GP-450 M LN80	57.87	18.90	7.68	35.83	41.34	30.31	15.55	16.54	20.08	25.59	21.65	12.76

Dimensions in inches.

Working Diagram





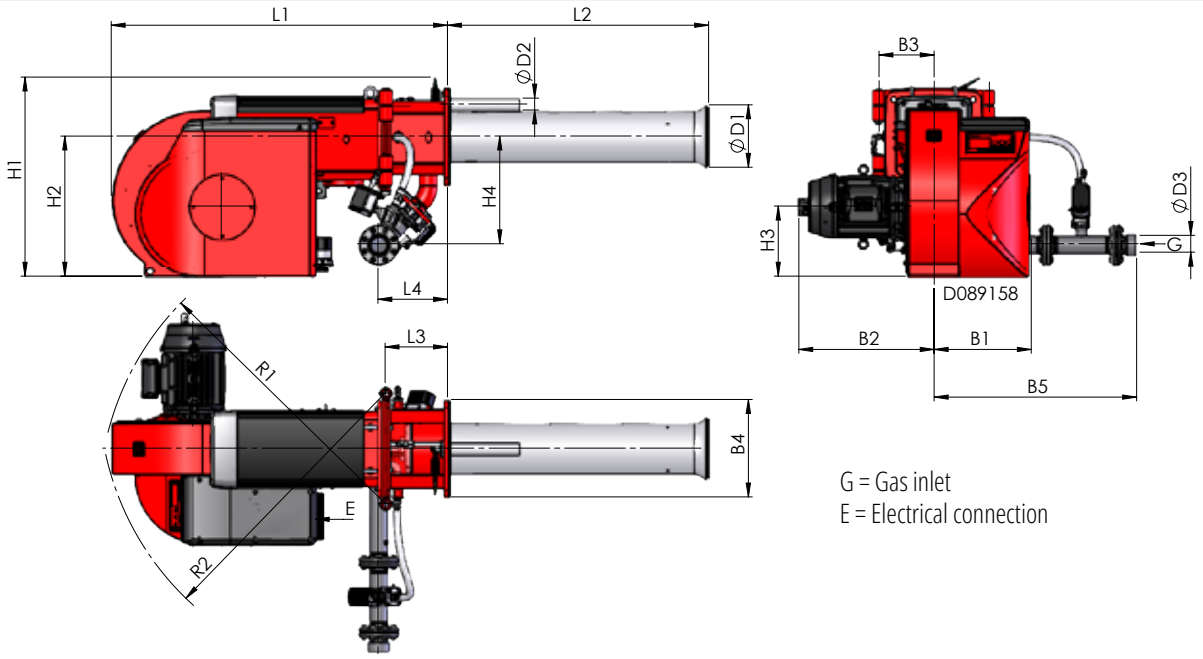
GP-320 M LN30

Technical Data

BURNER	GP-320 M LN30
Capacity MMBtu/h	2.5 - 11.9
Burner motor 3~ 208-600 V 60 Hz Output hp Current A/460 V Speed rpm, max. *	 15 17 3800
Control unit	WDx00
Weight lb**	1175

*) Frequency conventer mandatory
**) Only burner
Ratio level Gas 1:4,7 (100 – 21%)
Note! Weight varies according to the delivery contents.

Dimensions



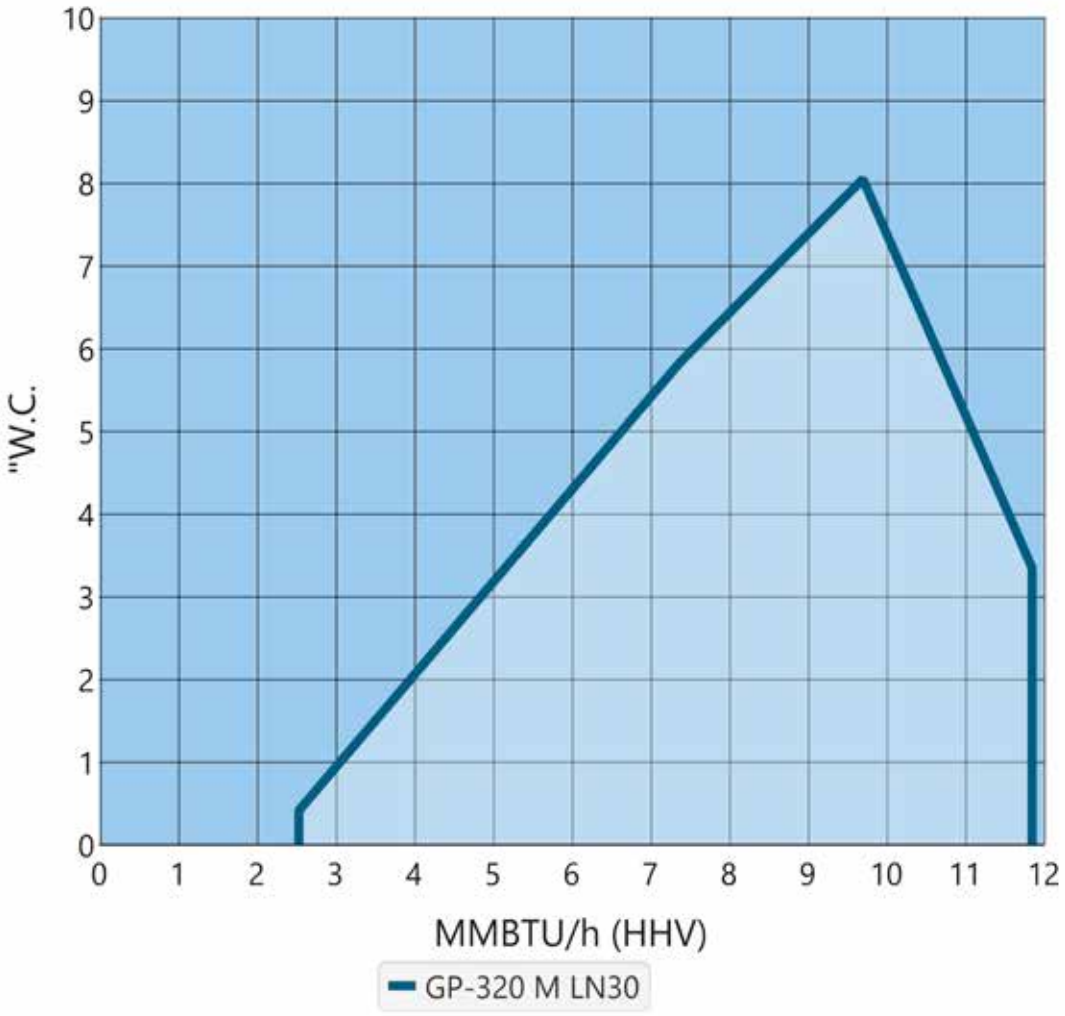
G = Gas inlet
E = Electrical connection

BURNER	L1	L2	L3	L4
GP-320 M LN30	66.73	51.77	12.36	13.78

BURNER	H1	H2	H3	H4	B1	B2	B3	B4	B5	ØD1	ØD2	ØD3	R1	R2
GP-320 M LN30	39.57	27.76	13.98	21.34	19.29	26.97	10.94	19.29	40.16	12.36	2.36	NPT 3"	56.69	56.69

Dimensions in inches.

Working Diagram



NO_x emissions, required residual O_2 and the working diagram will vary depending on furnace geometry and conditions. Please check Oilon Selection Tool from detailed working diagram depending on your application.

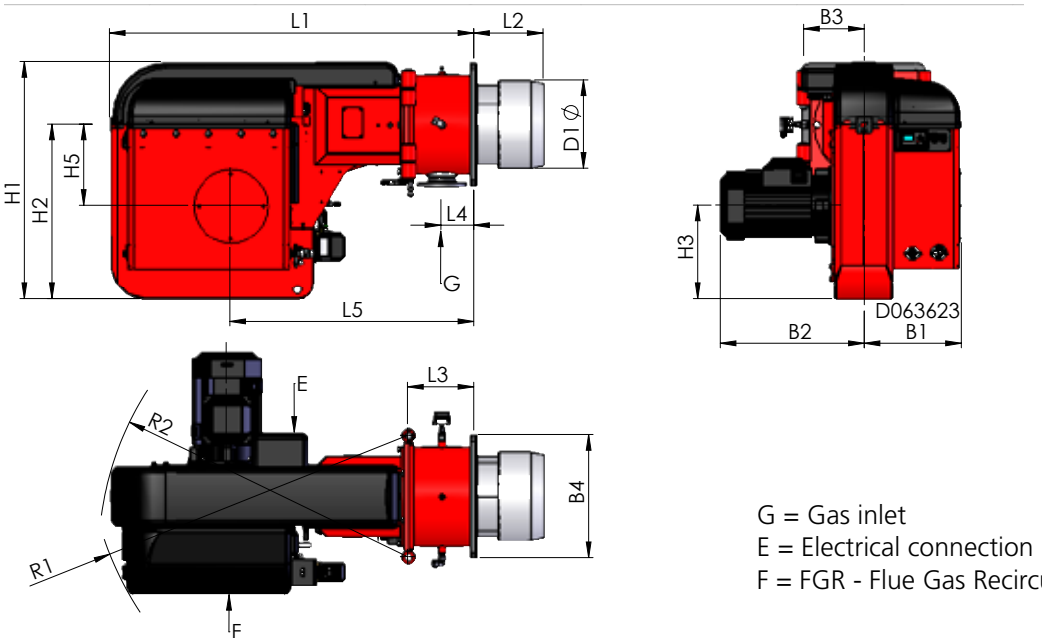
GP-600 M...700 M-III

Technical Data

BURNER	GP-600 M	GP-700 M	GP-700 M-II	GP-700 M-III
Capacity MMBtu/h	3.7 - 25.6	4.5 - 31.8	5.1 - 36.0	5.7 - 39.8
Burner motor 3~ 208-600 V 60 Hz Output hp Current A/460 V Speed rpm	 20 23.5 3510	 25 31 3510	 30 35.8 3510	+ frequency converter 40 45 2970*
Control unit	WDx00	WDx00	WDx00	WDx00
Weight lb**	1014	1179	1246	1488

*) The frequency must be converted to 50 Hz
**) Only burner
Ratio level Gas 1:6 (100 – 16,6%)
Note! The weight varies according to delivery contents.

