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BYQUEST

900 W. Park Rd. Elizabethtown, KY 42701 | 270-506-5500 | ryanreed@byquest.com

12.19.2025

Division of Air Quality
Permit Review Branch – Surface Coating Section
300 Sower Blvd., Second Floor
Frankfort, KY 40601

RECEIVED

DEC 23 2025

**PERMIT REVIEW BRANCH
DIVISION FOR AIR QUALITY**

Dear Division of Air Quality:

We respectfully request a CBI review of ByQuest's Air Permit, AI 120565. The materials and equipment we use in our operation are critical to maintaining a competitive advantage within our industry. Within the submitted package is a copy of our draft air permit application along with a redacted version of our draft air permit application.

We appreciate your time and consideration in evaluating this request and welcome the opportunity to provide any additional or clarification that may be needed to support the review process.

Sincerely,



Ryan Reed
General Manager, ByQuest

Air Quality Assessment

**Quest Industries, LLC
DBA: By Quest**

AI 120565

Prepared with the assistance of



Process Description and Emission Calculations ByQuest – AI 120565

Process Description

ByQuest is a packaging facility located in Elizabethtown, Kentucky. They are proposing a permit modification to add and remove ovens and add compounds to their Spray Coating Line.

The two ovens on the original permit (EP04 and EP05) have since been decommissioned and replaced with two new Lehr ovens (EP08 and EP09) in 2022 and 2025. Additionally, there is a third Lehr currently operating. None of these new ovens have been permitted. There is also a fourth oven onsite waiting to be installed – with an estimated date of 10/2026. Eventually, ByQuest plans to operate all four ovens at their facility to maximize their productivity.

The Spray Coating Line is configured as a pretreatment booth, followed by two spray booths which spray different compounds depending on what is running through the line. This line configuration has not changed since the last issued permit. The line has a filter system with a control efficiency of 90%. It will spray four different types of coatings with the new proposed modification (adding one additional coating type to the original three permitted, which are still listed below due to the change in operating hours proposed).

Empty glass bottles are received at the facility in bulk pack or cardboard cases on 40" by 48" wooden pallets. Empty bottles are decorated with a design brand – either a screen printing (UV curable or ceramic enamel inks) and/or spray coatings (water-based urethane or water-based ceramic enamel coatings) through the Spray Coating Line. After the bottles are decorated, they are heat cured through a Lehr oven. The approximate bake times range from 20-25 minutes while the curing temperature ranges from 285 to 1165 F. Bottles are then packed in cardboard boxes or bulk packed and placed on 40" by 48" wood pallets and shipped out.

Emission Calculations

Based on manufacturer data provided by the facility, actual rates were determined and then modified to represent potential usage rates for all emission point sources. Since only one to two coatings can be used at a time through the two spray guns in the line, the potential operating hours for the compounds in the Spray Coating Line are as follows: Water-Based Ceramic, 1752 hours; Water-Based Organic, 4380 hours; Solvent-Based Organic, 876 hours; UV Coating, 1752 hours. These time splits were provided by ByQuest based on their anticipated usage. The potential operating hours for each oven is 8760 hours per year.

EP01-1—Spray Coating Line – Water-Based Ceramic Spray

- Throughput: 4.17 gal/hr
- Emission Factors: POC Table 2019
- Control: 90% by particulate filter

EP01-2— Spray Coating Line – Water-Based Organic Spray

- Throughput: 6.25 gal/hr
- Emission Factors: POC Table 2019
- Control: 90% by particulate filter

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EP01-3 – Spray Coating Line – Solvent-Based Organic Spray

- Throughput: 5.21 gal/hr
- Emission Factors: POC Table 2019
- Control: 90% by particulate filter

EP01-4 – Spray Coating Line – UV Coatings

- Throughput: 6.25 gal/hr
- Emission Factors: SDS
- Control: 90% by particulate filter

EP06 – NG Batch Oven 3 (Lehr)

- Throughput: 2.80E-03 MMscf/hr
- Emission Factors: AP 42 Ch 1.4
- Control: None Known

EP07 – NG Batch Oven 4 (Lehr)

- Throughput: 3.33E-03 MMscf/hr
- Emission Factors: AP 42 Ch 1.4
- Control: None Known

EP08 – NG Batch Oven 5 (Lehr)

- Throughput: 6.18E-03 MMscf/hr
- Emission Factors: AP 42 Ch 1.4
- Control: None Known

EP09 – NG Batch Oven 6 (Lehr)

- Throughput: 4.22E-03 MMscf/hr
- Emission Factors: AP 42 Ch 1.4
- Control: None Known

Applicable Regulations

- 401 KAR 59:010—New Process Operations
- 401 KAR 63:020—Potential Hazardous Matter or Toxic Substances

Non-Applicable Regulations

No new regulations would apply based on this renewal/modification application.

Recommendation

Based on potential emission calculations and applicable requirements, the Environmental Compliance Assistance Program is recommending that **ByQuest** file a renewal and modification for a **Conditional Major Permit**. There is a table on the next page that reflects the potential emissions for the equipment.

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Emissions Based on Permit Mods – not including Automatic Printers

Emissions		
Pollutant	Uncontrolled TPY	Controlled TPY
PM	49.60	5.46
PM2.5	48.93	4.89
PM10	49.60	5.46
CO	6.08	6.08
NOx	7.24	7.24
Lead	3.62E-05	3.62E-05
SO2	4.34E-02	4.34E-02
VOC	122.95	122.95
CO2	8687.86	8687.86
N2O	1.59E-01	1.59E-01
CO2	8687.86	8687.86
Formaldehyde	5.43E-03	5.43E-03
Methane	1.67E-01	1.67E-01
Benzene	1.52E-04	1.52E-04
Toluene	6.76	6.76
Methanol	1.72	1.72
Chromium III	9.46	9.46E-01
Cobalt (Total)	5.89	5.89E-01
Xylene	35.47	35.47
Ethylbenzene	6.51	6.51
Total HAPs	65.97	52.17

Prepared with the assistance of



Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	DEP7007AI Administrative Information <input type="checkbox"/> Section AI.1: Source Information <input type="checkbox"/> Section AI.2: Applicant Information <input type="checkbox"/> Section AI.3: Owner Information <input type="checkbox"/> Section AI.4: Type of Application <input type="checkbox"/> Section AI.5: Other Required Information <input type="checkbox"/> Section AI.6: Signature Block <input type="checkbox"/> Section AI.7: Notes, Comments, and Explanations	Additional Documentation <input type="checkbox"/> Additional Documentation attached
Source Name: <u>Quest Industries, LLC</u>		
KY EIS (AFS) #: <u>21- 093-00131</u>		
Permit #: <u>F-19-008</u>		
Agency Interest (AI) ID: <u>120565</u>		
Date: <u>29-Aug-25</u>		
Section AI.1: Source Information		
Physical Location Street: <u>900 W Park Road</u> Address: City: <u>Elizabethtown</u> County: <u>Hardin</u> Zip Code: <u>42701</u>		
Mailing Address: Street or P.O. Box: <u>900 W Park Road</u> City: <u>Elizabethtown</u> State: <u>Kentucky</u> Zip Code: <u>42701</u>		
Standard Coordinates for Source Physical Location		
Longitude: <u>-85.8878</u> (decimal degrees) Latitude: <u>37.68654</u> (decimal degrees)		
Primary (NAICS) Category: <u>Glass Product Manufacturing Made of Purchased Glass</u> Primary NAICS #: <u>327215</u>		

Classification (SIC) Category: Products of Purchased Glass Primary SIC #: 3231

Briefly discuss the type of business conducted at this site: printing on glass bottles, packaging, shipping

Description of Area Surrounding Source: [] Rural Area [x] Industrial Park [x] Residential Area [] Urban Area [] Industrial Area [] Commercial Area Is any part of the source located on federal land? [] Yes [x] No Number of Employees: 35

Approximate distance to nearest residence or commercial property: .08 miles Property Area: 10.7867 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: [] Currently Hold [] Need [x] N/A Solid Waste: [] Currently Hold [] Need [x] N/A RCRA: [] Currently Hold [] Need [x] N/A UST: [] Currently Hold [] Need [x] N/A

Type of Regulated Waste Activity: [] Mixed Waste Generator [] Generator [] Recycler [] Other: U.S. Importer of Hazardous Waste [] Transporter [] Treatment/Storage/Disposal Facility [x] N/A

Section AI.2: Applicant Information	
Applicant Name:	Ryan Reed
Title: (if individual)	General Manager
Mailing Address:	Street or P.O. Box: 900 West Park Road
	City: Elizabethtown State: Kentucky Zip Code: 42701
Email: (if individual)	ryanreed@byquest.com
Phone:	270-506-5424
Technical Contact	
Name:	Brittany Kring
Title:	Environmental Scientist Advisor
Mailing Address:	Street or P.O. Box: 300 Sower Blvd
	City: Frankfort State: Kentucky Zip Code: 40601
Email:	brittany.kring@ky.gov
Phone:	502-782-2182
Air Permit Contact for Source	
Name:	Ryan Reed
Title:	General Manager
Mailing Address:	Street or P.O. Box: 900 West Park Road
	City: Elizabethtown State: Kentucky Zip Code: 42701
Email:	ryanreed@byquest.com
Phone:	270-506-5424

Section AI.3: Owner Information

Owner same as applicant

Name: Ingrid Cornehl

Title: Owner

Mailing Address: **Street or P.O. Box:** 900 West Park Road
City: Elizabethtown **State:** Kentucky **Zip Code:** 42701

Email: _____

Phone: 270-506-5424

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

Name

Position

[Section AI.4: Type of Application]

Current Status: Title V Conditional Major 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 Addition of New Facility Portable Plant Relocation Notice
 Revision Off Permit Change Landfill Alternate Compliance Submittal Modification of Existing Facilities
 Ownership Change Closure

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

Is the source requesting a limitation of potential emissions?

Yes No

Table with 4 columns: Pollutant, Requested Limit, Pollutant, Requested Limit. Rows include Particulate Matter, Volatile Organic Compounds (VOC), Carbon Monoxide, Nitrogen Oxides, Sulfur Dioxide, Lead, Single HAP, Combined HAPs, Air Toxics, Carbon Dioxide, Greenhouse Gases, and Other.

For New Construction:

Proposed Start Date of Construction: (MM/YYYY) N/A Proposed Operation Start-Up Date: (MM/YYYY)

For Modifications:

Proposed Start Date of Modification: (MM/YYYY) ASAP* Proposed Operation Start-Up Date: (MM/YYYY) ASAP*

Applicant is seeking coverage under a permit shield. 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:

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

Date

Type or Printed Name of Signatory

Title of Signatory

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

Section A1.7: Notes, Comments, and Explanations
*some EPs have already been installed and are operating without being permitted; view the B form for installation/start dates

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	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">Additional Documentation</th> </tr> <tr> <td style="padding: 5px;">___ Complete DEP7007AI</td> </tr> </table>	Additional Documentation	___ Complete DEP7007AI
Additional Documentation				
___ Complete DEP7007AI				
Source Name: Quest Industries, LLC				
KY EIS (AFS) #: 21- 093-00131				
Permit #: F-19-008				
Agency Interest (AI) ID: 120565				
Date: 29-Aug-25				

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)
EP01-4	Spray Coating Line - UV Coatings	N/A	N/A	Particulate Filter	1	1	6.25 gal/hr	PM	3.33 lb/gal	SDS for all UV products	100%	90%	20.8	2.08	18.22	1.82
								PM _{2.5}	3.33 lb/gal	SDS for all UV products	100%	90%	20.8	2.08	18.22	1.82
								PM ₁₀	3.33 lb/gal	SDS for all UV products	100%	90%	20.8	2.08	18.22	1.82
								VOC	8.76 lb/gal	SDS for all UV products	0%	0%	54.75	54.75	47.96	47.96
								Ethylbenzene	1.16 lb/gal	SDS for all UV products	0%	0%	7.25	7.25	6.35	6.35
								Xylene	6.10 lb/gal	SDS for all UV products	0%	0%	38.13	38.13	33.4	33.4
								Toluene	1.3E-01 lb/gal	SDS for all UV products	0%	0%	8.13E-01	8.13E-01	7.12E-01	7.12E-01
EP06	NG Oven 3 - Lehr	N/A	N/A	None Known	N/A	2	2.80E-03 MMscf/hr	PM	7.6 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.13E-02	2.13E-02	9.33E-02	9.33E-02
								PM ₁₀	7.6 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.13E-02	2.13E-02	9.33E-02	9.33E-02
								VOC	5.5 lb/MMscf	AP 42 Ch 1.4	0%	0%	1.54E-02	1.54E-02	6.75E-02	6.75E-02