Dimensions



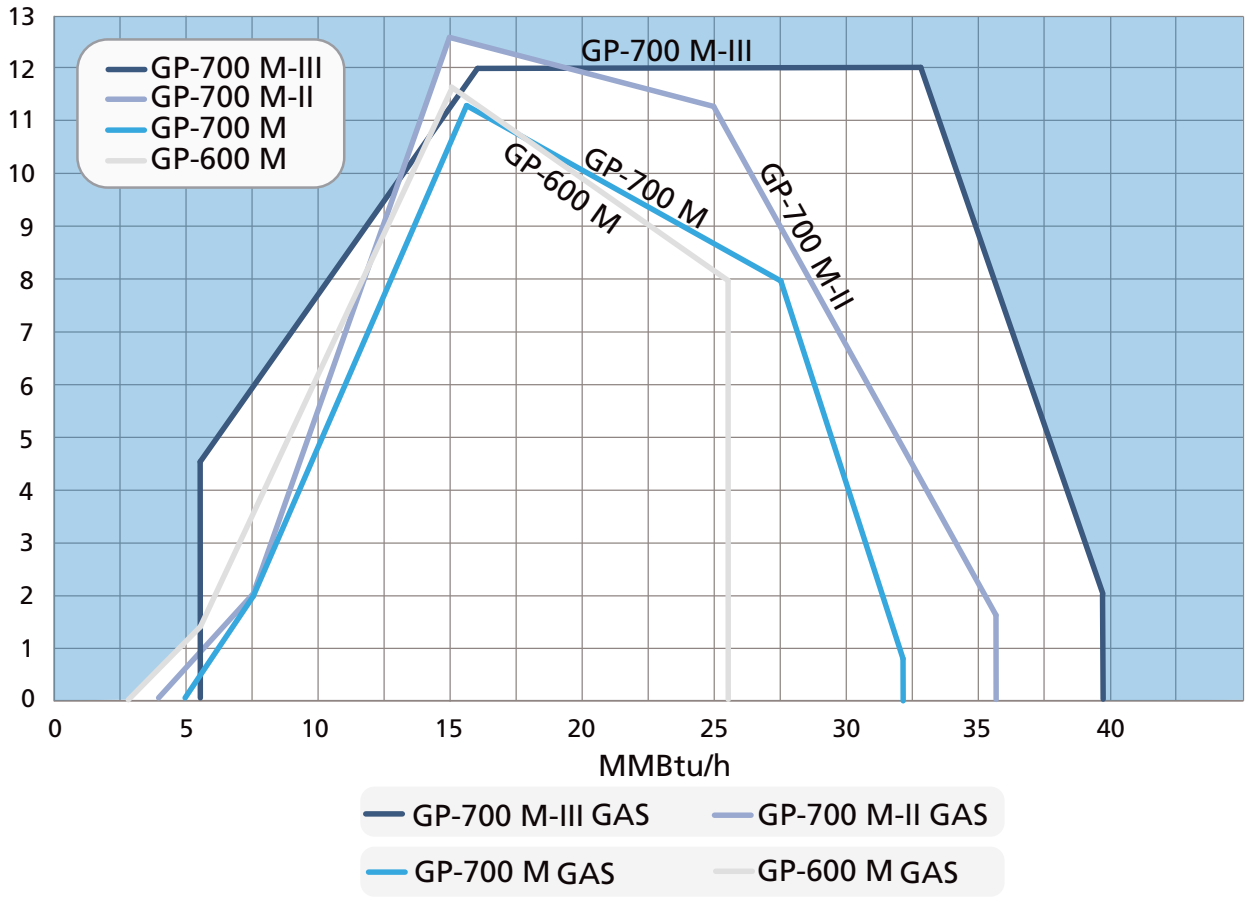
G = Gas inlet
E = Electrical connection
F = FGR - Flue Gas Recirculation

BURNER	L1	L2	L3	L4	L5
GP-600 M	64.96	12.20	11.61	5.71	42.91
GP-700 M	64.96	12.20	11.61	5.71	47.24
GP-700 M-II	64.96	12.20	11.61	5.71	47.24
GP-700 M-III	64.96	15.75	11.61	5.71	47.24

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	R1	R2
GP-600 M	41.73	30.71	16.54	14.37	17.13	25.39	10.63	21.65	14.57	56.69	55.12
GP-700 M	41.73	30.71	16.54	13.19	19.29	27.56	10.63	21.65	15.55	57.48	55.12
GP-700 M-II	41.73	30.71	16.54	13.19	19.29	29.92	10.63	21.65	15.55	57.48	55.12
GP-700 M-III	41.73	30.71	16.54	13.19	19.29	33.27	10.63	21.65	16.73	57.48	55.12

Dimensions in inches.

Working Diagram



GP-600 M_700 M-III LN80

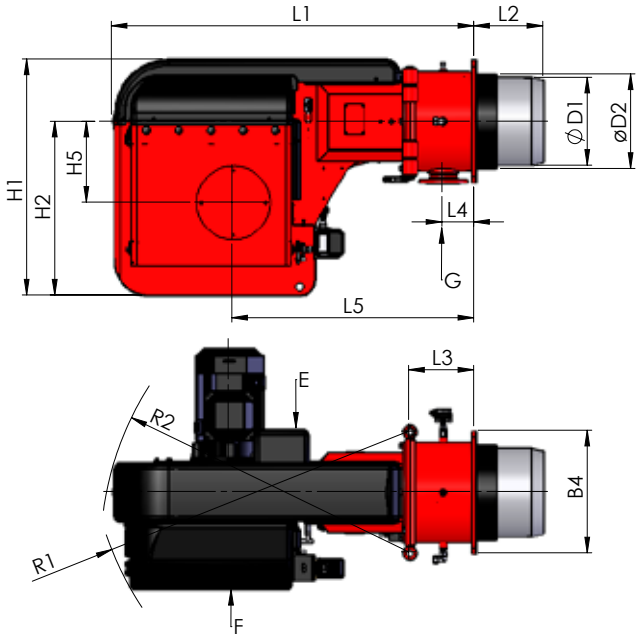
GP-600 M/GP-700 M-III LN60, GP-600…700 M-III LN80

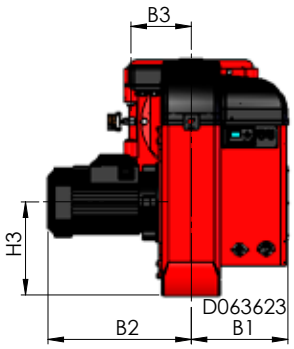
Technical Data

BURNER	GP-600 M LN60	GP-700 M-III LN60	GP-600 M LN80	GP-700 M-II LN80	GP-700 M-III LN80
Capacity MMBtu/h	3.0 - 24.6	5.2 - 28.4	3.6 - 25.4	4.5 - 28.8	5.7 - 33.3
Burner motor 3~ 208-600 V 60 Hz		+ frequency converter			+ frequency converter
Output hp	25	40	20	30	40
Current A/460 V	34	52	26	38	45
Speed rpm	3510	2970*	3510	3510	2970*
Control unit	WDx00	WDx00	WDx00	WDx00	WDx00
Weight lb**	1069	1510	1025	1499	1543

*) The frequency must be converted to 50 Hz
**) Only burner
Ratio level Gas 1:6 (100 – 16,6%)
Note! The weight varies according to delivery contents.

Dimensions





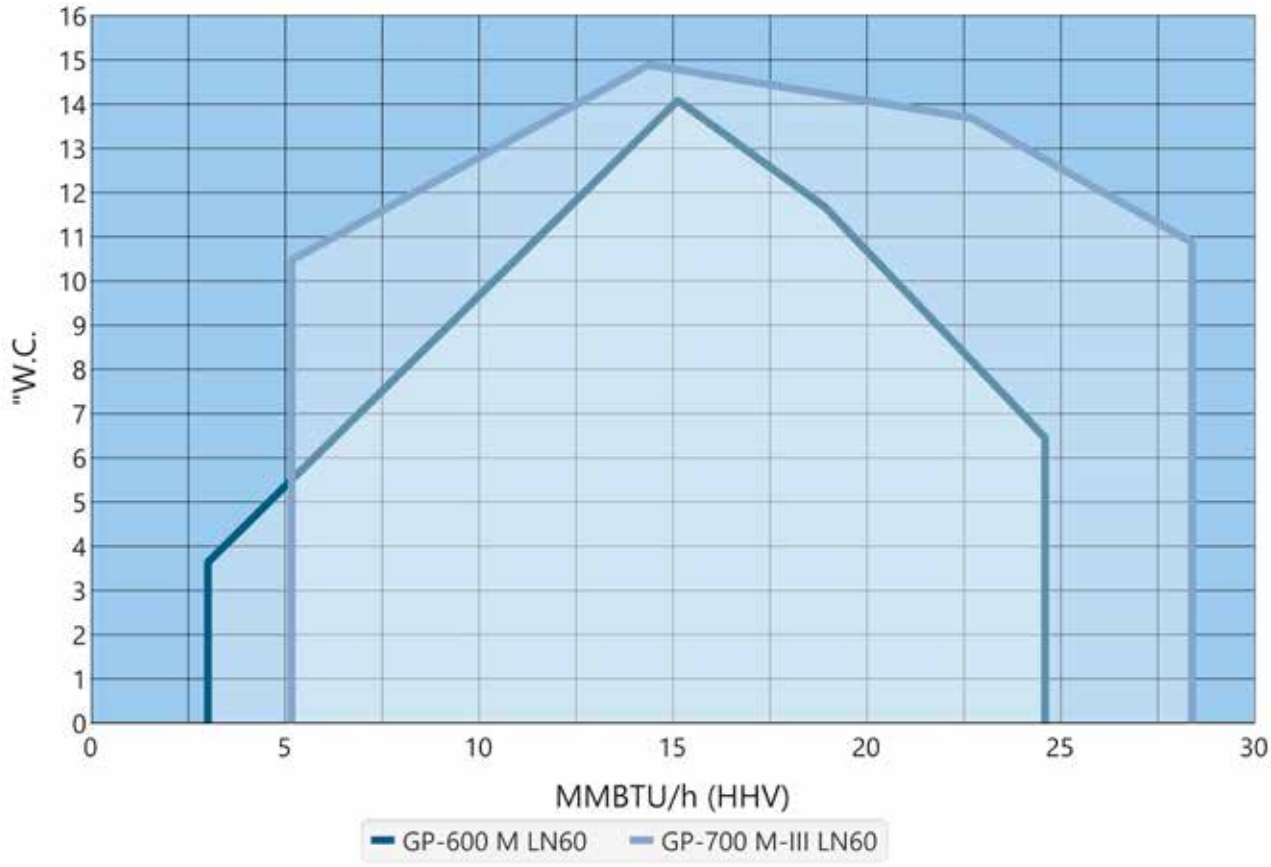
G = Gas inlet
E = Electrical connection
F = FGR - Flue Gas Recirculation

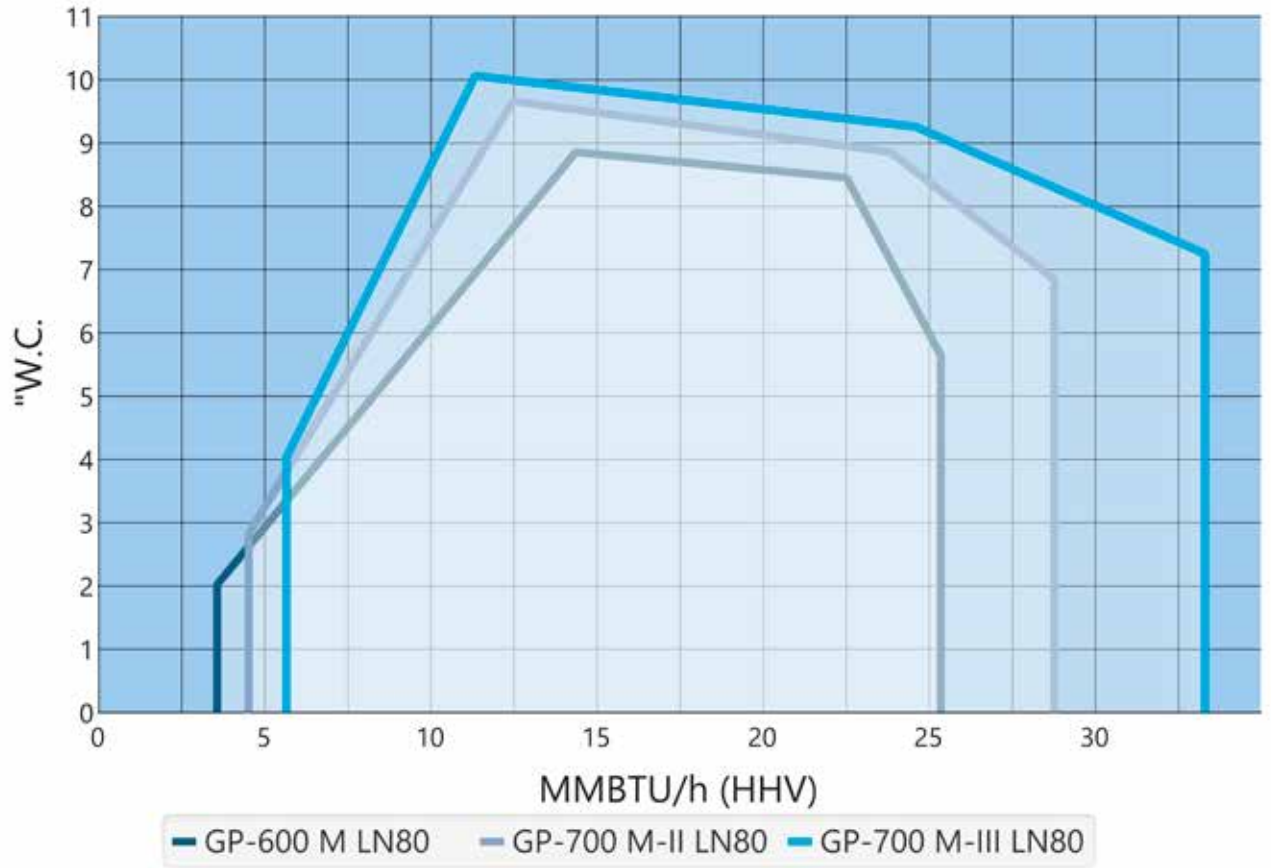
BURNER	L1	L2	L3	L4	L5
GP-600 M LN60	64.96	20.87	11.61	5.71	42.91
GP-700 M-III LN60	64.96	24.02	11.61	5.71	47.24
GP-600 M LN80	64.96	20.87	11.61	5.71	42.91
GP-700 M-II LN80	64.96	20.87	11.61	5.71	47.24
GP-700 M-III LN80	64.96	24.02	11.61	5.71	47.24

BURNER	H1	H2	H3	H5	B1	B2	B3	B4	ØD1	ØD2	R1	R2
GP-600 M LN60	41.73	30.71	16.54	14.37	17.13	25.39	10.63	21.65	16.06	-	56.69	55.12
GP-700 M-III LN60	41.73	30.71	16.54	13.19	19.29	33.27	10.63	21.65	17.52	-	57.48	55.12
GP-600 M LN80	41.73	30.71	16.54	14.37	17.13	25.39	10.63	21.65	15.12	-	56.69	55.12
GP-700 M-II LN80	41.73	30.71	16.54	13.19	19.29	29.92	10.63	21.65	15.98	-	57.48	55.12
GP-700 M-III LN80	41.73	30.71	16.54	13.19	19.29	33.27	10.63	21.65	15.98	-	57.48	55.12

Dimensions in inches.

Working Diagram





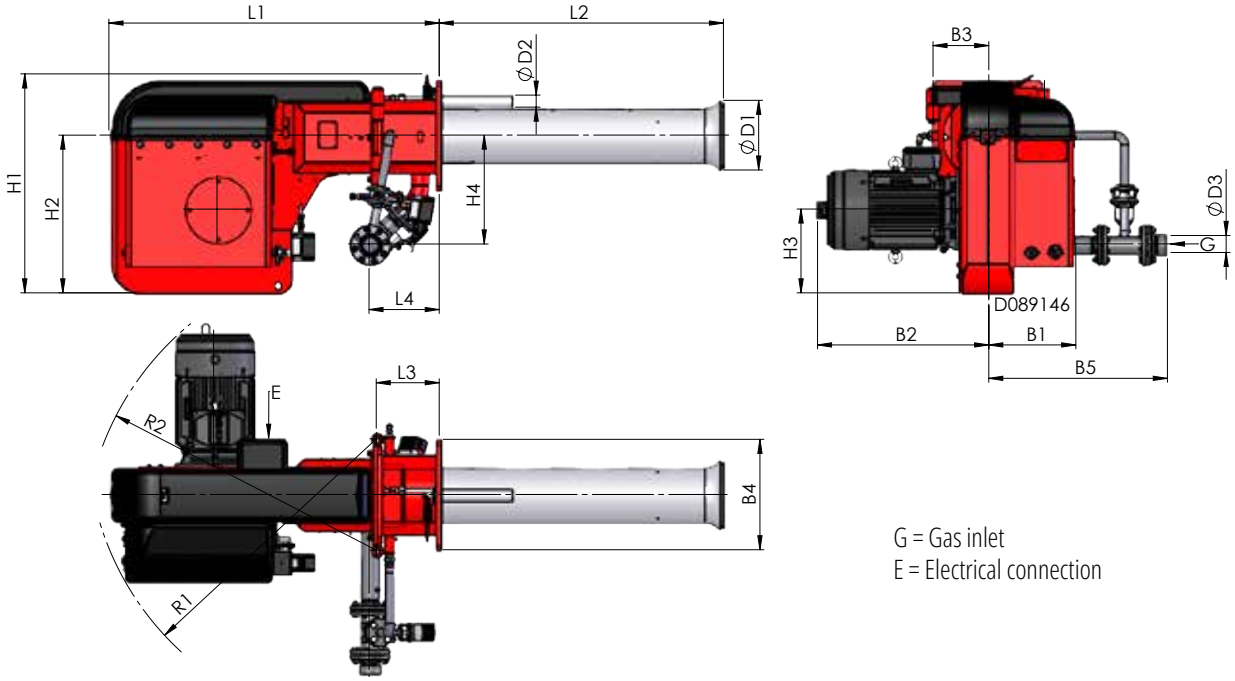
GP-600 M/GP-600 M-II LN30

Technical Data

BURNER	GP-600 M LN30	GP-600 M-II LN30
Capacity MMBtu/h	4.4 - 18.4	4.8 - 26.6
Burner motor 3~ 208-600 V 60 Hz Output hp Current A/460 V Speed rpm, max.*	 30 34 3520	 50 55.9 4100
Control unit	WDx00	WDx00
Weight lb**	1102	1455

*) Frequency conventer mandatory
**) Only burner
Ratio level Gas GP-600 M LN30 1:4 (100 – 25 %)
GP 600 M-II LN30 1:5,4 (100 – 18 %)
Note! Weight varies according to the delivery contents.