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)
								SO ₂	6.00E-01 lb/MMscf	AP 42 Ch 1.4	0%	0%	1.68E-03	1.68E-03	7.37E-03	7.37E-03
								NO _x	100 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.80E-01	2.80E-01	1.23	1.23
								Lead	5.00E-04 lb/MMscf	AP 42 Ch 1.4	0%	0%	1.40E-06	1.40E-06	6.14E-06	6.14E-06
								Formaldehyde	7.50E-02 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.10E-04	2.10E-04	9.21E-04	9.21E-04
								Benzene	2.10E-03 lb/MMscf	AP 42 Ch 1.4	0%	0%	5.89E-06	5.89E-06	2.58E-05	2.58E-05
								Toluene	3.40E-03 lb/MMscf	AP 42 Ch 1.4	0%	0%	9.53E-06	9.53E-06	4.18E-05	4.18E-05
								CO	84 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.36E-01	2.36E-01	1.03	1.03
								N ₂ O	2.2 lb/MMscf	AP 42 Ch 1.4	0%	0%	6.17E-03	6.17E-03	2.70E-02	2.70E-02
								Methane	2.3 lb/MMscf	AP 42 Ch 1.4	0%	0%	6.45E-03	6.45E-03	2.82E-02	2.82E-02
								CO ₂	120000 lb/MMscf	AP 42 Ch 1.4	0%	0%	336.47	336.47	1473.74	1473.74
EP07	NG Oven 4 - Lehr	N/A	N/A	None Known	N/A	2	3.33E-03 MMscf/hr	PM	7.6 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.53E-02	2.53E-02	1.11E-01	1.11E-01
								PM ₁₀	7.6 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.53E-02	2.53E-02	1.11E-01	1.11E-01
								VOC	5.5 lb/MMscf	AP 42 Ch 1.4	0%	0%	1.83E-02	1.83E-02	8.03E-02	8.03E-02
								SO ₂	6.00E-01 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.00E-03	2.00E-03	8.76E-03	8.76E-03
								NO _x	100 lb/MMscf	AP 42 Ch 1.4	0%	0%	3.33E-01	3.33E-01	1.46	1.46
								Lead	5.00E-04 lb/MMscf	AP 42 Ch 1.4	0%	0%	1.67E-06	1.67E-06	7.30E-06	7.30E-06
								Formaldehyde	7.50E-02 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.50E-04	2.50E-04	1.10E-03	1.10E-03
								Benzene	2.10E-03 lb/MMscf	AP 42 Ch 1.4	0%	0%	7.00E-06	7.00E-06	3.07E-05	3.07E-05
								Toluene	3.40E-03 lb/MMscf	AP 42 Ch 1.4	0%	0%	1.13E-05	1.13E-05	4.96E-05	4.96E-05
								CO	84 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.80E-01	2.80E-01	1.23	1.23

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)
								N ₂ O	2.2 lb/MMscf	AP 42 Ch 1.4	0%	0%	7.33E-03	7.33E-03	3.21E-02	3.21E-02
								Methane	2.3 lb/MMscf	AP 42 Ch 1.4	0%	0%	7.67E-03	7.67E-03	3.36E-02	3.36E-02
								CO ₂	120000 lb/MMscf	AP 42 Ch 1.4	0%	0%	400.00	400.00	1752.00	1752.00
EP08	NG Oven 1 - Lehr	N/A	N/A	None Known	N/A	2	6.18E-03 MMscf/hr	PM	7.6 lb/MMscf	AP 42 Ch 1.4	0%	0%	4.69E-02	4.69E-02	2.06E-01	2.06E-01
								PM ₁₀	7.6 lb/MMscf	AP 42 Ch 1.4	0%	0%	4.69E-02	4.69E-02	2.06E-01	2.06E-01
								VOC	5.5 lb/MMscf	AP 42 Ch 1.4	0%	0%	3.40E-02	3.40E-02	1.49E-01	1.49E-01
								SO ₂	6.0E-01 lb/MMscf	AP 42 Ch 1.4	0%	0%	3.71E-03	3.71E-03	1.62E-02	1.62E-02
								NO _x	100 lb/MMscf	AP 42 Ch 1.4	0%	0%	6.18E-01	6.18E-01	2.71	2.71
								Lead	5.0E-04 lb/MMscf	AP 42 Ch 1.4	0%	0%	3.09E-06	3.09E-06	1.35E-05	1.35E-05
								Formaldehyde	7.5E-02 lb/MMscf	AP 42 Ch 1.4	0%	0%	4.63E-04	4.63E-04	2.03E-03	2.03E-03
								Benzene	2.1E-03 lb/MMscf	AP 42 Ch 1.4	0%	0%	1.30E-05	1.30E-05	5.68E-05	5.68E-05
								Toluene	3.4E-03 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.10E-05	2.10E-05	9.20E-05	9.20E-05
								CO	84 lb/MMscf	AP 42 Ch 1.4	0%	0%	5.19E-01	5.19E-01	2.27	2.27
								N ₂ O	2.2 lb/MMscf	AP 42 Ch 1.4	0%	0%	1.36E-02	1.36E-02	5.95E-02	5.95E-02
								Methane	2.3 lb/MMscf	AP 42 Ch 1.4	0%	0%	1.42E-02	1.42E-02	6.22E-02	6.22E-02
								CO ₂	120000 lb/MMscf	AP 42 Ch 1.4	0%	0%	741.18	741.18	3246.35	3246.35
EP08	NG Oven 2 - Lehr	N/A	N/A	None Known	N/A	2	4.22E-03 MMscf/hr	PM	7.6 lb/MMscf	AP 42 Ch 1.4	0%	0%	3.20E-02	3.20E-02	1.40E-01	1.40E-01
								PM ₁₀	7.6 lb/MMscf	AP 42 Ch 1.4	0%	0%	3.20E-02	3.20E-02	1.40E-01	1.40E-01
								VOC	5.5 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.32E-02	2.32E-02	1.02E-01	1.02E-01
								SO ₂	6.0E-01 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.53E-03	2.53E-03	1.11E-02	1.11E-02

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)
								NO _x	100 lb/MMscf	AP 42 Ch 1.4	0%	0%	4.22E-01	4.22E-01	1.85	1.85
								Lead	5.0E-04 lb/MMscf	AP 42 Ch 1.4	0%	0%	2.11E-06	2.11E-06	9.23E-06	9.23E-06
								Formaldehyde	7.5E-02 lb/MMscf	AP 42 Ch 1.4	0%	0%	3.16E-04	3.16E-04	1.38E-03	1.38E-03
								Benzene	2.1E-03 lb/MMscf	AP 42 Ch 1.4	0%	0%	8.85E-06	8.85E-06	3.88E-05	3.88E-05
								Toluene	3.4E-03 lb/MMscf	AP 42 Ch 1.4	0%	0%	1.43E-05	1.43E-05	6.28E-05	6.28E-05
								CO	84 lb/MMscf	AP 42 Ch 1.4	0%	0%	3.54E-01	3.54E-01	1.55	1.55
								N ₂ O	2.2 lb/MMscf	AP 42 Ch 1.4	0%	0%	9.27E-03	9.27E-03	4.06E-02	4.06E-02
								Methane	2.3 lb/MMscf	AP 42 Ch 1.4	0%	0%	9.70E-03	9.70E-03	4.25E-02	4.25E-02
								CO ₂	120000 lb/MMscf	AP 42 Ch 1.4	0%	0%	505.88	505.88	2215.76	2215.76

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)
1	EP01	2	30	725	4171630.99	598061.14	14500	70	4615.49
2	EP06, EP07, EP08, EP09	1.5	30	725	4171630.99	598061.14	4800	150	2716.24

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 <i>(ft)</i>	Length of the Y Side <i>(ft)</i>	Northing <i>(m)</i>	Easting <i>(m)</i>	Release Temperature <i>(°F)</i>	Release Height <i>(ft)</i>
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Section N.4: Notes, Comments, and Explanations
the stacks have not changed with this modification

Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	DEP7007B Manufacturing or Processing Operations <input type="checkbox"/> Section B.1: Process Information <input type="checkbox"/> Section B.2: Materials and Fuel Information <input type="checkbox"/> Section B.3: Notes, Comments, and Explanations	Additional Documentation <input type="checkbox"/> Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG. <input type="checkbox"/> Attach a flow diagram <input type="checkbox"/> Attach SDS
--	--	--

Source Name: Quest Industries, LLC
KY EIS (AFS) #: 21- 093-00131
Permit #: F-19-008
Agency Interest (AI) ID: 120565
Date: 29-Aug-25

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)
EP06	NG Oven 3 Lehr	oven used to heat cure bottles after coating	n/a	n/a	Antonini	6 ft lehr 0602	10/2026	Will be continuous	n/a	n/a
EP07	NG Oven 4 Lehr	oven used to heat cure bottles after coating	n/a	n/a	JJ Day Inc	10 ft lehr 10-230	2022	Continuous	n/a	n/a
EP08	NG Oven 5 Lehr (now Lehr 1)	oven used to heat cure bottles after coating	n/a	n/a	Antonini	12 ft lehr 2079	2022	Continuous	n/a	n/a
EP09	NG Oven 6 Lehr (now Lehr 2)	oven used to heat cure bottles after coating	n/a	n/a	Antonini	12 ft lehr 1778	2025	Continuous	n/a	n/a

Section B.2: Materials and Fuel Information															
<i>*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.</i>															
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)		
EP06	NG Batch Oven 3 Lehr	natural gas	2.80E-03	MMscf/hr	n/a	natural gas combusted	2.80E-03	MMscf/hr	Natural Gas	2,757	ft ³ /hr	n/a	n/a	0.01	0
EP07	NG Batch Oven 4 Lehr	natural gas	3.33E-03	MMscf/hr	n/a	natural gas combusted	3.33E-03	MMscf/hr	Natural Gas	3,278	ft ³ /hr	n/a	n/a	0.01	0
EP08	NG Batch Oven 5 Lehr (now Lehr 1)	natural gas	6.18E-03	MMscf/hr	n/a	natural gas combusted	6.18E-03	MMscf/hr	Natural Gas	6,166	ft ³ /hr	n/a	n/a	0.01	0
EP09	NG Batch Oven 6 Lehr (now Lehr 2)	natural gas	4.22E-03	MMscf/hr	n/a	natural gas combusted	4.22E-03	MMscf/hr	Natural Gas	4,146	ft ³ /hr	n/a	n/a	0.01	0

Section B.3: Notes, Comments, and Explanations
The original permitted Lehrs (EP04 and EP05) were decommissioned and removed from the line. Two replacements (EP08 and EP09) were installed and are operating but have not yet been permitted. A third Lehr (EP007) was installed and not permitted. The fourth Lehr (EP06) is waiting to be installed until late 2026.

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: Quest Industries, LLC

KY EIS (AFS) #: 21- 093-00131

Permit #: F-19-008

Agency Interest (AI) ID: 120565

Date: 29-Aug-25

Section K.1: Process Information

Emission Unit #: EP01

Emission Unit Name: Spray Coating Line

Coating/Printing Line Name: Spray Coating Line

Proposed/Actual Date of Construction: (MM/YYYY) 2014, new compounds - ASAP

List Applicable Regulations: 401 KAR 59:010; 401 KAR 63:020

Describe Overall Process: bottles are loaded on line, go through spray booth to receive coating/design, and then move to Lehr ovens for curing process

Describe Coatings/Printing Materials: By Quest uses 4 different types of coatings for their designs - [REDACTED]

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

Provide detailed description of material coated/printed:

Glass

Provide approximate dimensions and range of sizes of parts being coated or printed:

Various Bottle Sizes

Identify the Type of Operation:

Continuous Batch Other:

Describe Surface Preparation/Pretreatment Steps:

Flame treatment as needed

For Coating Operations:

Spray Flow Dip tank Electrodeposition
 Brush Powder Roller Coat

For Printing Operations:
(Select all that apply)

Web Rotogravure Heatset Non-heatset
 Sheetfed Letterpress

Other: conventional and HVL^P for spraying, considering electrostatic in the future

Lithographic Flexographic Other:

Describe Final Product:

Glass bottles that have a design on them via the various coatings used, then heat sealed

Check the category that most closely describes this unit:

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

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
EP01-4	two different spray guns that operate depending on what is being used; EP01-4 is for UV coatings, a new compound	<input checked="" type="checkbox"/> Conventional Air Gun	<input type="checkbox"/> Manual	6.25 gal/hr	<input type="checkbox"/> Testing
		<input type="checkbox"/> Airless	<input checked="" type="checkbox"/> HVLP		<input type="checkbox"/> Equipment Specification Sheet
		<input type="checkbox"/> Electrostatic	<input type="checkbox"/> LVLP		<input checked="" type="checkbox"/> Estimation
		<input type="checkbox"/> Aerosol Spray Can	<input type="checkbox"/> Other		<input checked="" type="checkbox"/> Automati
		<input type="checkbox"/> Conventional Air Gun	<input type="checkbox"/> Manual		<input type="checkbox"/> Testing
		<input type="checkbox"/> Airless	<input type="checkbox"/> HVLP		<input type="checkbox"/> Equipment Specification Sheet
		<input type="checkbox"/> Electrostatic	<input type="checkbox"/> LVLP		<input type="checkbox"/> Estimation
		<input type="checkbox"/> Aerosol Spray Can	<input type="checkbox"/> Other		<input type="checkbox"/> Automati
		<input type="checkbox"/> Conventional Air Gun	<input type="checkbox"/> Manual		<input type="checkbox"/> Testing
		<input type="checkbox"/> Airless	<input type="checkbox"/> HVLP		<input type="checkbox"/> Equipment Specification Sheet
		<input type="checkbox"/> Electrostatic	<input type="checkbox"/> LVLP		<input type="checkbox"/> Estimation
		<input type="checkbox"/> Aerosol Spray Can	<input type="checkbox"/> Other		<input type="checkbox"/> Automati

If spray guns are used simultaneously, describe: 2 spray guns with 4 coating options - both can be used depending on what is being sprayed; one to two coatings at a time

K.2B: For Brush Coating

Describe Function: n/a

Maximum Coating Application Rate:
(gal/hr)

K.2C: For Roller Coating

Roller Coat ID	Describe Function	Maximum Coating Application Rate (gal/hr)	Describe how maximum rate was determined
n/a			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet

K.2D: For Powder Coating

Powder Coat ID	Describe Function	Maximum Coating Application Rate <i>(gal/hr or lb/hr)</i>	Describe how maximum rate was determined
n/a			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet

If powder coating material is recycled, describe:

K.2E: For Flow Coating

Flow Coat ID	Describe Function	Maximum Coating Application Rate <i>(gal/hr or lb/hr)</i>	Describe how maximum rate was determined
n/a			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet

K.2F: For Dip Tank/Electrodeposition Coating

Tank ID	Describe Function	Maximum Make-up Rate <i>(gal/hr or lb/hr)</i>	Describe how maximum rate was determined
n/a			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
			<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet

Section K.3: Other Operations

K.3A: For Finishing

Describe Finishing Processes:
Complete Form DEP7007B as applicable

Bottles travel through Lehr oven; curing time depends on product used

K.3B: For Curing/Drying

Describe Curing/Drying Processes:	Description	Rated Capacity (MMBTU/hr)	Fuel	Control Device/Stack ID
Through EP07	Lehr curing oven; bottles will travel through at different temperatures and for different times depending on what coatings are used	3.40 MMBTU/hr	Natural Gas	2
Through EP06 (when installed)	Lehr curing oven; bottles will travel through at different temperatures and for different times depending on what coatings are used	2.86 MMBTU/hr	Natural Gas	2
Through EP08	Lehr curing oven; bottles will travel through at different temperatures and for different times depending on what coatings are used	6.30 MMBTU/hr	Natural Gas	2
Through EP09	Lehr curing oven; bottles will travel through at different temperatures and for different times depending on what coatings are used	4.30 MMBTU/hr	Natural Gas	2

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:

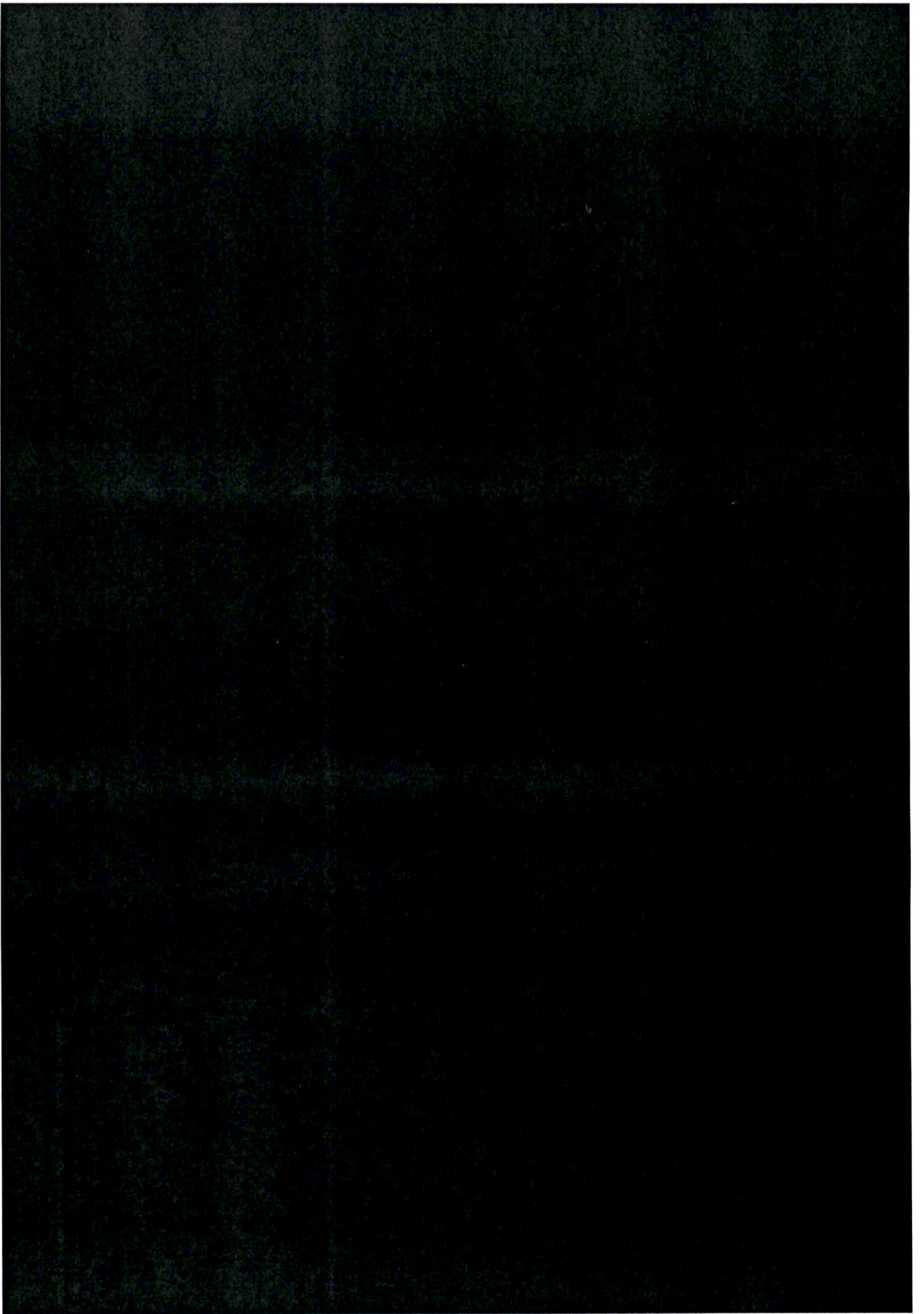
n/a

Section K.4: Coatings/Printing Materials As Applied												
Include SDS or Technical Sheets for all coating/printing materials used.												
Trade Name of Material	Description <i>(Identify as coating, ink, fountain solution, blanket wash, cleaning solvent, thinning solvent, auto wash, manual wash, etc.)</i>	Emission Unit/Coating ID where material is used	SCC Code	SCC Code Units	Density <i>(lb/gal)</i>	Solid Content <i>(lb/gal)</i>	VOC Content <i>(lb/gal)</i>	Emission Factor for PM* <i>(lb/SCC)</i>	Transfer Efficiency <i>(%)</i>	Emission Factor for VOC <i>(lb/SCC)</i>	Capture Efficiency <i>(%)</i>	Control Device/ Stack ID
01		EP01-4	4-05-008-12	lb/gal	7.26	0.18	7.08	0.18	60	7.08	90	1
		EP01-4	4-05-008-12	lb/gal	8.76	0	8.76	0	0	8.76	0	1
		EP01-4	4-05-008-12	lb/gal	8.76	6.13	2.62	6.13	60	2.62	90	1
		EP01-4	4-05-008-12	lb/gal	7.34	0	7.34	0	0	7.34	0	1
		EP01-4	4-05-008-12	lb/gal	7.34	0	7.34	0	0	7.34	0	1
Gloss		EP01-4	4-05-008-12	lb/gal	8.76	8.32	0.45	8.32	60	0.45	90	1
		EP01-4	4-05-008-12	lb/gal	9.01	5.62	3.39	5.62	60	3.39	90	1
		EP01-4	4-05-008-12	lb/gal	8.76	0	8.76	0	0	8.76	0	1
Gloss		EP01-4	4-05-008-12	lb/gal	8.93	8.21	0.72	8.21	60	0.72	90	1
		EP01-4	4-05-008-12	lb/gal	7.84	0	7.84	0	0	7.84	0	1
		EP01-4	4-05-008-12	lb/gal	8.51	0	8.51	0	0	8.51	0	1

*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
██████████	Ethylbenzene	100-41-4	V	16	1.16 lb/gal	1
██████████	Xylene	1330-20-7	V	84	6.10 lb/gal	1
██████████	Toluene	108-88-3	V	1.5	1.3E-01 lb/gal	1

Section K.6: Notes, Comments, and Explanations
the three other types of spray coatings have already been permitted by DAQ in a previous permit; no changes have been made to the compounds used
the time splits for each coating type is the anticipated usage as provided by ByQuest



2. Hazards identification ... / >>

P310 Immediately call a POISON CENTER / doctor
Storage: —
Disposal: —

2.2. Other hazards

Environmental classification as for Reg. (EC) 1272/2008 (CLP):

The product is classified as hazardous for environment pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

Classification and Hazard Statement

Hazardous to the aquatic environment, chronic toxicity, category 3 Harmful to aquatic life with long lasting effects.

Hazard statements:

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

P273 Avoid release to the environment.

Response: —

Storage: —

Disposal:

P501 Dispose of the product / container in accordance with local regulations

Information not available

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification **x = Conc. %** Classification:

[3-(2,3-EPOXYPROPOXY) PROPYL] TRIMETHOXYSILANE

97 ≤ x < 99

Serious eye damage, category 1 H318, Hazardous to the aquatic environment, chronic toxicity, category 3 H412

EC 219-784-2

CAS 2530-83-8

REACH Reg. 01-2119513212-58-0002

* There is a batch to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4. First-aid measures ... / >>

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may

7. Handling and storage ... / >>

accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Information not available

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	colourless	
Odour	characteristic	
Odour threshold	not available	
pH	not available	Reason for missing data: substance/mixture is non-soluble (in water)
Melting point / freezing point	not available	
Initial boiling point	90 °C (194 °F)	
Boiling range	not available	
Flash point	> 93 °C (199,4 °F)	
Evaporation rate	not available	
Flammability	not applicable to liquids	
Lower explosive limit	not available	
Upper explosive limit	not available	
Vapour pressure	not available	

9. Physical and chemical properties ... / >>

Vapour density	not available	
Relative density	1.05	kg/l
Solubility	very low in water	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	400	°C
Decomposition temperature	not available	
Viscosity	3,65 mPa s (20°C)	dinamica
Explosive properties	not available	
Oxidising properties	not available	

Remark:876.27 LB/GAL

9.2. Other information

VOC (Directive 2010/75/EU) : 100,00 % - 1.050,00 g/litre

Remark:8.76 LB/GAL

10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

[3-(2,3-EPOXYPROPOXY) PROPYL] TRIMETHOXYSILANE
LD50 (Oral): 8025 mg/kg Rat - Wistar
LD50 (Dermal): 4250 mg/kg Rabbit - New Zealand white

11. Toxicological information ... / >>

LC50 (Inhalation vapours): > 5.3 mg/l/4h Rat - Fischer 344

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it has negative effects on the aquatic environment.

12.1. Toxicity

[3-(2,3-EPOXYPROPOXY) PROPYL] TRIMETHOXYSILANE

LC50 - for Fish

55 mg/l/96h *Cyprinus carpio*

EC50 - for Crustacea

324 mg/l/48h *Simocephalus vetulus*

12.2. Persistence and degradability

[3-(2,3-EPOXYPROPOXY) PROPYL] TRIMETHOXYSILANE

NOT rapidly degradable

12.3. Bioaccumulative potential

[3-(2,3-EPOXYPROPOXY) PROPYL] TRIMETHOXYSILANE

Partition coefficient: n-octanol/water

-2.6

12.4. Mobility in soil

Information not available

12. Ecological information ... / >>

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):

15. **information** ... / >>

No component(s) listed.

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act – Priority Pollutants:

No component(s) listed.

Clean Water Act – Toxic Pollutants:

No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

No component(s) listed.

EPA List of Lists:

313 Category Code:

No component(s) listed.

EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

No component(s) listed.

EPCRA 313 TRI:

No component(s) listed.

RCRA Code:

No component(s) listed.

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations

Massachusetts:

No component(s) listed.

Minnesota:

No component(s) listed.

New Jersey:

No component(s) listed.

New York:

No component(s) listed.

Pennsylvania:

No component(s) listed.

California:

No component(s) listed.

Proposition 65:

This product does not contain any substances know to the State of California to cause cancer, reproductive harm or birth defects.

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

15. Regulatory information ... / >>

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H318	Causes serious eye damage.
H412	Harmful to aquatic life with long lasting effects.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAA 112 Ⓢ RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112Ⓢ)
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REACH: Regulation (EC) 1907/2006
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy
- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112Ⓢ of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".

16. Other information ... / >>

- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:

09 / 11 / 13 / 14.

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use **thinner for paint and ink.**

Identified Uses	Industrial	Professional	Consumer
MIXING	-	✓	-
PREPARATION	-	✓	-
APPLICATION	-	✓	-
FORMULATION	✓	-	-
MIXING	✓	-	-
PREPARATION	✓	-	-
APPLICATION	✓	-	-
USE IN ARTICLES	✓	✓	✓

1.3. Details of the supplier of the safety data sheet

[Redacted supplier information]

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Flammable liquid, category 2
Eye irritation, category 2
Specific target organ toxicity - single exposure, category 3

Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Hazard pictograms:



Signal words:

Danger

Hazard statements:

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

2. Hazards identification ... / >>

Precautionary statements:

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P242	Use only non-sparking tools.
P280	Wear protective gloves / eye protection / face protection.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash thoroughly after handling.
P240	Ground / bond container and receiving equipment.
P243	Take precautionary measures against static discharge.
P241	Use explosion-proof electrical / ventilating / lighting equipment.

Response:

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower.
P312	Call a POISON CENTER / doctor if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice / attention.
P304+P340	IF INHALED: remove person to fresh air and keep comfortable for breathing.
P370+P378	In case of fire: use CO ₂ , powder to extinguish.

Storage:

P403+P235	Store in a well-ventilated place. Keep cool.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal:

P501	Dispose of the product / container in accordance with local regulations
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2.2. Other hazards

Additional hazards

Repeated exposure may cause skin dryness or cracking.

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification:
1-METHOXY-2-PROPANOL		
<i>INDEX</i> 603-064-00-3	40 ≤ x < 42	Flammable liquid, category 3 H226, Specific target organ toxicity - single exposure, category 3 H336
<i>EC</i> 203-539-1		
<i>CAS</i> 107-98-2		
<i>REACH Reg.</i> 01-2119457435-35-0000		
N-BUTYL ACETATE		
<i>INDEX</i> 607-025-00-1	34 ≤ x < 36	Flammable liquid, category 3 H226, Specific target organ toxicity - single exposure, category 3 H336
<i>EC</i> 204-658-1		
<i>CAS</i> 123-86-4		
<i>REACH Reg.</i> 01-2119485493-29		
ETHYL METHYL KETONE		
<i>INDEX</i> 606-002-00-3	24 ≤ x < 26	Flammable liquid, category 2 H225, Eye irritation, category 2 H319, Specific target organ toxicity - single exposure, category 3 H336
<i>EC</i> 201-159-0		
<i>CAS</i> 78-93-3		
<i>REACH Reg.</i> 01-2119457290-43		

* There is a batch to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

4. First-aid measures ... / >>

SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice.

Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6. Accidental release measures ... / >>

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
 Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-1910.1000.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2025

1-METHOXY-2-PROPANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	375	100	568	150	SKIN
CAL/OSHA	USA	360	100	540	150	SKIN
NIOSH	USA	360	100	540	150	

ETHYL METHYL KETONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	600	200	900	300	
OSHA	USA	590	200			
CAL/OSHA	USA	590	200	885	300	
NIOSH	USA	590	200	885	300	

8. Exposure controls/personal protection ... / >>

N-BUTYL ACETATE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	241	50	723	150	
OSHA	USA	710	150			
CAL/OSHA	USA	710	150	950	200	
NIOSH	USA	710	150	950	200	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	colourless	
Odour	characteristic	
Odour threshold	not available	
pH	not available	Reason for missing data: substance/mixture is non-soluble (in water)
Melting point / freezing point	not available	
Initial boiling point	79 °C (174,2 °F)	Substance: ETHYL METHYL KETONE Initial boiling point: 79,59 °C
Boiling range	not available	
Flash point	-4 °C (24,8 °F)	
Evaporation rate	not available	
Flammability	not available	
Lower explosive limit	1.8 % (V/V)	
Upper explosive limit	11.5 % (V/V)	
Vapour pressure	not available	
Vapour density	2.5	
Relative density	0.88 kg/l	Remark: 734.40 lb/Gal
Solubility	partially miscible in water	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	514 °C	
Decomposition temperature	not available	
Viscosity	not available	

9. Physical and chemical properties ... / >>

Explosive properties not available
Oxidising properties not available

9.2. Other information

VOC (Directive 2010/75/EU) : 100,00 % - 880,00 g/litre

Remark:7.34 LB/GAL

10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

1-METHOXY-2-PROPANOL

Dissolves various plastic materials.Stable in normal conditions of use and storage.
Absorbs and dissolves in water and in organic solvents. With air it may slowly form explosive peroxides.

ETHYL METHYL KETONE

Reacts with: light metals, strong oxidants.Attacks various types of plastic materials.Decomposes under the effect of heat.

N-BUTYL ACETATE

Decomposes on contact with: water.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

1-METHOXY-2-PROPANOL

May react dangerously with: strong oxidising agents, strong acids.

ETHYL METHYL KETONE

May form peroxides with: air, light, strong oxidising agents.Risk of explosion on contact with: hydrogen peroxide, nitric acid, sulphuric acid.May react dangerously with: oxidising agents, trichloromethane, alkalis.Forms explosive mixtures with: air.

N-BUTYL ACETATE

Risk of explosion on contact with: strong oxidising agents.May react dangerously with: alkaline hydroxides, potassium tert-butoxide.Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

1-METHOXY-2-PROPANOL

Avoid exposure to: air.

ETHYL METHYL KETONE

Avoid exposure to: sources of heat.

N-BUTYL ACETATE

Avoid exposure to: moisture, sources of heat, naked flames.

10.5. Incompatible materials

1-METHOXY-2-PROPANOL

Incompatible with: oxidising substances, strong acids, alkaline metals.

ETHYL METHYL KETONE

Incompatible with: strong oxidants, inorganic acids, ammonia, copper, chloroform.

N-BUTYL ACETATE

Incompatible with: water, nitrates, strong oxidants, acids, alkalis, zinc.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

11. Toxicological information ... / >>

Information on likely routes of exposure

1-METHOXY-2-PROPANOL

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

N-BUTYL ACETATE

WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

1-METHOXY-2-PROPANOL

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

N-BUTYL ACETATE

In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

Interactive effects

N-BUTYL ACETATE

A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

ACUTE TOXICITY

1-METHOXY-2-PROPANOL

LD50 (Oral):	5300 mg/kg Rat
LD50 (Dermal):	13000 mg/kg Rabbit
LC50 (Inhalation vapours):	54.6 mg/l/4h Rat

N-BUTYL ACETATE

LD50 (Oral):	> 6400 mg/kg Rat
LD50 (Dermal):	> 5000 mg/kg Rabbit
LC50 (Inhalation vapours):	21.1 mg/l/4h Rat

ETHYL METHYL KETONE

LD50 (Oral):	2737 mg/kg Rat
LD50 (Dermal):	6480 mg/kg Rabbit
LC50 (Inhalation vapours):	23.5 mg/l/8h Rat

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

11. Toxicological information ... / >>

Carcinogenicity Assessment:
107-98-2 1-METHOXY-2-PROPANOL
ACGIH:: A4

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

ETHYL METHYL KETONE	
LC50 - for Fish	1690 mg/l/96h
EC50 - for Crustacea	5091 mg/l/48h dafnia

12.2. Persistence and degradability

1-METHOXY-2-PROPANOL	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	
N-BUTYL ACETATE	
Solubility in water	1000 - 10000 mg/l
ETHYL METHYL KETONE	
Solubility in water	> 10000 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

1-METHOXY-2-PROPANOL	
Partition coefficient: n-octanol/water	< 1
N-BUTYL ACETATE	
Partition coefficient: n-octanol/water	2.3
BCF	15.3
ETHYL METHYL KETONE	
Partition coefficient: n-octanol/water	0.3

12.4. Mobility in soil

N-BUTYL ACETATE	
Partition coefficient: soil/water	< 3

12.5. Results of PBT and vPvB assessment

12. Ecological information ... / >>

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

ADR / RID, IMDG, IATA: UN 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
IMDG: PAINT or PAINT RELATED MATERIAL
IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3

IMDG: Class: 3 Label: 3

IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID: NO
IMDG: not marine pollutant
IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 33	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special provision: 163, 367, 640(C-D), 650		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 364
	Passengers:	Maximum quantity: 5 L	Packaging instructions: 353
	Special provision:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):

No component(s) listed.

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act – Priority Pollutants:

No component(s) listed.

Clean Water Act – Toxic Pollutants:

No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

78-93-3 ETHYL METHYL KETONE

EPA List of Lists:

313 Category Code:

No component(s) listed.

EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

78-83-1	ISO-BUTANOL
78-93-3	ETHYL METHYL KETONE
123-86-4	N-BUTYL ACETATE

EPCRA 313 TRI:

No component(s) listed.

RCRA Code:

78-83-1	ISO-BUTANOL
78-93-3	ETHYL METHYL KETONE

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations

Massachusetts:

78-83-1	ISO-BUTANOL
107-98-2	1-METHOXY-2-PROPANOL
78-93-3	ETHYL METHYL KETONE
123-86-4	N-BUTYL ACETATE

Minnesota:

15. Regulatory information ... / >>

78-83-1 ISO-BUTANOL
 107-98-2 1-METHOXY-2-PROPANOL
 78-93-3 ETHYL METHYL KETONE
 123-86-4 N-BUTYL ACETATE

New Jersey:

78-83-1 ISO-BUTANOL
 107-98-2 1-METHOXY-2-PROPANOL
 78-93-3 ETHYL METHYL KETONE
 123-86-4 N-BUTYL ACETATE

New York:

78-83-1 ISO-BUTANOL
 78-93-3 ETHYL METHYL KETONE
 123-86-4 N-BUTYL ACETATE

Pennsylvania:

78-83-1 ISO-BUTANOL
 107-98-2 1-METHOXY-2-PROPANOL
 78-93-3 ETHYL METHYL KETONE
 123-86-4 N-BUTYL ACETATE

California:

78-83-1 ISO-BUTANOL
 107-98-2 1-METHOXY-2-PROPANOL
 78-93-3 ETHYL METHYL KETONE
 123-86-4 N-BUTYL ACETATE

Proposition 65:

WARNING! This product contains chemicals known to the State of California to cause cancer and birth defects or reproductive harm.

512-56-1 TRIMETHYL PHOSPHATE

Hazard type	NSRL / MADL (µg/day)				Note
	Oral	Dermal	Inhalation	Intravenous	
Carcinogenicity	24				-

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAA 112 ® RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112®)
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)

16. Other information ... / >>

- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REACH: Regulation (EC) 1907/2006
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

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- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy
- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112 of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:
04 / 08 / 09 / 13 / 14 / 15.

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name

Intended use

thinner for paint and ink.

Identified Uses	Industrial	Professional	Consumer
MIXING	-	✓	-
PREPARATION	-	✓	-
APPLICATION	-	✓	-
FORMULATION	✓	-	-
MIXING	✓	-	-
PREPARATION	✓	-	-
APPLICATION	✓	-	-
USE IN ARTICLES	✓	✓	✓

1.3. Details of the supplier of the safety data sheet

Name

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Flammable liquid, category 4

Combustible liquid.

Hazard pictograms:

—

Signal words:

Warning

Hazard statements:

H227

Combustible liquid.

Precautionary statements:

Prevention:

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280

Wear protective gloves / eye protection / face protection.

Response:

P370+P378

In case of fire: use CO2, powder to extinguish.

Storage:

P403+P235

Store in a well-ventilated place. Keep cool.

Disposal:

P501

Dispose of the product / container in accordance with local regulations

2. Hazards identification ... / >>

2.2. Other hazards

Information not available

3. Composition/information on ingredients

3.2. Mixtures

The product does not contain substances classified as being hazardous to human health or the environment pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200).

4. First-aid measures

4.1. Description of first aid measures

No effects requiring implementation of special first aid measures are expected. The following information represents practical indications of correct behaviour in the event of contact with a chemical product, even if not hazardous.

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Wash immediately and thoroughly with running water. Get medical advice if you feel symptoms.

SKIN: Wash with plenty of water. Get medical advice if you feel symptoms.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice.

INHALATION: Remove to open air. Get medical advice if you feel symptoms.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Information not available

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR

8. Exposure controls/personal protection ... / >>

1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
 Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.
 If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	colourless-straw coloured	
Odour	characteristic	
Odour threshold	not available	
pH	not available	Reason for missing data: substance/mixture is non-polar/aprotic (eg: an organic solvent mixture)
Melting point / freezing point	not available	
Initial boiling point	180 °C (356 °F)	
Boiling range	not available	
Flash point	79 °C (174,2 °F)	
Evaporation rate	not available	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Vapour pressure	0,75 mbar a 25 C	
Vapour density	not available	
Relative density	0.94 kg/l	Remark: 784.47 LB/GAL
Solubility	totally soluble in water	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
Viscosity	not available	
Explosive properties	not available	
Oxidising properties	not available	

9.2. Other information

VOC (Directive 2010/75/EU) :	100,00 % - 940,00 g/litre	Remark: 7.84 lb/Gal
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10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

10.5. Incompatible materials

Information not available

10. Stability and reactivity ... / >>

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

11. Toxicological information

According to currently available data, this product has not yet produced health damages. Anyway, it must be handled according to good industrial practices.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

Does not meet the classification criteria for this hazard class

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

Information not available

12.2. Persistence and degradability

Information not available

12.3. Bioaccumulative potential

Information not available

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14. Transport information ... / >>

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):

No component(s) listed.

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act – Priority Pollutants:

No component(s) listed.

Clean Water Act – Toxic Pollutants:

No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

No component(s) listed.

EPA List of Lists:

313 Category Code:

No component(s) listed.

EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

No component(s) listed.

EPCRA 313 TRI:

No component(s) listed.

RCRA Code:

No component(s) listed.

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations

15. Regulatory information ... / >>

Massachusetts:
34590-94-8 DIPROPYLENE GLYCOL MONOMETHYL ETHER

Minnesota:
34590-94-8 DIPROPYLENE GLYCOL MONOMETHYL ETHER

New Jersey:
34590-94-8 DIPROPYLENE GLYCOL MONOMETHYL ETHER

New York:
No component(s) listed.

Pennsylvania:
34590-94-8 DIPROPYLENE GLYCOL MONOMETHYL ETHER

California:
34590-94-8 DIPROPYLENE GLYCOL MONOMETHYL ETHER

Proposition 65:
This product does not contain any substances know to the State of California to cause cancer, reproductive harm or birth defects.

International Regulations
Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H227 Combustible liquid.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAA 112 ⊗ RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112⊗)
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- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit

16. Other information ... / >>

- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

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Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:

09 / 13 / 14.

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use **thinner for ink and varnish.**

Identified Uses	Industrial	Professional	Consumer
MIXING	-	✓	-
PREPARATION	-	✓	-
APPLICATION	-	✓	-
FORMULATION	✓	-	-
MIXING	✓	-	-
PREPARATION	✓	-	-
APPLICATION	✓	-	-
USE IN ARTICLES	✓	✓	✓

1.3. Details of the supplier of the safety data sheet

Name

[Redacted Name]
[Redacted Address]
[Redacted City]
[Redacted State]
[Redacted Zip]

2. Hazards identification

2.1. Classification of the substance or mixture

The product is not classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200).

Hazard pictograms: --
Signal words: --
Hazard statements: --
Precautionary statements:
Prevention: --
Response: --
Storage: --
Disposal: --

2.2. Other hazards

Information not available

3. Composition/information on ingredients

3.2. Mixtures

The product does not contain substances classified as being hazardous to human health or the environment pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200).

4. First-aid measures

4.1. Description of first aid measures

No effects requiring implementation of special first aid measures are expected. The following information represents practical indications of correct behaviour in the event of contact with a chemical product, even if not hazardous.

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use breathing equipment if fumes or powders are released into the air. These indications apply for both processing staff and those involved in emergency procedures.

6. Accidental release measures ... / >>

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Confine using earth or inert material. Collect as much material as possible and eliminate the rest using jets of water. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use.

7.2. Conditions for safe storage, including any incompatibilities

Keep the product in clearly labelled containers. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Information not available

8.2. Exposure controls

Comply with the safety measures usually applied when handling chemical substances.

HAND PROTECTION

None required.

SKIN PROTECTION

None required.

EYE PROTECTION

None required.