Dimensions



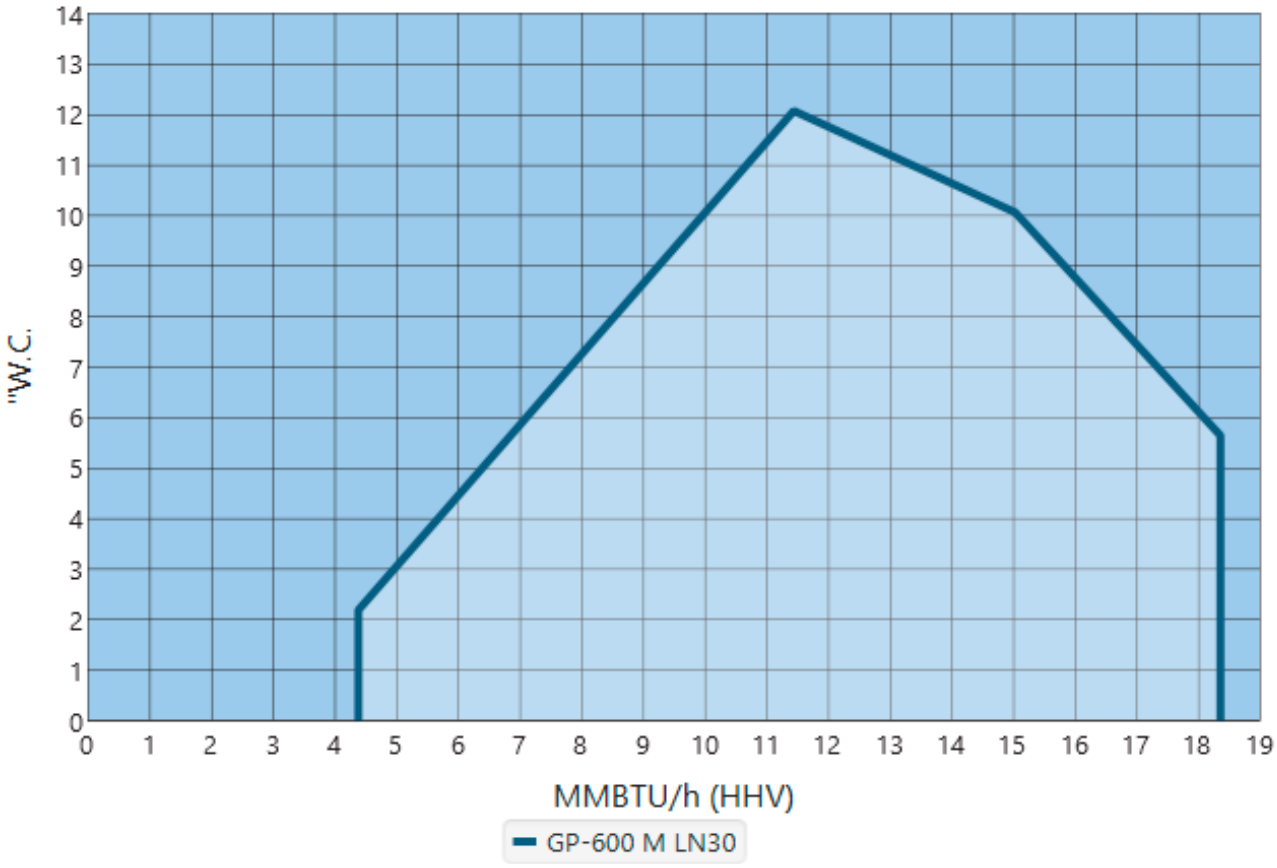
G = Gas inlet
E = Electrical connection

BURNER	L1	L2	L3	L4
GP-600 M LN30	64.80	55.79	12.36	13.78
GP-600 M-II LN30	64.80	55.79	12.36	13.78

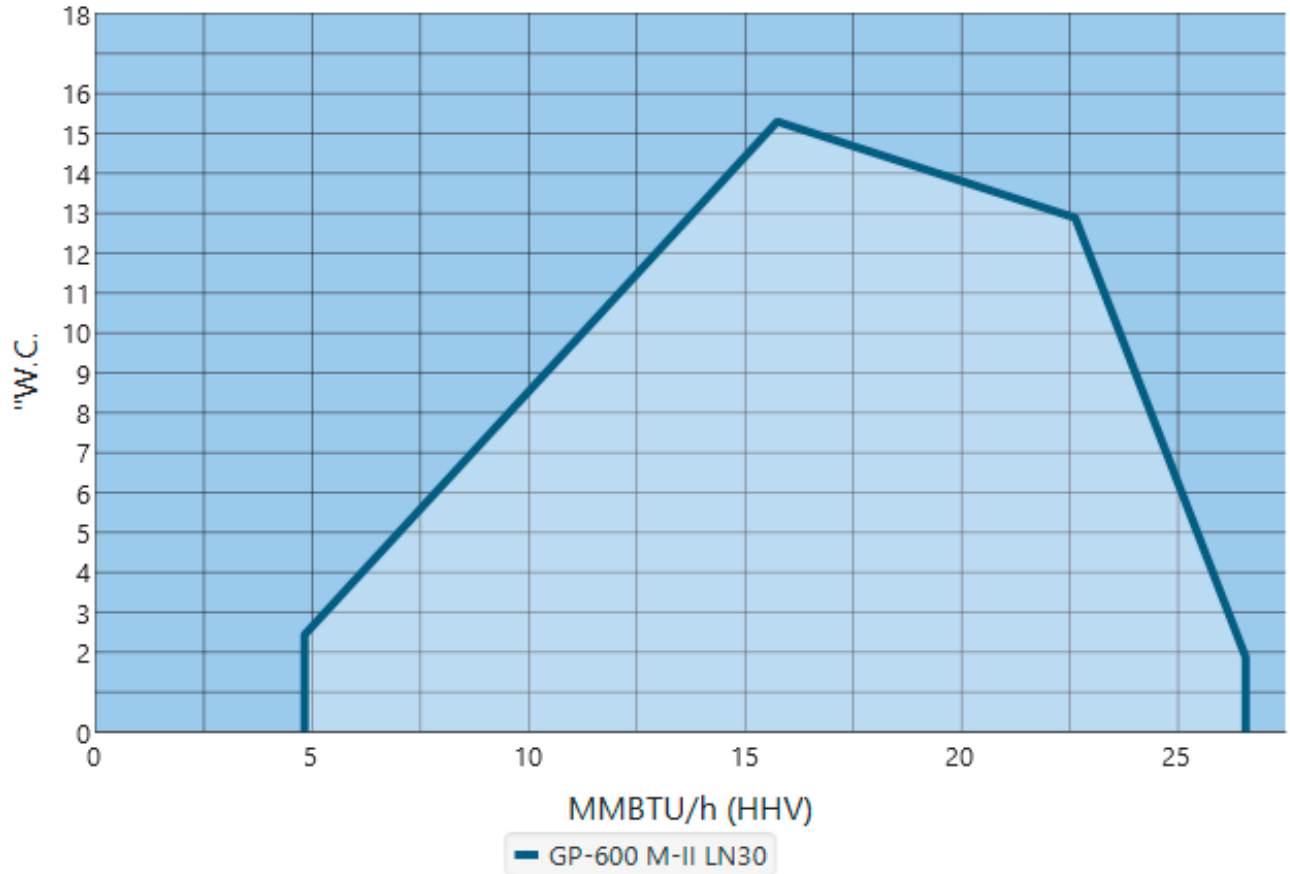
BURNER	H1	H2	H3	H4	B1	B2	B3	B4	B5	ØD1	ØD2	ØD3	R1	R2
GP-600 M LN30	42.91	30.94	16.46	21.34	17.09	29.72	10.94	21.65	35.04	13.66	2.36	NPT 3"	56.69	54.72
GP-600 M-II LN30	42.91	30.94	16.46	21.34	17.09	33.66	10.94	21.65	35.04	13.66	2.36	NPT 3"	56.69	57.48

Dimensions in inches.

Working Diagram



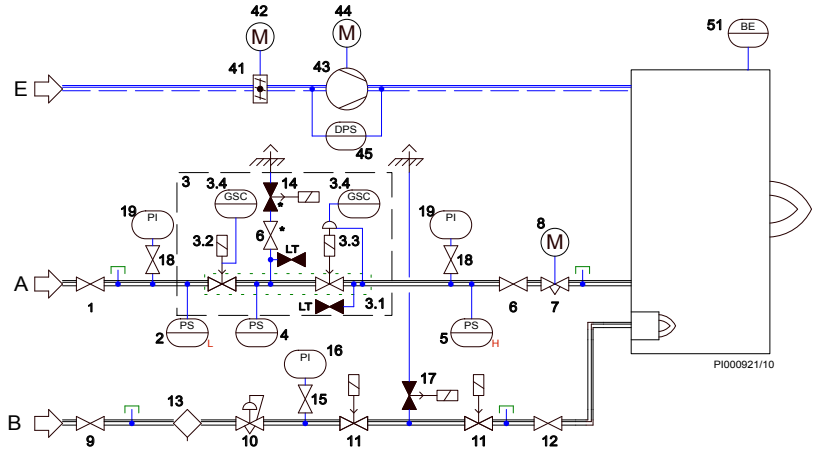
NO_x emissions, required residual O_2 and the working diagram will vary depending on furnace geometry and conditions. Please check Oilon Selection Tool from detailed working diagram depending on your application.



NO_x emissions, required residual O_2 and the working diagram will vary depending on furnace geometry and conditions. Please check Oilon Selection Tool from detailed working diagram depending on your application.

PI Diagrams

GAS, VGD VALVE, M BURNERS



GAS PROCESS COMPONENTS
1. Manual shut-off valve
2. Pressure switch, low
3. Safety shut-off valve
3.1 Valve
3.2 Actuator
3.3 Actuator with pressure regulator
3.4 Proof of closure switch
4. Pressure switch
5. Pressure switch, high
6. Manual shut-off valve
7. Gas butterfly valve
8. Servomotor
9. Manual shut-off valve
10. Pressure regulator
11. Safety shut-off valve
12. Manual shut-off valve
13. Gas strainer
14. Automatic vent valve (NO)
15. Gauge valve (NFPA option)
16. Pressure gauge (NFPA option)
17. Automatic vent valve (NO) (NFPA option)
18. Gauge valve
19. Pressure gauge

* Alternative for valve proving system

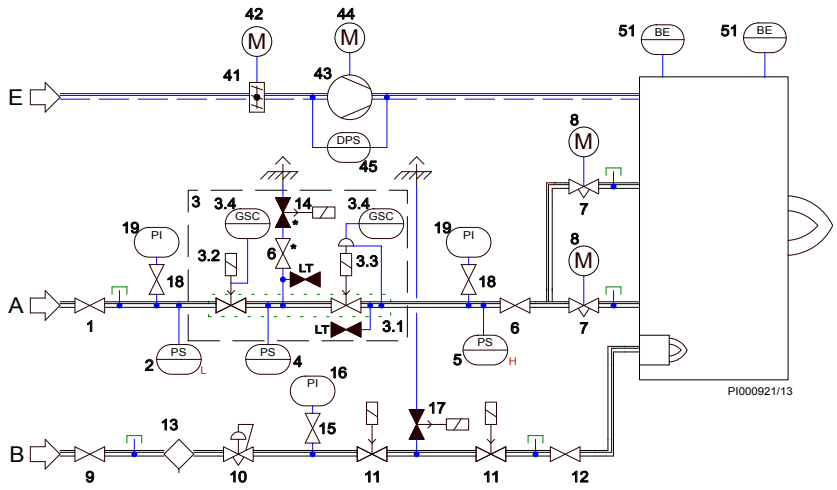
A = Gas supply
B = Ignition gas supply
C = Oil supply
D = Oil return
E = Air supply

OIL PROCESS COMPONENTS
21. Manual shut-off valve
22. Filter
23. Oil pump
23.1 Oil pump
23.2 Oil regulation valve
24. Electric motor
25. Pressure switch, low
26. Gauge valve
27. Pressure gauge
28. Safety shut-off valve
28.1 Proof of closure switch
29. Solenoid valve, ignition oil
30. Oil regulator valve
31. Servomotor
32. Pressure switch, high
33. Non-return valve
34. Shut-off valve
35. Needle valve
36. Pressure gauge

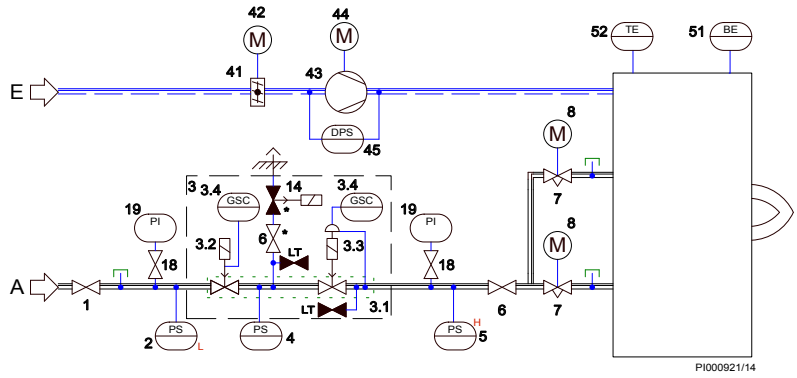
AIR PROCESS COMPONENTS
41. Air damper
42. Servomotor
43. Combustion air fan
44. Electric motor
45. Differential pressure switch for air

OTHER COMPONENTS
51. Flame detector
52. Back flame sensor

GAS, VGD VALVE, M LN 60 BURNERS



GAS, VGD VALVE, 130/250 M LN30 BURNERS



GAS PROCESS COMPONENTS
1. Manual shut-off valve
2. Pressure switch, low
3. Safety shut-off valve
3.1 Valve
3.2 Actuator
3.3 Actuator with pressure regulator
3.4 Proof of closure switch
4. Pressure switch
5. Pressure switch, high
6. Manual shut-off valve
7. Gas butterfly valve
8. Servomotor
9. Manual shut-off valve
10. Pressure regulator
11. Safety shut-off valve
12. Manual shut-off valve
13. Gas strainer
14. Automatic vent valve (NO)
15. Gauge valve (NFPA option)
16. Pressure gauge (NFPA option)
17. Automatic vent valve (NO) (NFPA option)
18. Gauge valve
19. Pressure gauge

* Alternative for valve proving system

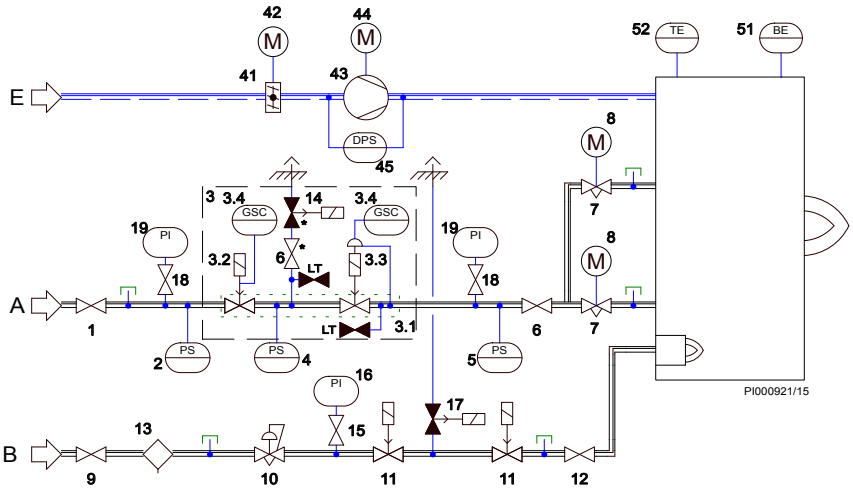
A = Gas supply
B = Ignition gas supply
C = Oil supply
D = Oil return
E = Air supply

OIL PROCESS COMPONENTS
21. Manual shut-off valve
22. Filter
23. Oil pump
23.1 Oil pump
23.2 Oil regulation valve
24. Electric motor
25. Pressure switch, low
26. Gauge valve
27. Pressure gauge
28. Safety shut-off valve
28.1 Proof of closure switch
29. Solenoid valve, ignition oil
30. Oil regulator valve
31. Servomotor
32. Pressure switch, high
33. Non-return valve
34. Shut-off valve
35. Needle valve
36. Pressure gauge

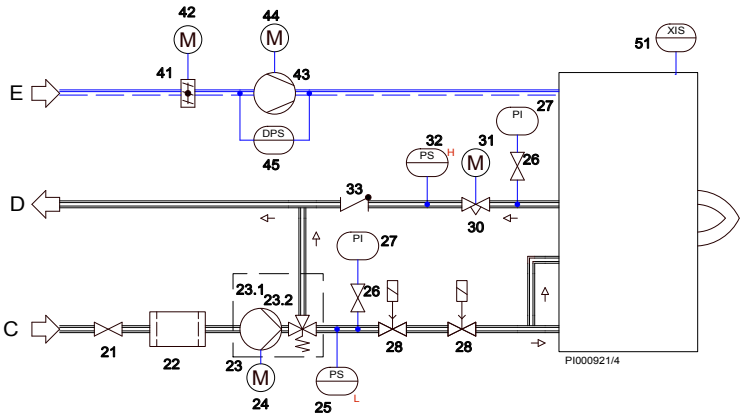
AIR PROCESS COMPONENTS
41. Air damper
42. Servomotor
43. Combustion air fan
44. Electric motor
45. Differential pressure switch for air

OTHER COMPONENTS
51. Flame detector
52. Back flame sensor

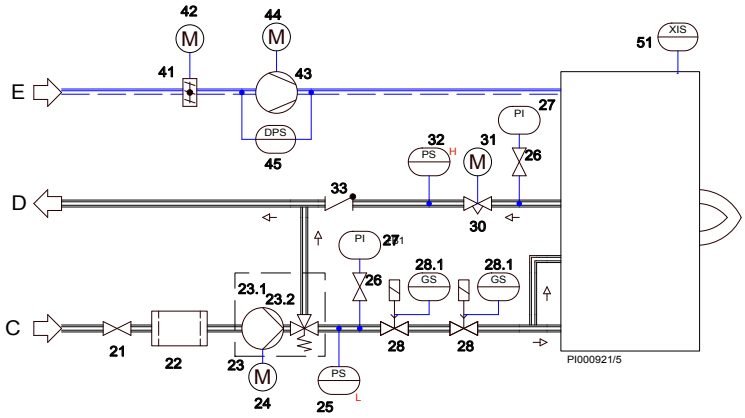
GAS, VGD VALVE, 320...600 M-II LN30 BURNERS



LIGHT FUEL OIL, 140...280 M BURNERS



LIGHT FUEL OIL, 350...700 M BURNERS



GAS PROCESS COMPONENTS
1. Manual shut-off valve
2. Pressure switch, low
3. Safety shut-off valve
3.1 Valve
3.2 Actuator
3.3 Actuator with pressure regulator
3.4 Proof of closure switch
4. Pressure switch
5. Pressure switch, high
6. Manual shut-off valve
7. Gas butterfly valve
8. Servomotor
9. Manual shut-off valve
10. Pressure regulator
11. Safety shut-off valve
12. Manual shut-off valve

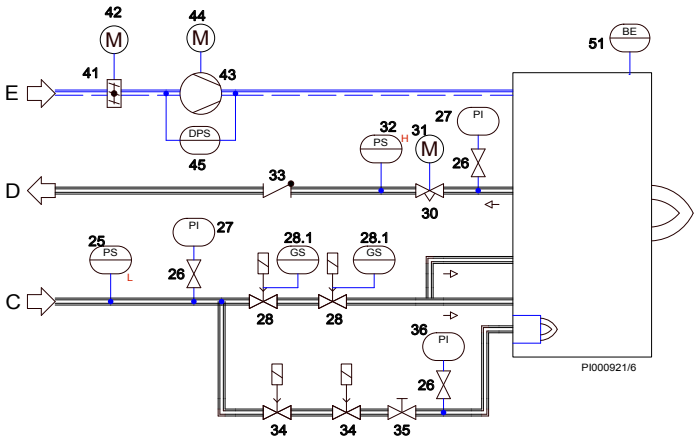
OIL PROCESS COMPONENTS
21. Manual shut-off valve
22. Filter
23. Oil pump
23.1 Oil pump
23.2 Oil regulation valve
24. Electric motor
25. Pressure switch, low
26. Gauge valve
27. Pressure gauge
28. Safety shut-off valve
28.1 Proof of closure switch
29. Solenoid valve, ignition oil
30. Oil regulator valve
31. Servomotor
32. Pressure switch, high
33. Non-return valve
34. Shut-off valve

AIR PROCESS COMPONENTS
41. Air damper
42. Servomotor
43. Combustion air fan
44. Electric motor
45. Differential pressure switch for air, not for KP-models

OTHER COMPONENTS:
51. Flame detector

A = Gas supply
B = Ignition gas supply
C = Oil supply
D = Oil return
E = Air supply

LIGHT FUEL OIL, 1000/1200 M BURNERS



GAS PROCESS COMPONENTS
1. Manual shut-off valve
2. Pressure switch, low
3. Safety shut-off valve
3.1 Valve
3.2 Actuator
3.3 Actuator with pressure regulator
3.4 Proof of closure switch
4. Pressure switch
5. Pressure switch, high
6. Manual shut-off valve
7. Gas butterfly valve
8. Servomotor
9. Manual shut-off valve
10. Pressure regulator
11. Safety shut-off valve
12. Manual shut-off valve

OIL PROCESS COMPONENTS
21. Manual shut-off valve
22. Filter
23. Oil pump
23.1 Oil pump
23.2 Oil regulation valve
24. Electric motor
25. Pressure switch, low
26. Gauge valve
27. Pressure gauge
28. Safety shut-off valve
28.1 Proof of closure switch
29. Solenoid valve, ignition oil
30. Oil regulator valve
31. Servomotor
32. Pressure switch, high
33. Non-return valve
34. Shut-off valve
35. Needle valve
36. Pressure gauge

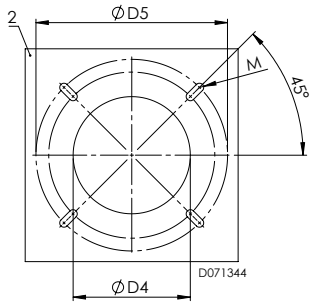
AIR PROCESS COMPONENTS
41. Air damper
42. Servomotor
43. Combustion air fan
44. Electric motor
45. Differential pressure switch for air, not for KP-models

OTHER COMPONENTS:
51. Flame detector

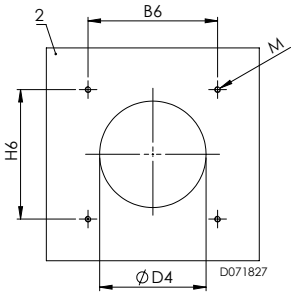
A = Gas supply
B = Ignition gas supply
C = Oil supply
D = Oil return
E = Air supply

Combustion head and masonry dimensions

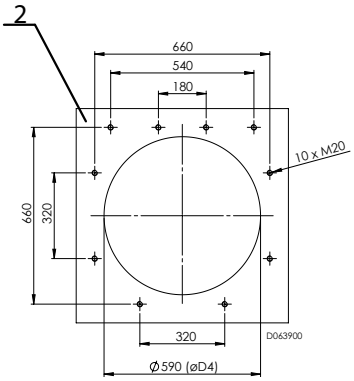
Mounting plate



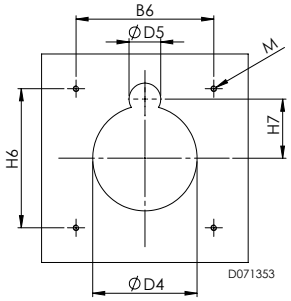
GP/GKP-50 H/M/MH



KP-50 H...-700M-II
GP/GKP-80M/MH...-700 M-III
RP/GRP-130 M...-700 M-II



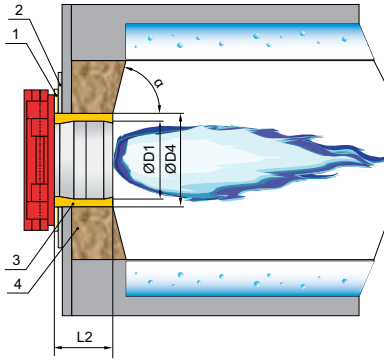
GP/GKP/KP-1000/1200 M



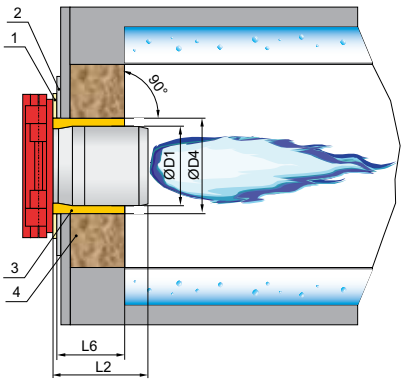
LN30

Masonry opening dimensions are corresponding to the mounting plate dimensions

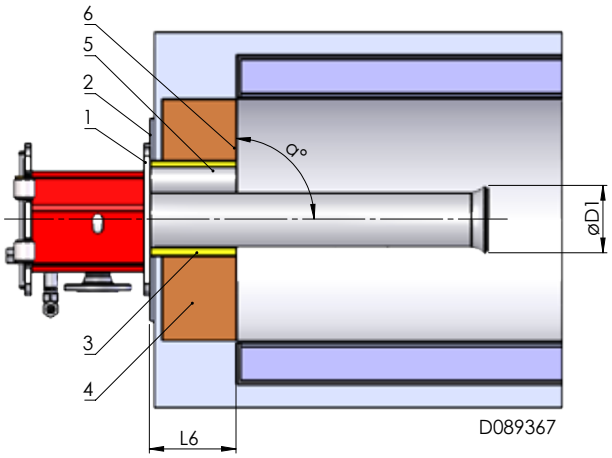
Burner mounting



Standard burner



Low NOx burner LN60/LN80



Low NOx burner LN30

1. Gasket, thickness 0.31 inches
2. Mounting plate
3. Ceramic wool or equivalent
4. Masonry
5. Flame detector sight pipe
6. Boiler wall edge