RESPIRATORY PROTECTION

None required, unless indicated otherwise in the chemical risk assessment.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	colourless	
Odour	characteristic	
Odour threshold	not available	
pH	not available	Reason for missing data: substance/mixture is non-polar/aprotic (eg: an organic solvent mixture)
Melting point / freezing point	< -20 °C	
Initial boiling point	231 °C (447,8 °F)	
Boiling range	not available	
Flash point	> 93 °C (199,4 °F)	
Evaporation rate	not available	
Flammability	not applicable to liquids	

9. Physical and chemical properties ... / >>

Lower explosive limit	not available		
Upper explosive limit	not available		
Vapour pressure	0.013	hPa	Substance: DIPROPILEN GLYCOL Vapour pressure: 0,013 hPa
Vapour density	4.6		
Relative density	1.02	kg/l	Remark:851 LB/GAL
Solubility	total in water		
Partition coefficient: n-octanol/water	not available		
Auto-ignition temperature	332	°C	
Decomposition temperature	not available		
Viscosity	not available		
Explosive properties	not available		
Oxidising properties	not available		

9.2. Other information

VOC (Directive 2010/75/EU) :	100,00 % - 851,00	g/litre	Remark:8.51 LB/GAL
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10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

Information not available

11. Toxicological information

According to currently available data, this product has not yet produced health damages. Anyway, it must be handled according to good industrial practices.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

Does not meet the classification criteria for this hazard class

THINNER TP-540

11. **Information** ... / >>

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class
This product is not considered to be a carcinogen by IARC, ACGIH, NTP, and OSHA.

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. **Ecological information**

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. **Toxicity**

Information not available

12.2. **Persistence and degradability**

Information not available

12.3. **Bioaccumulative potential**

Information not available

12.4. **Mobility in soil**

Information not available

12.5. **Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12. Ecological information ... / >>

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):

No component(s) listed.

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

15. Regulatory information ... / >>

Clean Air Act Section 602 Class II Substances:
No component(s) listed.

Clean Water Act – Priority Pollutants:
No component(s) listed.

Clean Water Act – Toxic Pollutants:
No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):
No component(s) listed.

DEA List II Chemicals (Essential Chemicals):
No component(s) listed.

EPA List of Lists:
313 Category Code:
No component(s) listed.

EPCRA 302 EHS TPQ:
No component(s) listed.

EPCRA 304 EHS RQ:
No component(s) listed.

CERCLA RQ:
No component(s) listed.

EPCRA 313 TRI:
No component(s) listed.

RCRA Code:
No component(s) listed.

CAA 112 (r) RMP TQ:
No component(s) listed.

State Regulations

Massachusetts:
No component(s) listed.

Minnesota:
No component(s) listed.

New Jersey:
No component(s) listed.

New York:
No component(s) listed.

Pennsylvania:
25265-71-8 DIPROPILEN GLYCOL

California:
No component(s) listed.

Proposition 65:
This product does not contain any substances known to the State of California to cause cancer, reproductive harm or birth defects.

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

16. Other information

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAA 112 © RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112©)
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REACH: Regulation (EC) 1907/2006
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112© of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

16. Other information ... / >>

This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:
09 / 14.

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use thinner for paint and ink.

Identified Uses	Industrial	Professional	Consumer
MIXING	-	✓	-
PREPARATION	-	✓	-
APPLICATION	-	✓	-
FORMULATION	✓	-	-
MIXING	✓	-	-
PREPARATION	✓	-	-
APPLICATION	✓	-	-
USE IN ARTICLES	✓	✓	✓

1.3. Details of the supplier of the safety data sheet

[Redacted supplier information]

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Flammable liquid, category 2
Eye irritation, category 2
Specific target organ toxicity - single exposure, category 3

Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Hazard pictograms:



Signal words:

Danger

Hazard statements:

H225
H319
H336

Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause drowsiness or dizziness.

2. Hazards identification ... / >>

Precautionary statements:

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P242	Use only non-sparking tools.
P280	Wear protective gloves / eye protection / face protection.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash thoroughly after handling.
P240	Ground / bond container and receiving equipment.
P243	Take precautionary measures against static discharge.
P241	Use explosion-proof electrical / ventilating / lighting equipment.

Response:

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower.
P312	Call a POISON CENTER / doctor if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice / attention.
P304+P340	IF INHALED: remove person to fresh air and keep comfortable for breathing.
P370+P378	In case of fire: use CO ₂ , powder to extinguish.

Storage:

P403+P235	Store in a well-ventilated place. Keep cool.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal:

P501	Dispose of the product / container in accordance with local regulations
-------------	---

2.2. Other hazards

Additional hazards

Repeated exposure may cause skin dryness or cracking.

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification:
1-METHOXY-2-PROPANOL		
INDEX 603-064-00-3	40 ≤ x < 42	Flammable liquid, category 3 H226, Specific target organ toxicity - single exposure, category 3 H336
EC 203-539-1		
CAS 107-98-2		
REACH Reg. 01-2119457435-35-0000		
N-BUTYL ACETATE		
INDEX 607-025-00-1	34 ≤ x < 36	Flammable liquid, category 3 H226, Specific target organ toxicity - single exposure, category 3 H336
EC 204-658-1		
CAS 123-86-4		
REACH Reg. 01-2119485493-29		
ETHYL METHYL KETONE		
INDEX 606-002-00-3	25 ≤ x < 27	Flammable liquid, category 2 H225, Eye irritation, category 2 H319, Specific target organ toxicity - single exposure, category 3 H336
EC 201-159-0		
CAS 78-93-3		
REACH Reg. 01-2119457290-43		

* There is a batch to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

4. First-aid measures ... / >>

SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6. Accidental release measures ... / >>

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
 Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-1910.1000.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2025

1-METHOXY-2-PROPANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	375	100	568	150	SKIN
CAL/OSHA	USA	360	100	540	150	SKIN
NIOSH	USA	360	100	540	150	

ETHYL METHYL KETONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	600	200	900	300	
OSHA	USA	590	200			
CAL/OSHA	USA	590	200	885	300	
NIOSH	USA	590	200	885	300	

8. Exposure controls/personal protection ... / >>

N-BUTYL ACETATE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	241	50	723	150	
OSHA	USA	710	150			
CAL/OSHA	USA	710	150	950	200	
NIOSH	USA	710	150	950	200	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	colourless	
Odour	characteristic	
Odour threshold	not available	
pH	not available	Reason for missing data: substance/mixture is non-soluble (in water)
Melting point / freezing point	not available	
Initial boiling point	79 °C (174,2 °F)	Substance:ETHYL METHYL KETONE Initial boiling point: 79,59 °C
Boiling range	not available	
Flash point	-4 °C (24,8 °F)	Substance:ETHYL METHYL KETONE Flash point: -9 °C
Evaporation rate	not available	
Flammability	not available	
Lower explosive limit	1.8 % (V/V)	
Upper explosive limit	11.5 % (V/V)	
Vapour pressure	not available	
Vapour density	2.5	
Relative density	0.88 kg/l	Remark:734.40 lb/Gal
Solubility	partially miscible in water	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	514 °C	
Decomposition temperature	not available	

9. Physical and chemical properties ... / >>

Viscosity not available
Explosive properties not available
Oxidising properties not available

9.2. Other information

VOC (Directive 2010/75/EU) : 100,00 % - 880,00 g/litre

Remark:7.34 LB/GAL

10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

1-METHOXY-2-PROPANOL

Dissolves various plastic materials.Stable in normal conditions of use and storage.
Absorbs and dissolves in water and in organic solvents. With air it may slowly form explosive peroxides.

ETHYL METHYL KETONE

Reacts with: light metals, strong oxidants. Attacks various types of plastic materials. Decomposes under the effect of heat.

N-BUTYL ACETATE

Decomposes on contact with: water.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

1-METHOXY-2-PROPANOL

May react dangerously with: strong oxidising agents, strong acids.

ETHYL METHYL KETONE

May form peroxides with: air, light, strong oxidising agents. Risk of explosion on contact with: hydrogen peroxide, nitric acid, sulphuric acid. May react dangerously with: oxidising agents, trichloromethane, alkalis. Forms explosive mixtures with: air.

N-BUTYL ACETATE

Risk of explosion on contact with: strong oxidising agents. May react dangerously with: alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

1-METHOXY-2-PROPANOL

Avoid exposure to: air.

ETHYL METHYL KETONE

Avoid exposure to: sources of heat.

N-BUTYL ACETATE

Avoid exposure to: moisture, sources of heat, naked flames.

10.5. Incompatible materials

1-METHOXY-2-PROPANOL

Incompatible with: oxidising substances, strong acids, alkaline metals.

ETHYL METHYL KETONE

Incompatible with: strong oxidants, inorganic acids, ammonia, copper, chloroform.

N-BUTYL ACETATE

Incompatible with: water, nitrates, strong oxidants, acids, alkalis, zinc.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

11. Toxicological information ... / >>

Information not available

Information on likely routes of exposure

1-METHOXY-2-PROPANOL

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

N-BUTYL ACETATE

WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

1-METHOXY-2-PROPANOL

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

N-BUTYL ACETATE

In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

Interactive effects

N-BUTYL ACETATE

A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

ACUTE TOXICITY

1-METHOXY-2-PROPANOL

LD50 (Oral):	5300 mg/kg Rat
LD50 (Dermal):	13000 mg/kg Rabbit
LC50 (Inhalation vapours):	54.6 mg/l/4h Rat

N-BUTYL ACETATE

LD50 (Oral):	> 6400 mg/kg Rat
LD50 (Dermal):	> 5000 mg/kg Rabbit
LC50 (Inhalation vapours):	21.1 mg/l/4h Rat

ETHYL METHYL KETONE

LD50 (Oral):	2737 mg/kg Rat
LD50 (Dermal):	6480 mg/kg Rabbit
LC50 (Inhalation vapours):	23.5 mg/l/8h Rat

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

11. Toxicological information ... / >>

Does not meet the classification criteria for this hazard class

Carcinogenicity Assessment:

107-98-2 1-METHOXY-2-PROPANOL
ACGIH:: A4

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

ETHYL METHYL KETONE	
LC50 - for Fish	1690 mg/l/96h
EC50 - for Crustacea	5091 mg/l/48h dafnia

12.2. Persistence and degradability

1-METHOXY-2-PROPANOL	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

N-BUTYL ACETATE	
Solubility in water	1000 - 10000 mg/l

ETHYL METHYL KETONE	
Solubility in water	> 10000 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

1-METHOXY-2-PROPANOL	
Partition coefficient: n-octanol/water	< 1

N-BUTYL ACETATE	
Partition coefficient: n-octanol/water	2.3
BCF	15.3

ETHYL METHYL KETONE	
Partition coefficient: n-octanol/water	0.3

12.4. Mobility in soil

N-BUTYL ACETATE	
Partition coefficient: soil/water	< 3

12.5. Results of PBT and vPvB assessment

12. Ecological information ... / >>

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

ADR / RID, IMDG, IATA: UN 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
IMDG: PAINT or PAINT RELATED MATERIAL
IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3

IMDG: Class: 3 Label: 3

IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID: NO
IMDG: not marine pollutant
IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 33	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special provision: 163, 367, 640(C-D), 650		
IMDG:	EMS: F-E, <u>S-E</u>	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 364
	Passengers:	Maximum quantity: 5 L	Packaging instructions: 353
	Special provision:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):

No component(s) listed.

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act – Priority Pollutants:

No component(s) listed.

Clean Water Act – Toxic Pollutants:

No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

78-93-3 ETHYL METHYL KETONE

EPA List of Lists:

313 Category Code:

No component(s) listed.

EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

78-93-3 ETHYL METHYL KETONE
123-86-4 N-BUTYL ACETATE

EPCRA 313 TRI:

No component(s) listed.

RCRA Code:

78-93-3 ETHYL METHYL KETONE

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations

Massachusetts:

107-98-2 1-METHOXY-2-PROPANOL
78-93-3 ETHYL METHYL KETONE
123-86-4 N-BUTYL ACETATE

Minnesota:

107-98-2 1-METHOXY-2-PROPANOL
78-93-3 ETHYL METHYL KETONE
123-86-4 N-BUTYL ACETATE

15. Regulatory information ... / >>

New Jersey:

107-98-2	1-METHOXY-2-PROPANOL
78-93-3	ETHYL METHYL KETONE
123-86-4	N-BUTYL ACETATE

New York:

78-93-3	ETHYL METHYL KETONE
123-86-4	N-BUTYL ACETATE

Pennsylvania:

107-98-2	1-METHOXY-2-PROPANOL
78-93-3	ETHYL METHYL KETONE
123-86-4	N-BUTYL ACETATE

California:

107-98-2	1-METHOXY-2-PROPANOL
78-93-3	ETHYL METHYL KETONE
123-86-4	N-BUTYL ACETATE

Proposition 65:

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

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAA 112 Ⓢ RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112Ⓢ)
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REACH: Regulation (EC) 1907/2006
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train

16. Other information ... / >>

- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112 of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:
09.

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use **hardener for varnishes.**

Identified Uses	Industrial	Professional	Consumer
MIXING	-	✓	-
PREPARATION	-	✓	-
APPLICATION	-	✓	-
FORMULATION	✓	-	-
MIXING	✓	-	-
PREPARATION	✓	-	-
APPLICATION	✓	-	-
USE IN ARTICLES	✓	✓	✓

1.3. Details of the supplier of the safety data sheet

[Redacted supplier information]

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Flammable liquid, category 3
Acute toxicity, category 4
Specific target organ toxicity - single exposure, category 3
Respiratory sensitization, category 1

Flammable liquid and vapour.
Harmful if inhaled.
May cause respiratory irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

Skin sensitization, category 1
Hazard pictograms:



Signal words:

Danger

Hazard statements:

2. Hazards identification ... / >>

H226	Flammable liquid and vapour.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

Precautionary statements:

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P242	Use only non-sparking tools.
P280	Wear protective gloves / eye protection / face protection.
P271	Use only outdoors or in a well-ventilated area.
P240	Ground / bond container and receiving equipment.
P243	Take precautionary measures against static discharge.
P241	Use explosion-proof electrical / ventilating / lighting equipment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P284	[In case of inadequate ventilation] wear respiratory protection.

Response:

P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower.
P312	Call a POISON CENTER / doctor if you feel unwell.
P342+P311	If experiencing respiratory symptoms: call a POISON CENTER / doctor
P333+P313	If skin irritation or rash occurs: Get medical advice / attention.
P304+P340	IF INHALED: remove person to fresh air and keep comfortable for breathing.
P302+P352	IF ON SKIN: wash with plenty of water
P370+P378	In case of fire: use CO ₂ , powder to extinguish.
P363	Wash contaminated clothing before reuse.