Masonry opening dimensions are corresponding to the mounting plate dimensions

Standard combustion head mounting dimensions

BURNER SERIE	B6	H6	ØD4	M	ØD1	L2	α
GP/GKP/KP-140 M/MH	10.83	10.83	10.63	4xM16	9.45	8.66	60° - 90°
GP/GKP/KP-150 M/MH	10.83	10.83	11.81	4xM16	10.63	9.06	60° - 90°
KP-250 M	14.37	14.37	11.81	4xM16	10.63	11.81	60° - 90°
GP/GKP-250 M/MH	14.37	14.37	11.81	4xM16	10.63	11.81	60° - 90°
KP-280 M	14.37	14.37	12.99	4xM16	11.81	12.28	60° - 90°
GP/GKP-280 M/MH	14.37	14.37	12.99	4xM16	11.81	12.28	60° - 90°
GP/GKP/KP-350 M	15.75	15.75	14.96	4xM20	12.60	13.78	60° - 90°
GP/GKP/KP-450 M	18.31	18.31	17.32	4xM20	14.57	13.78	60° - 90°
GP/GKP-600 M	18.31	18.31	17.32	4xM20	14.57	12.20	60° - 90°
KP-600 M	18.31	18.31	16.93	4xM20	14.57	11.22	60° - 90°
GP/GKP-700 M	18.31	18.31	17.91	4xM20	15.55	12.20	60° - 90°
KP-700 M	18.31	18.31	17.91	4xM20	15.55	12.20	60° - 90°
GP/GKP-700 M-II	18.31	18.31	17.91	4xM20	15.55	12.20	60° - 90°
KP-700 M-II	18.31	18.31	17.91	4xM20	15.55	12.20	60° - 90°
GP/GKP-700 M-III	18.31	18.31	18.90	4xM20	16.73	15.75	60° - 90°
GP/GKP-1000 M	See figure mounting plate 1000/1200				19.53	17.09	60° - 90°
GP/GKP-1200 M	See figure mounting plate 1000/1200				20.47	17.09	60° - 90°

Dimensions in inches.

Low NOx combustion head mounting dimensions, LN60/LN80

There are 1-2 combustion head length options (C1, C2) for each burner model. Choose correct combustion head lenght according to the boiler front wall thickness (L6). The front wall thicknesses are labeled in ranges with corresponding combustion head lengths (L2) in the table below.

						L2		L6	
BURNER SERIE	B6	H6	ØD4	M	ØD1	C1	C2	C1	C2
GP/GKP-140 M LN80	10.83	10.83	10.63	4xM16	9.45	-	16.93	-	9.44-14.96
GP/GKP-250 M LN80	14.37	14.37	11.42	4xM16	10.08	16.54	21.65	9.45-14.37	14.37-19.49
GP/GKP-280 M LN80	14.37	14.37	12.20	4xM16	10.87	16.54	21.65	9.45-14.37	14.37-19.49
GP/GKP-320 M LN80	15.75	15.75	14.17	4xM20	11.89	-	19.69	-	10.24-17.32
GP/GKP-350 M LN80	15.75	15.75	14.96	4xM20	12.76	-	18.90	-	10.24-17.32
GP/GKP-450 M LN80	18.31	18.31	14.96	4xM20	12.76	-	18.90	-	10.24-17.32
GP/GKP-600 M LN80	18.31	18.31	17.91	4xM20	15.12	-	20.87	-	10.24-17.32
GP/GKP-700 M-II LN80	18.31	18.31	17.91	4xM20	15.98	-	20.87	-	10.24-17.32
GP/GKP-700 M-III LN80	18.31	18.31	17.56	4xM20	15.98	-	24.02	-	11.42-21.06
GP-600 M LN60	18.31	18.31	16.54	4xM20	16.06	-	20.87	-	10.24-17.68
GP-700 M-III LN60	18.31	18.31	19.76	4xM20	16.54	-	24.02	-	11.42-20.55
GP-1000 LN80	See figure mounting plate 1000/1200				17.87	-	25.59	-	11.42-22.44

Dimensions in inches.

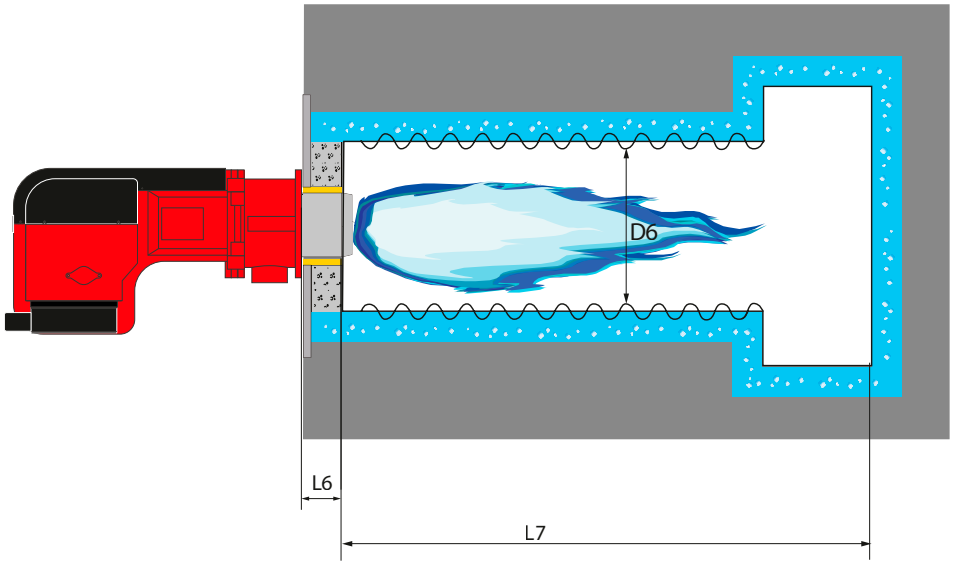
Low NOx combustion head mounting dimensions, LN30

BURNER SERIE	B6	H6	H7	øD1	øD4	øD5	L6 max.	M	α
GP-130 M LN30	10.83	10.83	3.74	6.30	6.73	3.62	9.84	4xM16	90°
GP-250 M LN30	14.37	14,37	5.35	9.84	10.24	3.62	9.84	4xM16	90°
GP-320 M LN30	15.75	15.75	6.34	12.36	13.15	3.62	11.81	4xM20	90°
GP-600 M LN30	18.31	18.31	6.69	13.66	14.45	3.62	11.81	4xM20	90°
GP-600 M-II LN30	18.31	18.31	6.69	13.66	14.45	3.62	11.81	4xM20	90°

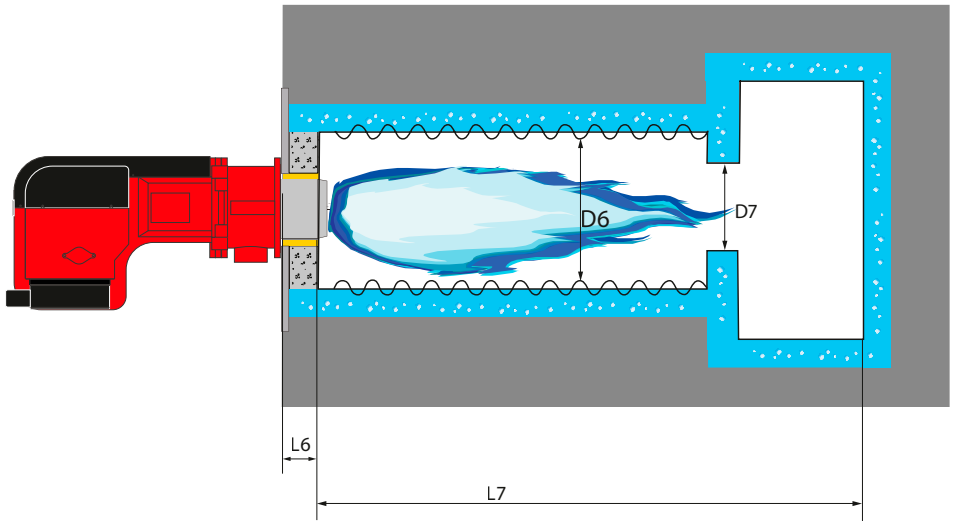
Dimensions in inches.

Combustion chamber dimensions for LN60 and LN80 burners

Case 1



Case 2



Minimum dimensions to meet 40 ppm emissions (LN80) and 30 ppm emissions (LN60).

BURNER SERIE	GP-600 M LN60	GP-700 M-III LN60	GP/ GKP-140 M LN80	GP/ GKP-250 M LN80	GP/ GKP-280 M LN80	GP/ GKP-320 M LN80	GP/ GKP-350 M LN80	GP/ GKP-450 M LN80	GP/GKP-600 M LN80	GP/GKP-700 M-II LN80	GP/ GKP-700 M-III LN80	GP-1000 M LN80
D6 minimum *	43.3	46.9	26.8	29.5	31.5	35.0	37.4	38.6	45.3	47.2	49.6	53.9
D6 minimum **	45.3	48.8	28.3	31.5	33.5	37.0	39.4	40.9	48.0	50.0	52.8	57.5
L7 minimum ***	181.1	196.9	92.5	107.5	118.1	127.2	138.6	165.4	185.0	192.1	203.5	218.5

Dimensions in inches.

D7 minimum ≥ D6 * 0.7
L6 is an overall boiler front wall thickness, including refractory, steel front wall and a possible burner mounting plate.

* For hot water boiler (medium temperature max. +266 °F).
** For steam boiler (medium temperature max +410 °F).
*** May require longer furnace, if diameter is very wide.
Fuels: Natural gas

Combustion chamber dimensions for LN30 burners

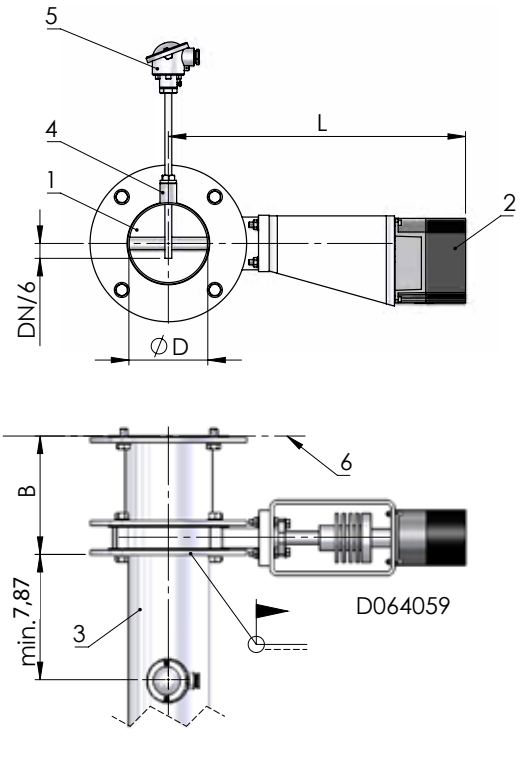
BURNER	GP-130 M LN30	GP-250 M LN30	GP-320 M LN30	GP-600 M LN30	GP-600 M-II LN30
Suitable furnace inner diameter, inches	17.72 - 27.56	25.59 - 38.98	32.48 - 51.18	36.02 - 62.99	43.31 - 75.59
Minimum furnace length, inches	84.65	98.43	118.11	137.80	165.35

The values in the table are indicative, the exact values should be checked in the Oilon Selection Tool.

Accessories

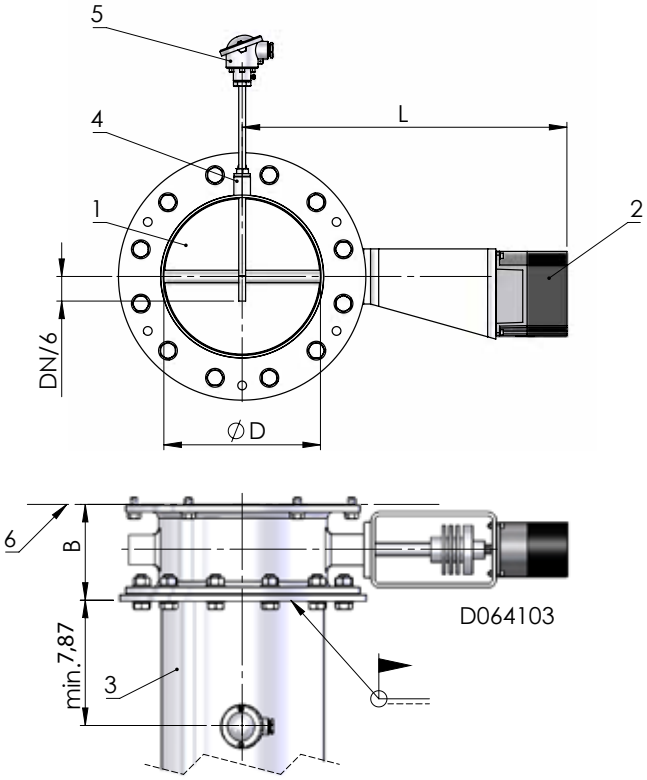
FGR - Butterfly valve dimension

FGR max. temperature 482 °F



1. Butterfly valve FGR
2. Servomotor
3. FGR pipe, not included in the delivery
4. Sleeve 1/2”, not included in the delivery
5. Temperature sensor
6. Burner

Burner	ØD	L	B
130...150	DN125 (NPS 5)	18.7	7.5
250...280	DN150 (NPS 6)	19.3	7.5
320...600	DN200 (NPS 8)	20.9	4.9



1. Butterfly valve FGR
2. Servomotor
3. FGR pipe, not included in the delivery
4. Sleeve 1/2”, not included in the delivery
5. Temperature sensor
6. Burner

Burner	ØD	L	B
700	DN250 (NPS 10)	20.5	6.1
1000	DN300 (NPS 12)	21.9	7.2
1200	DN350 (NPS 14)	23.0	7.2

Dimensions in inches.

APPENDIX E -
SAFETY DATA SHEETS

1. Identification

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2. Hazard(s) Identification

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3. Composition

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4. First Aid Measures

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5. Fire Fighting Measures

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6. Accidental Release Measures

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7. Handling and Storage

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8. Exposure Control/Personal Protection

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9. Physical and Chemical Properties

Appearance:	Liquid	Solids % by weight: Not determined
Odor:	Mild Solvent	VOC % by weight: < 100%
Specific Gravity:	Not determined	VOC % by volume: < 100%
Bulk Density (lb/gal):	Not determined	
Melting point/Freezing Point:	Not determined	
Solubility in water:	Not determined	
Initial Boiling Point:	Not determined	
Flash Point:	< 61˚F	
Auto Ignition Temperature:	Not determined	

10. Stability and Reactivity

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[illegible]	[illegible]

11. Toxicological Information

Pri[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

Pr[illegible]

A[illegible]	A[illegible]
A[illegible]	A[illegible]

[illegible]

IAR[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

[illegible]

6[illegible]	[illegible]
6[illegible]	[illegible]
[illegible]	[illegible]

12. Ecological Information

Ecotoxicity:

[illegible]

13. Disposal Considerations

[illegible]	[illegible]
Di[illegible]	Di[illegible]

14. Transport Information

[illegible]	Al[illegible]
[illegible]	[illegible]
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15. Regulatory Information

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67-56-1	Methanol
108-10-1	Methyl isobutyl ketone

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16. Other Information

Disclaimer of Liability:

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1. Identification

Code:	QWP-2144
Name:	HG GCMI 52 BROWN
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.03% - 0.53%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.25%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.03% - 0.53%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-2814
Name:	HG GCMI 13 YELLOW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.46%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3429
Name:	HG GCMI 103 YELLOW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.44%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3431
Name:	HG GCMI 81 ORANGE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.34%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3432
Name:	HG GCMI 73 RED
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.07% - 0.57%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.37%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.07% - 0.57%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3433
Name:	HG GCMI 74 RED
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.17% - 0.67%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.30%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.17% - 0.67%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3434
Name:	HG GCMI 75 RED
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.12% - 0.62%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.33%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.12% - 0.62%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3435
Name:	HG GCMI 76 RED
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.17% - 0.67%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.31%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.17% - 0.67%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3441
Name:	HG GCMI 33 BLUE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.30%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3444
Name:	HG GCMI 3086 BLUE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.52%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3446
Name:	HG GCMI 39 BLUE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.40%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3447
Name:	HG GCMI 20 GREEN
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.39%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3448
Name:	HG GCMI 21 GREEN
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.38%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3450
Name:	HG GCMI 24 GREEN
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.40%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3451
Name:	HG GCMI 25 GREEN
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.37%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3452
Name:	HG GCMI 29 GREEN
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.47%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3457
Name:	HG GCMI 523 BROWN
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.44%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-3469
Name:	HG GCMI 300 BLUE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.46%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1.Identification

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2. Hazard(s) Identification

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3. Composition

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4. First Aid Measures

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5. Fire Fighting Measures

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6. Accidental Release Measures

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7. Handling and Storage

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8. Exposure Control/Personal Protection

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9. Physical and Chemical Properties

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10. Stability and Reactivity

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11. Toxicological Information

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Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
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12. Ecological Information

Ecotoxicity:

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13. Disposal Considerations

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Chemical Name	California Hazardous Waste Status
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14. Transport Information

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15. Regulatory Information

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CERCLA

Chemical Name	Hazardous Substance RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
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SARA 313

Chemical Name	CAS No	Weight %	SARA 313 – Threshold Values %
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CWA (Clean Water Act)

Component	CWA – Reportable Quantites	CWA – Toxic Pollutants	CWA – Priority Pollutants	CWA Hazardous Substances
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U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
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16. Other Information

Disclaimer of Liability:

1. Identification

Code:	QWP-3931
Name:	HG GCMI 609 MAROON
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.21% - 0.71%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.31%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.21% - 0.71%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-4055
Name:	HG GCMI 91 WHITE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.06% - 0.56%
2-Dimethylaminoethanol	108-01-0	0.29% - 0.79%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.94%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.06% - 0.56%
2-Dimethylaminoethanol	108-01-0	0.29% - 0.79%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-4086
Name:	HG GCMI 984 PINK
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.50%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-4956
Name:	HG GCMI 82 ORANGE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.33%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-5608
Name:	HG GCMI 11 YELLOW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.38%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-5701
Name:	HG GCMI 10 YELLOW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.49%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-7795
Name:	HG GCMI 394 BLUE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.38%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-7796
Name:	HG GCMI 78 RED
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.07% - 0.57%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.41%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.07% - 0.57%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-8166
Name:	HG PMS 356U GREEN MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.27%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-10748
Name:	HG PMS 485U RED MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.22%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-10756
Name:	HG GCMI 38 BLUE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.38%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-10766
Name:	HG PMS REFLEX BLUE U MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.36%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-10792
Name:	HG PMS 185U RED MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.07% - 0.57%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.45%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.07% - 0.57%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-14435
Name:	PMS 3015U BLUE HG MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.41%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-14479
Name:	HG PMS 262U PURPLE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.05% - 0.55%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.47%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.05% - 0.55%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-14685
Name:	HG PMS 339U GREEN MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.41%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-14742
Name:	HG PMS 342U GREEN MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.32%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-14749
Name:	HG PMS 556U GREEN MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.35%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-14833
Name:	HG PMS 3005U BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.32%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-15040
Name:	HG PMS 431U GRAY MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.40%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-15353
Name:	HG PMS 202U RED KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.10% - 0.60%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.49%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.10% - 0.60%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-15370
Name:	HG PMS 376U GREEN MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.39%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16166
Name:	HG PMS 361U GREEN KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.59%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16434
Name:	Q-SELECT YELLOW BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.42%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16435
Name:	Q-SELECT ORANGE BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:

Skin corrosion/irritation: Category 2	H315: Causes skin irritation
Serious eye damage/eye: Category 2B	H320: Causes eye irritation

Signal word: Warning

Hazard Statement:
H315: Causes skin irritation
H320: Causes eye irritation

Pictogram:



Precautionary Statement:
P261: Avoid breathing dust/fume/gas/vapors/spray
P280: Wear protective gloves
P264: Wash thoroughly after handling
P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing
P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.31% - 0.81%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.47%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.31% - 0.81%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6
2-Dimethylaminoethanol	108-01-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16436
Name:	Q-SELECT B/S RED BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.33% - 0.83%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.81%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.33% - 0.83%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16437
Name:	Q-SELECT Y/S RED BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.58%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16438
Name:	Q-SELECT RUBINE RED BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.43%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16439
Name:	Q-SELECT RHODAMINE RED BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.61%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16440
Name:	Q-SELECT G/S BLUE BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.04% - 0.54%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.56%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.04% - 0.54%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16442
Name:	Q-SELECT VIOLET BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.06% - 0.56%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.72%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.06% - 0.56%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16443
Name:	Q-SELECT GREEN BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.09% - 0.59%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.61%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.09% - 0.59%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16444
Name:	Q-SELECT BLACK BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.55%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16445
Name:	Q-SELECT WHITE BASE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.06% - 0.56%
2-Dimethylaminoethanol	108-01-0	0.30% - 0.80%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.98%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.06% - 0.56%
2-Dimethylaminoethanol	108-01-0	0.30% - 0.80%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number
This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Propylene Glycol	57-55-6

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16446
Name:	CLASSIC CORRUGATED EXTENDER
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.49% - 0.99%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.06% - 0.56%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	1.10%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.49% - 0.99%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.06% - 0.56%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Hydrocarbon Wax	8002-74-2
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-16457
Name:	HIGH GRAPHICS FAST DRY CORRUGATED EXTENDER
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.30% - 0.80%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.34% - 0.84%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	1.17%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.30% - 0.80%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.34% - 0.84%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

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1. Identification

Code:	QWP-16683
Name:	HG PMS 2995U BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.45%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-18245
Name:	HG PMS 356C GREEN MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.23%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-18475
Name:	HG PMS 476U BROWN KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.52%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-19395
Name:	HG PMS 319U BLUE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.08% - 0.58%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.71%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.08% - 0.58%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

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1. Identification

Code:	QWP-19493
Name:	HGS GCMI 31 BLUE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.45%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-19504
Name:	HGS PMS 286U BLUE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.03% - 0.53%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.64%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.03% - 0.53%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-19553
Name:	HG PMS 281U BLUE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.51%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

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1. Identification

Code:	QWP-19661
Name:	HG PMS 1665U ORANGE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.44%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

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1. Identification

Code:	QWP-19992
Name:	Q-CORR DEFOAMER
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.