Storage:

P403+P235	Store in a well-ventilated place. Keep cool.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal:

P501	Dispose of the product / container in accordance with local regulations
------	---

2.2. Other hazards

Additional hazards

Contains isocyanates. May produce an allergic reaction.

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification:
hexamethylene-1,6-diisocyanate homopolymer	49 ≤ x < 51	Acute toxicity, category 4 H332, Specific target organ toxicity - single exposure, category 3 H335, Skin sensitization, category 1 H317
EC 931-274-8		
CAS 28182-81-2		
REACH Reg. 01-2119485796-17_01-2119488934-20		
TOSYL ISOCYANATE		
INDEX 615-012-00-7	0.4 ≤ x < 0.7	Eye irritation, category 2 H319, Skin irritation, category 2 H315, Specific target organ toxicity - single exposure, category 3 H335, Respiratory sensitization, category 1 H334
EC 223-810-8		
CAS 4083-64-1		
REACH Reg. 01-2119980050-47		

* There is a batch to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off immediately all contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice/attention. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

USA	OSHA-PEL	Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-1910.1000.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.

8. Exposure controls/personal protection ... / >>

hexamethylene-1,6-diisocyanate homopolymer					
Threshold Limit Value					
Type	Country	TWA/8h		STEL/15min	Remarks / Observations
		mg/m3	ppm	mg/m3	ppm
OEL	EU	0.01		0.02	SKIN

TOSYL ISOCYANATE					
Threshold Limit Value					
Type	Country	TWA/8h		STEL/15min	Remarks / Observations
		mg/m3	ppm	mg/m3	ppm
OSHA	USA	5			SKIN
CAL/OSHA	USA	5			SKIN

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	dense liquid	
Colour	straw yellow	
Odour	characteristic	
Odour threshold	not available	
pH	not available	Reason for missing data: substance/mixture is non-soluble (in water)
Melting point / freezing point	not available	
Initial boiling point	136 °C (276,8 °F)	Substance: 2-METHOXY-1-METHYLETHYL ACETATE Initial boiling point: 145,8 °C
Boiling range	not available	
Flash point	47 °C (116,6 °F)	Substance: 2-METHOXY-1-METHYLETHYL ACETATE Flash point: 45,5 °C
Evaporation rate	not available	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	

9. Physical and chemical properties ... / >>

Vapour pressure	not available	
Vapour density	not available	
Relative density	1,065-1,08	Remark:893.79 LB/GAL
Solubility	not available	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
Viscosity	not available	
Explosive properties	not available	
Oxidising properties	not available	

9.2. Other information

Total solids (250°C / 482°F)	62,40 %		
VOC (Directive 2010/75/EU) :	37,60 % - 402,70	g/litre	Remark:3,36 LB/GAL

10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

hexamethylene-1,6-diisocyanate homopolymer

11. **information** ... / >>

LC50 (Inhalation mists/powders): 0.39 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
Sensitising for the respiratory system

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. **Ecological information**

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. **Toxicity**

hexamethylene-1,6-diisocyanate homopolymer	
LC50 - for Fish	> 100 mg/l/96h danio rerio
EC50 - for Crustacea	> 100 mg/l/48h daphnia magna
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h scenedesmus subspicatus

12.2. **Persistence and degradability**

hexamethylene-1,6-diisocyanate homopolymer	
Solubility in water	0.1 - 100 mg/l
Degradability: information not available	
TOSYL ISOCYANATE	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

12.3. **Bioaccumulative potential**

12. Ecological information ... / >>

hexamethylene-1,6-diisocyanate homopolymer
Partition coefficient: n-octanol/water 5.54
BCF 367.7

TOSYL ISOCYANATE
Partition coefficient: n-octanol/water 0.6

12.4. Mobility in soil

hexamethylene-1,6-diisocyanate homopolymer
Partition coefficient: soil/water 7.3

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

ADR / RID, IMDG, IATA: UN 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
IMDG: PAINT or PAINT RELATED MATERIAL
IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3

IMDG: Class: 3 Label: 3

IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: NO
IMDG: not marine pollutant
IATA: NO

14. Transport information ... / >>

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	Special provision: 163, 367, 650	Limited Quantities: 5 L	Packaging instructions: 366
IATA:	EMS: F-E, S-E	Maximum quantity: 220 L	Packaging instructions: 355
	Cargo:	Maximum quantity: 60 L	
	Passengers:	A3, A72, A192	
	Special provision:		

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):

4083-64-1 TOSYL ISOCYANATE (Cyanides)

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act – Priority Pollutants:

4083-64-1 TOSYL ISOCYANATE (Cyanides)

Clean Water Act – Toxic Pollutants:

4083-64-1 TOSYL ISOCYANATE (Cyanides)

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

No component(s) listed.

EPA List of Lists:

313 Category Code:

28182-81-2 hexamethylene-1,6-diisocyanate homopolymer (Diisocyanate)
4083-64-1 TOSYL ISOCYANATE (Cyanides)

EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

No component(s) listed.

EPCRA 313 TRI:

28182-81-2 hexamethylene-1,6-diisocyanate homopolymer (Diisocyanate)
4083-64-1 TOSYL ISOCYANATE (Cyanides)

RCRA Code:

No component(s) listed.

CAA 112 (r) RMP TQ:

15. Regulatory information ... / >>

No component(s) listed.

State Regulations

Massachusetts:

No component(s) listed.

Minnesota:

28182-81-2 hexamethylene-1,6-diisocyanate homopolymer (Diisocyanate)

New Jersey:

28182-81-2 hexamethylene-1,6-diisocyanate homopolymer (Diisocyanate)
28182-81-2 hexamethylene-1,6-diisocyanate homopolymer (Diisocyanate)
4083-64-1 TOSYL ISOCYANATE (Cyanides)
4083-64-1 TOSYL ISOCYANATE (Cyanides)

New York:

4083-64-1 TOSYL ISOCYANATE (Cyanides)

Pennsylvania:

No component(s) listed.

California:

No component(s) listed.

Proposition 65:

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

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H226	Flammable liquid and vapour.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAA 112 Ⓢ RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112Ⓢ)
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods

16. Other information ... / >>

- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REACH: Regulation (EC) 1907/2006
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy
- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112 of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:
01 / 09 / 14.

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified Uses	Industrial	Professional	Consumer
MIXING	-	✓	-
PREPARATION	-	✓	-
APPLICATION	-	✓	-
FORMULATION	✓	-	-
MIXING	✓	-	-
PREPARATION	✓	-	-
APPLICATION	✓	-	-
USE IN ARTICLES	✓	✓	✓

1.3. Details of the supplier of the safety data sheet

[Redacted supplier information]

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Flammable liquid, category 3
Acute toxicity, category 4
Acute toxicity, category 4
Aspiration hazard, category 1
Specific target organ toxicity - repeated exposure, category 2
Eye irritation, category 2
Skin irritation, category 2
Specific target organ toxicity - single exposure, category 3

Flammable liquid and vapour.
Harmful in contact with skin.
Harmful if inhaled.
May be fatal if swallowed and enters airways.
May cause damage to organs through prolonged or repeated exposure.
Causes serious eye irritation.
Causes skin irritation.
May cause respiratory irritation.

Hazard pictograms:



Signal words:

Danger

2. Hazards identification ... / >>

Hazard statements:

H226	Flammable liquid and vapour.
H312+H332	Harmful in contact with skin or if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.

Precautionary statements:

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust / fume / gas / mist / vapours / spray.
P242	Use only non-sparking tools.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash thoroughly after handling.
P240	Ground / bond container and receiving equipment.
P243	Take precautionary measures against static discharge.
P241	Use explosion-proof electrical / ventilating / lighting equipment.

Response:

P331	Do NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower.
P301+P310	IF SWALLOWED: immediately call a POISON CENTER / doctor
P312	Call a POISON CENTER / doctor if you feel unwell.
P332+P313	If skin irritation occurs: Get medical advice / attention.
P337+P313	If eye irritation persists: Get medical advice / attention.
P304+P340	IF INHALED: remove person to fresh air and keep comfortable for breathing.
P302+P352	IF ON SKIN: wash with plenty of water
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: use CO ₂ , powder to extinguish.

Storage:

P403+P235	Store in a well-ventilated place. Keep cool.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal:

P501	Dispose of the product / container in accordance with local regulations
------	---

2.2. Other hazards

Information not available

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification:
XYLENE (MIXTURE OF ISOMERS)		
INDEX 601-022-00-9	82 ≤ x < 84	Flammable liquid, category 3 H226, Acute toxicity, category 4 H312, Acute toxicity, category 4 H332, Aspiration hazard, category 1 H304, Specific target organ toxicity - repeated exposure, category 2 H373, Eye irritation, category 2B H320, Skin irritation, category 2 H315, Specific target organ toxicity - single exposure, category 3 H335
EC 215-535-7		
CAS 1330-20-7		
REACH Reg. 01-2119488216-32		

3. Composition/information on ingredients ... / >>

ETHYLBENZENE

INDEX 601-023-00-4 15 ≤ x < 16

Flammable liquid, category 2 H225, Acute toxicity, category 4 H332, Aspiration hazard, category 1 H304, Specific target organ toxicity - repeated exposure, category 2 H373, Hazardous to the aquatic environment, chronic toxicity, category 3 H412

EC 202-849-4
CAS 100-41-4
REACH Reg. 01-2119489370-35

* There is a batch to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice.

Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-1910.1000.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.

8. Exposure controls/personal protection ... / >>

TLV-ACGIH ACGIH 2025

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	221	50	442	100	SKIN
OSHA	USA	435	100			
CAL/OSHA	USA	435	100	655	150	
NIOSH	USA	435	100	655	150	

ETHYLBENZENE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	442	100	884	200	SKIN
OSHA	USA	435	100			
CAL/OSHA	USA	435	100	545	125	
NIOSH	USA	435	100	545	125	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	colourless	
Odour	characteristic	
Odour threshold	not available	
pH	not available	Reason for missing data: substance/mixture is non-soluble (in water)
Melting point / freezing point	not available	
Initial boiling point	137 °C (278,6 °F)	Substance: XYLENE (MIXTURE OF ISOMERS) Initial boiling point: 139,6 °C
Boiling range	not available	
Flash point	25 °C (77 °F)	Substance: XYLENE (MIXTURE OF ISOMERS)

9. Physical and chemical properties ... / >>

Evaporation rate	not available
Flammability	not available
Lower explosive limit	not available
Upper explosive limit	not available
Vapour pressure	not available
Vapour density	not available
Relative density	0.87 kg/l
Solubility	totally insoluble in water
Partition coefficient: n-octanol/water	not available
Auto-ignition temperature	not available
Decomposition temperature	not available
Viscosity	not available
Explosive properties	not available
Oxidising properties	not available

Flash point: 27 °C

Remark:726.5 LB/GAL

9.2. Other information

VOC (Directive 2010/75/EU) : 97,50 % - 848,25 g/litre

Remark:7.08 LB/GAL

10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

ETHYLBENZENE

Reacts violently with: strong oxidants. Attacks various types of plastic materials. May form explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

ETHYLBENZENE

May develop: methane, styrene, hydrogen, ethane.

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

11. Toxicological information ... / >>

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

XYLENE (MIXTURE OF ISOMERS)

LD50 (Oral):	3523 mg/kg Rat
LD50 (Dermal):	4350 mg/kg Rabbit
LC50 (Inhalation vapours):	26 mg/l/4h Rat

ETHYLBENZENE

LD50 (Oral):	3500 mg/kg Rat
LD50 (Dermal):	15354 mg/kg Rabbit
LC50 (Inhalation vapours):	17.2 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

Carcinogenicity Assessment:

1330-20-7	XYLENE (MIXTURE OF ISOMERS)
	ACGIH: A4
	IARC:3

100-41-4	ETHYLBENZENE
	ACGIH: A3
	IARC:2B

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

May cause damage to organs

ASPIRATION HAZARD

Toxic for aspiration

12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12. Ecological information ... />>

12.1. Toxicity

Information not available

12.2. Persistence and degradability

XYLENE (MIXTURE OF ISOMERS)
Solubility in water 100 - 1000 mg/l
Rapidly degradable

ETHYLBENZENE
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

12.3. Bioaccumulative potential

XYLENE (MIXTURE OF ISOMERS)
Partition coefficient: n-octanol/water 3.12
BCF 25.9

ETHYLBENZENE
Partition coefficient: n-octanol/water 3.6

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)
Partition coefficient: soil/water 2.73

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

ADR / RID, IMDG, IATA: UN 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
IMDG: PAINT or PAINT RELATED MATERIAL
IATA: PAINT or PAINT RELATED MATERIAL

14. Transport information ... / >>

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3

IMDG: Class: 3 Label: 3

IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: NO
IMDG: not marine pollutant
IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30 Special provision: 163, 367, 650	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	Packaging instructions: 366
IATA:	Cargo: Passengers: Special provision:	Maximum quantity: 220 L Maximum quantity: 60 L A3, A72, A192	Packaging instructions: 355

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):

1330-20-7 XYLENE (MIXTURE OF ISOMERS)
100-41-4 ETHYLBENZENE

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act – Priority Pollutants:

100-41-4 ETHYLBENZENE

Clean Water Act – Toxic Pollutants:

100-41-4 ETHYLBENZENE

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

15. Regulatory information ... / >>

DEA List II Chemicals (Essential Chemicals):
No component(s) listed.

EPA List of Lists:
313 Category Code:
1330-20-7 XYLENE (MIXTURE OF ISOMERS)
100-41-4 ETHYLBENZENE

EPCRA 302 EHS TPQ:
No component(s) listed.

EPCRA 304 EHS RQ:
No component(s) listed.