California Prop. 65 Components:	CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number

This product does not intentionally contain any chemicals listed on the State Right to Know Information Act.

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-20036
Name:	QUICK FIX
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.

California Prop. 65 Components:	CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-20461
Name:	HG PMS 3435U GREEN KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.48%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-21418
Name:	HGS PMS 2617U PURPLE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
Propanol, 2	67-63-0	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.32%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Propanol, 2	67-63-0	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components:	CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propanol, 2	67-63-0
2-Dimethylaminoethanol	108-01-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-21578
Name:	HG PMS 2728U BLUE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.07% - 0.57%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.70%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.07% - 0.57%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-21979
Name:	TITAN WHITE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Amino-2-methyl-1-propanol	124-68-5	0.20% - 0.70%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.14%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Amino-2-methyl-1-propanol	124-68-5	0.20% - 0.70%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number
This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Amino-2-methyl-1-propanol	124-68-5
Propanol, 2	67-63-0

Notification Status
U.S. TSCA Inventory — Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-22056
Name:	HG PMS 7620U RED KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.06% - 0.56%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.57%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.06% - 0.56%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-22140
Name:	Q-CORR NON RUB WAX
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.04% - 0.54%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.14%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.04% - 0.54%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number
This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
Propanol, 2	67-63-0
Propylene Glycol	57-55-6

Notification Status
U.S. TSCA Inventory — Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-22142
Name:	Q-CORR SLOW DRY
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.

California Prop. 65 Components:	CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number

This product does not intentionally contain any chemicals listed on the State Right to Know Information Act.

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-22871
Name:	HG PMS 2766U BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.40%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-23130
Name:	HG PMS 2985U BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.40%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-23595
Name:	HG PMS 7499U TAN MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.01% - 0.51%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.48%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.01% - 0.51%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-23757
Name:	HG PMS 314U BLUE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.02% - 0.52%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.66%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.02% - 0.52%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24101
Name:	HG PMS 287U BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.23%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24118
Name:	HG PMS 287U BLUE FDCT MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.24%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6
2-Dimethylaminoethanol	108-01-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24199
Name:	HG GCMI 30 BLUE FD
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.26%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24358
Name:	HGS PMS 7455C BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.40%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24359
Name:	HGS PMS 281C BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.17%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24361
Name:	HG PMS 871C NON-METALLIC GOLD MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.01% - 0.51%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.26%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.01% - 0.51%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24372
Name:	HG DENSE DISPLAY BLACK
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.04%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components:	CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24502
Name:	HG SM GE LIGHT BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.34%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24503
Name:	HG SM GE DARK BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.28%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24506
Name:	HG SM GE GOLD MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.35%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24594
Name:	KRUGER GCMI 90 BLACK
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.15%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24601
Name:	HG PMS 431U GRAY PL MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.49%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24676
Name:	HG PMS 2935U BLUE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.53%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24749
Name:	HG SM PMS 7499U TAN MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.01% - 0.51%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.48%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.01% - 0.51%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-24773
Name:	HG PMS 5473U GREEN MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.35%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-25002
Name:	HGS PMS REFLEX BLUE U MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.35%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

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1. Identification

Code:	QWP-25004
Name:	HGS GCMI 34 BLUE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.45%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-25005
Name:	HGS GCMI 3229 BLUE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.48%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-25074
Name:	HG PMS 567C GREEN KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.22%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0
Ammonium Hydroxide	1336-21-6
Propylene Glycol	57-55-6

Notification Status

U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-25121
Name:	HG SM N&N ORANGE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.46%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-25272
Name:	HG PMS 2415U PURPLE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.57%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-25462
Name:	HGS PMS 285U BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.39%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Propylene Glycol	57-55-6
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-25473
Name:	HG PMS 2612C PURPLE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.47%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

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1. Identification

Code:	QWP-26018
Name:	HG PMS 4505C BROWN MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.31%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

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1. Identification

Code:	QWP-26317
Name:	HG PMS 155U ORANGE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.40%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-26359
Name:	HG PMS WARM GRAY 11C MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.44%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-26606
Name:	HG PMS 2748U BLUE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.56%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-26624
Name:	HG PMS 2593C PURPLE KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2 — H315: Causes skin irritation Serious eye damage/eye: Category 2B — H320: Causes eye irritation
Signal word:	Warning
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation
Pictogram:	
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.11% - 0.61%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.74%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.11% - 0.61%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-26678
Name:	HG GCMI 81 ORANGE
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.32%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-26932
Name:	HG PMS 316U BLUE MW
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.30%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

Code:	QWP-27547
Name:	HG PMS 2347U RED KFT
Use:	Printing ink
Manufacturer:	Quantum Ink Company 4651 Melton Avenue Louisville, Kentucky 40213
Emergency Telephone:	502 364 8900

2. Hazard(s) Identification

Hazard Classification:	Skin corrosion/irritation: Category 2	H315: Causes skin irritation
	Serious eye damage/eye: Category 2B	H320: Causes eye irritation
Signal word:	Warning	
Hazard Statement:	H315: Causes skin irritation H320: Causes eye irritation	
Pictogram:		
Precautionary Statement:	P261: Avoid breathing dust/fume/gas/vapors/spray P280: Wear protective gloves P264: Wash thoroughly after handling P305+351+338: If in eyes: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do continue rinsing P501: Dispose of contents/container in accordance with local/regional/national regulations	

3. Composition

Chemical Name:	CAS	%
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

See section 8 for exposure control/personal protection guidelines. Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First Aid Measures

Eye Contact:	Can cause moderate irritation to eye tissue. Flush eyes with water for at least 15 minutes. If irritation continues contact a physician.
Skin Contact:	Remove contaminated clothing and shoes. Wash affected area with mild soap and water. If irritation develops consult a physician. Wash contaminated clothing before reuse.
Inhalation:	Can cause minor respiratory irritation. If symptoms develop, remove to fresh air and seek medical attention.
Ingestion:	No hazard in normal industrial use. Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

5. Fire Fighting Measures

Flash Point:	>200 F
Auto Ignition Temperature:	Not Established
Extinguishing Media:	This is a water-based product and is not expected to burn until all the water has boiled away. The residual solids/product may support combustion. Use water, alcohol resistant foam, dry chemical, or carbon dioxide to extinguish.
Fire Fighting Procedures:	Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Unusual Hazards:	None known

6. Accidental Release Measures

Response to Spills:	When cleaning the spill follow the safe handling recommendations found in section 8 of this SDS. Wear appropriate safety equipment. Do not allow to enter sewers, surface or ground water. Absorb with a liquid binding material and dispose of according to local/regional/national regulations.

7. Handling and Storage

Handling Precautions:	Good manufacturing practices should be followed when handling this material. Do not get in eyes, on skin or clothing and wash thoroughly after handling. Use this material in a well-ventilated area.
Recommended Storage:	Protect from freezing and store in a cool, dry, well-ventilated area.
Container Use Procedures:	No special precautions are needed. Follow good manufacturing and handling practices.
Empty Container Precautions:	This container can be hazardous when empty because it can retain product residues. Do not reuse container for food, clothing, or products for human or animal consumption or where skin contact may occur.

8. Exposure Control/Personal Protection

Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing, spraying liquid or airborne material. Have an eye wash station available.
Skin Protection:	To prevent skin contact wear protective clothing and appropriate impervious gloves.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section 4, respiratory protection should be used.
Personal Hygiene:	Wash hands and other exposed areas before eating, drinking and when leaving work. Contaminated clothing and shoes should be thoroughly cleaned before reuse.
Occupational Exposure Limits:	None

9. Physical and Chemical Properties

Appearance:	Liquid Ink
Odor:	Mild Odor
Vapor Pressure:	not determined
pH:	8.9 - 9.5
Melting Point/Freezing Point:	>/< 32 F
Solubility in water:	Complete 100%
Initial boiling point:	> 200 F
Flash Point:	> 200 F
Solids % by weight:	35% - 42%
Specific gravity:	1.0 - 1.5
VOC:	0.44%

10. Stability and Reactivity

Stability:	Stable under normal conditions of storage and use.
Materials to Avoid:	Oxidizing agents
Hazardous Polymerization:	Hazardous polymerization will not occur
Thermal Decomposition:	If heated to high temperatures this product may emit smoke, soot, and fumes

11. Toxicological Information

Primary Route(s) of Exposure:	Eye, Skin, Inhalation, Ingestion
Eye Contact:	Contact with ocular tissues can cause mild irritation
Skin Contact:	Prolonged exposure can cause mild irritation
Inhalation:	Can cause minor irritation to the nose, throat, and upper respiratory tract
Ingestion:	Can cause minor irritation to the mouth, throat, and stomach. Can cause mild abdominal discomfort

12. Ecological Information

Ecotoxicity:

No data available. Do not flush to sewer, stream, to other bodies of water unless authorized to do so by government regulations

13. Disposal Considerations

Waste Description:	Waste or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose of waste/discarded material in accordance with local/regional/national regulations

14. Transport Information

UN Shipping Name:	Not regulated
UN Number:	Not applicable
Transport Hazard Class:	Not applicable

15. Regulatory Information

Classification: Health hazard: 1
Flammability: 1
Reactivity: 0

A Hazard Evaluation of this product has been performed. The component(s) listed below is/are identified as a hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name/Chemical Name	CAS Number	Approximate % WT.
Ammonium Hydroxide	1336-21-6	0.1% - 0.5%
2-Dimethylaminoethanol	108-01-0	0.1% - 0.5%
Propanol, 2	67-63-0	0.1% - 0.5%

California Prop. 65 Components: CAS Number

This product does not intentionally contain any chemicals known by the State of California to cause birth defects, cancer or other reproductive harm.

New Jersey/Pennsylvania RTK Information:	CAS Number
Ammonium Hydroxide	1336-21-6
2-Dimethylaminoethanol	108-01-0
Propanol, 2	67-63-0

Notification Status	
U.S. TSCA Inventory	Included on inventory

16. Other Information

Disclaimer of Liability:

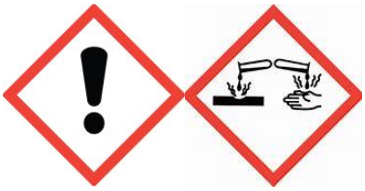
The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely, no representations of warranties, either expressed or implied, of merchantability, fitness or a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

1. Identification

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2. Hazard(s) Identification

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3. Composition

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4. First Aid Measures

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5. Fire Fighting Measures

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6. Accidental Release Measures

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7. Handling and Storage

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8. Exposure Control/Personal Protection

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9. Physical and Chemical Properties

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10. Stability and Reactivity

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11. Toxicological Information

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12. Ecological Information

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13. Disposal Considerations

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14. Transport Information

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15. Regulatory Information

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16. Other Information

Disclaimer of Liability:

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