CERCLA RQ:
1330-20-7 XYLENE (MIXTURE OF ISOMERS)
100-41-4 ETHYLBENZENE

EPCRA 313 TRI:
1330-20-7 XYLENE (MIXTURE OF ISOMERS)
100-41-4 ETHYLBENZENE

RCRA Code:
1330-20-7 XYLENE (MIXTURE OF ISOMERS)

CAA 112 (r) RMP TQ:
No component(s) listed.

State Regulations

Massachusetts:
1330-20-7 XYLENE (MIXTURE OF ISOMERS)
100-41-4 ETHYLBENZENE

Minnesota:
1330-20-7 XYLENE (MIXTURE OF ISOMERS)
100-41-4 ETHYLBENZENE

New Jersey:
1330-20-7 XYLENE (MIXTURE OF ISOMERS)
100-41-4 ETHYLBENZENE

New York:
1330-20-7 XYLENE (MIXTURE OF ISOMERS)
100-41-4 ETHYLBENZENE

Pennsylvania:
1330-20-7 XYLENE (MIXTURE OF ISOMERS)
100-41-4 ETHYLBENZENE

California:
1330-20-7 XYLENE (MIXTURE OF ISOMERS)
100-41-4 ETHYLBENZENE

Proposition 65:
WARNING! This product contains chemicals known to the State of California to cause cancer and birth defects or reproductive harm.

100-41-4 ETHYLBENZENE

Hazard type	NSRL / MADL (µg/day)				Note
	Oral	Dermal	Inhalation	Intravenous	
Carcinogenicity	41		54		-

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

15. information ... / >>

Substances subject to the Stockholm Convention:
None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H312+H332	Harmful in contact with skin or if inhaled.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H320	Cause eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAA 112 ® RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112®)
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REACH: Regulation (EC) 1907/2006
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy
- 6 NYCRR part 597
- Cal/OSHA website

16. Other information ... / >>

- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112 of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:

03 / 04 / 08 / 09 / 13 / 14.

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified Uses	Industrial	Professional	Consumer
MIXING	-	✓	-
PREPARATION	-	✓	-
APPLICATION	-	✓	-
FORMULATION	✓	-	-
MIXING	✓	-	-
PREPARATION	✓	-	-
APPLICATION	✓	-	-
USE IN ARTICLES	✓	✓	✓

1.3. Details of the supplier of the safety data sheet

[Redacted supplier information]

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Reproductive toxicity, category 2

Eye irritation, category 2

Skin sensitization, category 1

Suspected of damaging fertility or the unborn child.

Causes serious eye irritation.

May cause an allergic skin reaction.

Hazard pictograms:



Signal words:

Warning

Hazard statements:

H361

H319

H317

Suspected of damaging fertility or the unborn child.

Causes serious eye irritation.

May cause an allergic skin reaction.

Precautionary statements:

Prevention:

2. Hazards identification ... / >>

P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P202	Do not handle until all safety precautions have been read and understood.
P201	Obtain special instructions before use.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
Response:	
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice / attention.
P333+P313	If skin irritation or rash occurs: Get medical advice / attention.
P337+P313	If eye irritation persists: Get medical advice / attention.
P302+P352	IF ON SKIN: wash with plenty of water
P363	Wash contaminated clothing before reuse.
Storage:	
P405	Store locked up.
Disposal:	
P501	Dispose of the product / container in accordance with local regulations

2.2. Other hazards

Environmental classification as for Reg. (EC) 1272/2008 (CLP):

The product is classified as hazardous for environment pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

Classification and Hazard Statement

Hazardous to the aquatic environment, chronic toxicity, category 3 Harmful to aquatic life with long lasting effects.

Hazard statements:

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention:
 P273 Avoid release to the environment.

Response: --

Storage: --

Disposal:
 P501 Dispose of the product / container in accordance with local regulations

Information not available

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification:
2-Propenoic acid, reaction products with dipentaerythritol		
	10 ≤ x < 11	Eye irritation, category 2 H319, Skin sensitization, category 1A H317, Hazardous to the aquatic environment, chronic toxicity, category 3 H412
EC	800-838-4	
CAS	1384855-91-7	
REACH Reg.	01-2119980666-22	
(2,4,6-TRIMETHYL BENZOIL) DIPHENIL PHOSPHINE-OXIDE		
	0.4 ≤ x < 0.7	Reproductive toxicity, category 2 H361, Skin sensitization, category 1B H317, Hazardous to the aquatic environment, chronic toxicity, category 2 H411
EC	278-355-8	
CAS	75980-60-8	
REACH Reg.	01-2119972295-29	
OLIGO[2-HYDROXY-2-METHYL-1-[4-(1-METHYLVINYL)PHENYL]PROPANONE]		
	0.1 ≤ x < 0.4	Reproductive toxicity, category 2 H361
EC	402-990-3	
CAS	163702-01-0	
REACH Reg.	01-0000015270-82-0000	

3. Composition/information on ingredients ... / >>

2,4,6-TRIMETHYLBENZOPHENONE

INDEX 606-044-00-2 0 < x < 0.25

Acute toxicity, category 4 H302, Eye irritation, category 2 H319, Hazardous to the aquatic environment, acute toxicity, category 1 H400 M=1, Hazardous to the aquatic environment, chronic toxicity, category 1 H410 M=1

EC 403-150-9

CAS 954-16-5

2-METHYLISOTHIAZOL-3(2H)-ONE

INDEX 613-326-00-9 0.0015 ≤ x < 0.06

Acute toxicity, category 2 H330, Acute toxicity, category 3 H301, Acute toxicity, category 3 H311, Skin corrosion, category 1B H314, Serious eye damage, category 1 H318, Skin sensitization, category 1A H317, Hazardous to the aquatic environment, acute toxicity, category 1 H400 M=10, Hazardous to the aquatic environment, chronic toxicity, category 1 H410 M=1

EC 220-239-6

CAS 2682-20-4

REACH Reg. 01-2120764690-50

* There is a batch to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off immediately all contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice/attention. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

5. Fire-fighting measures ... / >>

Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Avoid bunching of electrostatic charges. Do not spray on flames or incandescent bodies. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Do not eat, drink or smoke during use. Do not breathe spray.

7.2. Conditions for safe storage, including any incompatibilities

Store in a place where adequate ventilation is ensured, away from direct sunlight at a temperature below 50°C / 122°F, away from any combustion sources.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Information not available

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends

8. Exposure controls/personal protection ... / >>

on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	colourless	
Odour	characteristic	
Odour threshold	not available	
pH	7-9	
Melting point / freezing point	not available	
Initial boiling point	> 100 °C	(212 °F)
Boiling range	not available	
Flash point	> 100 °C	(212 °F)
Evaporation rate	not available	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Vapour pressure	not available	
Vapour density	not available	
Relative density	1,06-1,07	Remark:889.62 LB/GAL
Solubility	not available	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
Viscosity	not available	
Explosive properties	not available	
Oxidising properties	not available	

9.2. Other information

Total solids (250°C / 482°F)	40,00 %	
VOC (Directive 2010/75/EU) :	8,09 % - 84,78	g/litre
		Remark:0.71 LB/GAL

10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

10. Stability and reactivity ... / >>

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

Information not available

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

2-Propenoic acid, reaction products with dipentaerythritol

LD50 (Oral): > 2000 mg/kg RAT
LD50 (Dermal): > 2000 mg/kg RABBIT

(2,4,6-TRIMETHYL BENZOIL) DIPHENIL PHOSPHINE-OXIDE

LD50 (Oral): > 5000 mg/kg
LD50 (Dermal): > 2000 mg/kg

2-METHYLISOTHIAZOL-3(2H)-ONE

LD50 (Oral): 120 mg/kg Rat
LD50 (Dermal): 242 mg/kg Rat
LC50 (Inhalation mists/powders): 0.11 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

11. Toxicological information ... / >>

Does not meet the classification criteria for this hazard class

Carcinogenicity Assessment:

121-44-8 TRIETHYLAMINE
ACGIH:: A4

REPRODUCTIVE TOXICITY

Suspected of damaging fertility or the unborn child

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it has negative effects on the aquatic environment.

12.1. Toxicity

2-Propenoic acid, reaction products with dipentaerythritol

LC50 - for Fish	13 mg/l/96h CARP
EC50 - for Crustacea	35 mg/l/48h DAPHNIA MAGNA
EC50 - for Algae / Aquatic Plants	> 36 mg/l/72h PSEUDOKIRCHNERIELLA SUBCAPITATA
Chronic NOEC for Crustacea	8.4 mg/l DAPHNIA MAGNA

(2,4,6-TRIMETHYL BENZOIL) DIPHENIL PHOSPHINE-OXIDE

LC50 - for Fish	14 mg/l/96h CARPA
EC50 - for Crustacea	3.53 mg/l/48h

2-METHYLISOTHIAZOL-3(2H)-ONE

LC50 - for Fish	4.77 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	0.934 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	0.103 mg/l/72h Raphidocelis subcapitata
Chronic NOEC for Fish	4.93 mg/l Oncorhynchus mykiss
Chronic NOEC for Crustacea	0.044 mg/l Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	0.05 mg/l Raphidocelis subcapitata

12.2. Persistence and degradability

2-METHYLISOTHIAZOL-3(2H)-ONE

Solubility in water	489000 mg/l
Degradability: information not available	

12.3. Bioaccumulative potential

2-METHYLISOTHIAZOL-3(2H)-ONE

Partition coefficient: n-octanol/water	-0.486
BCF	5.75

12.4. Mobility in soil

2-METHYLISOTHIAZOL-3(2H)-ONE

Partition coefficient: soil/water	-24.54
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12. Ecological information ... / >>

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):

15. Regulatory information ... / >>

No component(s) listed.

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act – Priority Pollutants:

No component(s) listed.

Clean Water Act – Toxic Pollutants:

No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

No component(s) listed.

EPA List of Lists:

313 Category Code:

121-44-8 TRIETHYLAMINE

EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

121-44-8 TRIETHYLAMINE

EPCRA 313 TRI:

121-44-8 TRIETHYLAMINE

RCRA Code:

121-44-8 TRIETHYLAMINE

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations

Massachusetts:

124-68-5 2-AMINO-2-METHYLPROPANOL

121-44-8 TRIETHYLAMINE

Minnesota:

121-44-8 TRIETHYLAMINE

New Jersey:

124-68-5 2-AMINO-2-METHYLPROPANOL

121-44-8 TRIETHYLAMINE

New York:

121-44-8 TRIETHYLAMINE

Pennsylvania:

25265-71-8 DIPROPILEN GLYCOL

124-68-5 2-AMINO-2-METHYLPROPANOL

121-44-8 TRIETHYLAMINE

California:

121-44-8 TRIETHYLAMINE

Proposition 65:

This product does not contain any substances know to the State of California to cause cancer, reproductive harm or birth defects.

15. Regulatory information ... / >>

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H361	Suspected of damaging fertility or the unborn child.
H330	Fatal if inhaled.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAA 112 ® RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112®)
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
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- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REACH: Regulation (EC) 1907/2006
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

GENERAL BIBLIOGRAPHY:

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- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)

16. Other information ... / >>

- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:

09.

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use **additive for ink and varnish.**

Identified Uses	Industrial	Professional	Consumer
MIXING	-	✓	-
PREPARATION	-	✓	-
APPLICATION	-	✓	-
FORMULATION	✓	-	-
MIXING	✓	-	-
PREPARATION	✓	-	-
APPLICATION	✓	-	-
USE IN ARTICLES	✓	✓	✓

1.3. Details of the supplier of the safety data sheet

[Redacted supplier information]

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Flammable liquid, category 4
Serious eye damage, category 1
Skin irritation, category 2

Combustible liquid.
Causes serious eye damage.
Causes skin irritation.

Hazard pictograms:



Signal words: **Danger**

Hazard statements:

H227 Combustible liquid.
H318 Causes serious eye damage.
H315 Causes skin irritation.

2. Hazards identification ... / >>

Precautionary statements:

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves / eye protection / face protection.
P264 Wash thoroughly after handling.

Response:

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER / doctor
P302+P352 IF ON SKIN: wash with plenty of water
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: use CO₂, powder to extinguish.

Storage:

P403+P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of the product / container in accordance with local regulations

2.2. Other hazards

Information not available

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification:
AMINO SILANE	97 ≤ x < 99	Fammable liquid, category 4 H227, Serious eye damage, category 1 H318, Skin irritation, category 2 H315

EC 237-511-5
CAS 13822-56-5
REACH Reg. 01-2119510159-45

* There is a batch to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4. First-aid measures ... / >>

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use breathing equipment if fumes or powders are released into the air. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Confine using earth or inert material. Collect as much material as possible and eliminate the rest using jets of water. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7. Handling and storage ... / >>

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Information not available

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	colourless	
Odour	amino	
Odour threshold	not available	
pH	not available	Reason for missing data: substance/mixture is non-soluble (in water)
Melting point / freezing point	not available	
Initial boiling point	194 °C (381,2 °F)	
Boiling range	not available	
Flash point	90 °C (194 °F)	
Evaporation rate	not available	
Flammability	not applicable to liquids	
Lower explosive limit	not available	
Upper explosive limit	not available	
Vapour pressure	not available	
Vapour density	not available	
Relative density	1.05 kg/l	Remark: 876.27 LB/GAL
Solubility	immiscible with water	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	295 °C	
Decomposition temperature	not available	
Viscosity	not available	
Explosive properties	not available	
Oxidising properties	not available	

9. Physical and chemical properties ... / >>

9.2. Other information

VOC (Directive 2010/75/EU) : 100,00 % - 1.050,00 g/litre

Remark:8.76 LB/GAL

10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

10.4. Conditions to avoid

Avoid overheating.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

AMINO SILANE
LD50 (Oral): > 2000 mg/kg rat
LD50 (Dermal): > 2000 mg/kg rabbit

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

11. Toxicological information ... / >>

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

Information not available

12.2. Persistence and degradability

Information not available

12.3. Bioaccumulative potential

Information not available

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety

13. Disposal considerations ... / >>

regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):

No component(s) listed.

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

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No component(s) listed.

Clean Water Act – Toxic Pollutants:

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No component(s) listed.

15. Regulatory information ... / >>

DEA List II Chemicals (Essential Chemicals):

No component(s) listed.

EPA List of Lists:

313 Category Code:

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EPCRA 304 EHS RQ:

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CERCLA RQ:

No component(s) listed.

EPCRA 313 TRI:

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RCRA Code:

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Minnesota:

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New Jersey:

No component(s) listed.

New York:

No component(s) listed.

Pennsylvania:

No component(s) listed.

California:

No component(s) listed.

Proposition 65:

This product does not contain any substances know to the State of California to cause cancer, reproductive harm or birth defects.

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet

H227	Combustible liquid.
H318	Causes serious eye damage.
H315	Causes skin irritation.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
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16. Other information ... / >>

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- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
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- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

16. Other information ... / >>

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:

09.

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified Uses	Industrial	Professional	Consumer
MIXING	-	✓	-
PREPARATION	-	✓	-
APPLICATION	-	✓	-
FORMULATION	✓	-	-
MIXING	✓	-	-
PREPARATION	✓	-	-
APPLICATION	✓	-	-
USE IN ARTICLES	✓	✓	✓

1.3. Details of the supplier of the safety data sheet

[Redacted supplier information]

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Flammable liquid, category 2
Reproductive toxicity, category 2
Specific target organ toxicity - repeated exposure, category 2
Serious eye damage, category 1
Skin irritation, category 2
Skin sensitization, category 1
Specific target organ toxicity - single exposure, category 3

Highly flammable liquid and vapour.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
May cause drowsiness or dizziness.

Hazard pictograms:



Signal words:

Danger

Hazard statements:

2. Hazards identification ... / >>

H225	Highly flammable liquid and vapour.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.

Precautionary statements:

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust / fume / gas / mist / vapours / spray.
P202	Do not handle until all safety precautions have been read and understood.
P242	Use only non-sparking tools.
P201	Obtain special instructions before use.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash thoroughly after handling.
P240	Ground / bond container and receiving equipment.
P243	Take precautionary measures against static discharge.
P241	Use explosion-proof electrical / ventilating / lighting equipment.
P272	Contaminated work clothing should not be allowed out of the workplace.

Response:

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower.
P310	Immediately call a POISON CENTER / doctor
P304+P340	IF INHALED: remove person to fresh air and keep comfortable for breathing.
P302+P352	IF ON SKIN: wash with plenty of water
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: use CO ₂ , powder to extinguish.
P363	Wash contaminated clothing before reuse.

Storage:

P403+P235	Store in a well-ventilated place. Keep cool.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal:

P501	Dispose of the product / container in accordance with local regulations
------	---

2.2. Other hazards

Environmental classification as for Reg. (EC) 1272/2008 (CLP):

The product is classified as hazardous for environment pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

Classification and Hazard Statement

Hazardous to the aquatic environment, chronic toxicity, category 3 Harmful to aquatic life with long lasting effects.

Hazard statements:

H412	Harmful to aquatic life with long lasting effects.
------	--

Precautionary statements:

Prevention:

P273	Avoid release to the environment.
------	-----------------------------------

Response:

--

Storage:

--

Disposal:

P501	Dispose of the product / container in accordance with local regulations
------	---

Additional hazards

Repeated exposure may cause skin dryness or cracking.

3. Composition/information on ingredients

3. Composition/information on ingredients ... / >>

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification:
ACRILIC RESIN		
CAS	24 ≤ x < 26	Eye irritation, category 2 H319, Skin irritation, category 2 H315
REACH Reg. POLIMER		
PENTAERITRITOL TRI-TETRA ACRILATE		
INDEX	19.5 ≤ x < 20.5	Acute toxicity, category 4 H302, Serious eye damage, category 1 H318, Skin irritation, category 2 H315, Skin sensitization, category 1 H317, Hazardous to the aquatic environment, chronic toxicity, category 2 H411
EC	629-850-6	
CAS	1245638-61-2	
REACH Reg.	01-2119490003-49-0000	
ACRILIC RESIN		
CAS	16 ≤ x < 17	Eye irritation, category 2 H319, Skin irritation, category 2 H315
REACH Reg. POLIMER		
1-METHOXY-2-PROPANOL		
INDEX	603-064-00-3 12 ≤ x < 13	Flammable liquid, category 3 H226, Specific target organ toxicity - single exposure, category 3 H336
EC	203-539-1	
CAS	107-98-2	
REACH Reg.	01-2119457435-35-0000	
ETHYL METHYL KETONE		
INDEX	606-002-00-3 8.5 ≤ x < 9.5	Flammable liquid, category 2 H225, Eye irritation, category 2 H319, Specific target organ toxicity - single exposure, category 3 H336
EC	201-159-0	
CAS	78-93-3	
REACH Reg.	01-2119457290-43	
2-IDROSSIETILE METACRILATO		
INDEX	6 ≤ x < 7	Eye irritation, category 2 H319, Skin irritation, category 2 H315, Skin sensitization, category 1 H317
EC	212-782-2	
CAS	868-77-9	
2-HYDROXY-2-METHYL-PROPIO PHENONE		
INDEX	4 ≤ x < 4.5	Acute toxicity, category 4 H302, Hazardous to the aquatic environment, chronic toxicity, category 3 H412
EC	231-272-0	
CAS	7473-98-5	
REACH Reg.	01-2119472306-39-0000	
N-BUTYL ACETATE		
INDEX	607-025-00-1 1.5 ≤ x < 2	Flammable liquid, category 3 H226, Specific target organ toxicity - single exposure, category 3 H336
EC	204-658-1	
CAS	123-86-4	
REACH Reg.	01-2119485493-29	
TOLUENE		
INDEX	601-021-00-3 1 ≤ x < 1.5	Flammable liquid, category 2 H225, Reproductive toxicity, category 2 H361, Aspiration hazard, category 1 H304, Specific target organ toxicity - repeated exposure, category 2 H373, Skin irritation, category 2 H315, Specific target organ toxicity - single exposure, category 3 H336, Hazardous to the aquatic environment, chronic toxicity, category 3 H412
EC	203-625-9	
CAS	108-88-3	
REACH Reg.	01-2119-471310-51	
PHENILBIS (2,4,6-TRIMETHYLBENZOYL) -DIFOSFIN OXIDE		
INDEX	015-189-00-5 1 ≤ x < 1.5	Skin sensitization, category 1 H317, Hazardous to the aquatic environment, chronic toxicity, category 4 H413
EC	423-340-5	
CAS	162881-26-7	
REACH Reg.	01-2119489401-38-0000	

3. Composition/information on ingredients ... / >>

2-PROPENOIC ACID, 2-METHYL,-2-HYDROXYETHYL ESTER, REACTION PRODUCTS WITH PHOSPHOROUS OXIDE
 $1 \leq x < 1.5$ **Serious eye damage, category 1 H318, Skin sensitization, category 1B H317**

EC 810-703-1
CAS 1187441-10-6
REACH Reg. 01-2120140608-57

* There is a batch to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off immediately all contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice/attention. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of

contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Avoid bunching of electrostatic charges. Do not spray on flames or incandescent bodies. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Do not eat, drink or smoke during use. Do not breathe spray.

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised.

7.2. Conditions for safe storage, including any incompatibilities

Store in a place where adequate ventilation is ensured, away from direct sunlight at a temperature below 50°C / 122°F, away from any combustion sources.

Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-1910.1000.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.

8. Exposure controls/personal protection ... / >>

TLV-ACGIH ACGIH 2025

TOLUENE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	192	50	384	100	SKIN
OSHA	USA		200		300	
CAL/OSHA	USA	37	10	560	150	SKIN
NIOSH	USA	375	100	560	150	

1-METHOXY-2-PROPANOL

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	375	100	568	150	SKIN
CAL/OSHA	USA	360	100	540	150	SKIN
NIOSH	USA	360	100	540	150	

ETHYL METHYL KETONE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	600	200	900	300	
OSHA	USA	590	200			
CAL/OSHA	USA	590	200	885	300	
NIOSH	USA	590	200	885	300	

N-BUTYL ACETATE

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	241	50	723	150	
OSHA	USA	710	150			
CAL/OSHA	USA	710	150	950	200	
NIOSH	USA	710	150	950	200	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure

8. Exposure controls/personal protection ... / >>

compliance with environmental standards.
 Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	viscous liquid	
Colour	colourless-straw coloured	
Odour	characteristic	
Odour threshold	not available	
pH	not available	Reason for missing data: substance/mixture is non-soluble (in water)
Melting point / freezing point	not available	
Initial boiling point	127 °C (260,6 °F)	Substance: ETHYL METHYL KETONE Initial boiling point: 79,59 °C
Boiling range	not available	
Flash point	-4 °C (24,8 °F)	Substance: ETHYL METHYL KETONE Flash point: -9 °C
Evaporation rate	not available	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Vapour pressure	not available	
Vapour density	not available	
Relative density	1,04-1,05	Remark: 872.09 LB/GAL
Solubility	not available	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
Viscosity	not available	
Explosive properties	not available	
Oxidising properties	not available	

9.2. Other information

Total solids (250°C / 482°F)	70,00 %	
VOC (Directive 2010/75/EU) :	30,00 % - 313,50 g/litre	Remark: 2.62 LB/GAL

10. Stability and reactivity

10.1. Reactivity

The product may react exothermically on contact with strong oxidising or reducing agents, strong acids or bases.

2-PROPENOIC ACID, 2-METHYL,-2-HYDROXYETHYL ESTER, REACTION PRODUCTS WITH PHOSPHOROUS OXIDE

May polymerise if exposed to: UV rays.

Avoid exposure to: sources of heat.

TOLUENE

Avoid exposure to: light.

1-METHOXY-2-PROPANOL

Dissolves various plastic materials. Stable in normal conditions of use and storage.

Absorbs and dissolves in water and in organic solvents. With air it may slowly form explosive peroxides.

ETHYL METHYL KETONE

Reacts with: light metals, strong oxidants. Attacks various types of plastic materials. Decomposes under the effect of heat.

N-BUTYL ACETATE

Decomposes on contact with: water.

10.2. Chemical stability

Excessively high temperatures can cause thermal decomposition.

10.3. Possibility of hazardous reactions

See paragraph 10.1.

TOLUENE

Risk of explosion on contact with: fuming sulphuric acid, nitric acid, silver perchlorate, nitrogen dioxide, non-metal halogenates, acetic

10. Stability and reactivity ... / >>

acid, organic nitrocompounds. May form explosive mixtures with: air. May react dangerously with: strong oxidising agents, strong acids, sulphur.

1-METHOXY-2-PROPANOL

May react dangerously with: strong oxidising agents, strong acids.

ETHYL METHYL KETONE

May form peroxides with: air, light, strong oxidising agents. Risk of explosion on contact with: hydrogen peroxide, nitric acid, sulphuric acid. May react dangerously with: oxidising agents, trichloromethane, alkalis. Forms explosive mixtures with: air.

N-BUTYL ACETATE

Risk of explosion on contact with: strong oxidising agents. May react dangerously with: alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

2-PROPENOIC ACID, 2-METHYL-, -2-HYDROXYETHYL ESTER, REACTION PRODUCTS WITH PHOSPHOROUS OXIDE

Avoid exposure to: light.

1-METHOXY-2-PROPANOL

Avoid exposure to: air.

ETHYL METHYL KETONE

Avoid exposure to: sources of heat.

N-BUTYL ACETATE

Avoid exposure to: moisture, sources of heat, naked flames.

10.5. Incompatible materials

Oxidising or reducing agents. Strong acids or bases.

1-METHOXY-2-PROPANOL

Incompatible with: oxidising substances, strong acids, alkaline metals.

ETHYL METHYL KETONE

Incompatible with: strong oxidants, inorganic acids, ammonia, copper, chloroform.

N-BUTYL ACETATE

Incompatible with: water, nitrates, strong oxidants, acids, alkalis, zinc.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

2-PROPENOIC ACID, 2-METHYL-, -2-HYDROXYETHYL ESTER, REACTION PRODUCTS WITH PHOSPHOROUS OXIDE

In decomposition develops: carbon dioxide, carbon monoxide, phosphine.

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

1-METHOXY-2-PROPANOL

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

N-BUTYL ACETATE

WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

1-METHOXY-2-PROPANOL

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies.

Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

11. Toxicological information ... / >>

N-BUTYL ACETATE

In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

Interactive effects

N-BUTYL ACETATE

A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

ACUTE TOXICITY

PENTAERITRITOL TRI-TETRA ACRILATE

LD50 (Oral): < 1350 mg/kg rat
LD50 (Dermal): > 2000 mg/kg rabbit

ACRILIC RESIN

LD50 (Oral): > 2000 mg/kg RAT
LD50 (Dermal): > 2000 mg/kg RABBIT
LC50 (Inhalation vapours): > 5 mg/l/4h RAT

1-METHOXY-2-PROPANOL

LD50 (Oral): 5300 mg/kg Rat
LD50 (Dermal): 13000 mg/kg Rabbit
LC50 (Inhalation vapours): 54.6 mg/l/4h Rat

ETHYL METHYL KETONE

LD50 (Oral): 2737 mg/kg Rat
LD50 (Dermal): 6480 mg/kg Rabbit
LC50 (Inhalation vapours): 23.5 mg/l/8h Rat

2-IDROSSIETILE METACRILATO

LD50 (Oral): 5050 mg/kg rat
LD50 (Dermal): > 3000 mg/kg rabbit

2-HYDROXY-2-METHYL-PROPIO PHENONE

LD50 (Oral): 1694 mg/kg rat
LD50 (Dermal): 6929 mg/kg rat

N-BUTYL ACETATE

LD50 (Oral): > 6400 mg/kg Rat
LD50 (Dermal): > 5000 mg/kg Rabbit
LC50 (Inhalation vapours): 21.1 mg/l/4h Rat

TOLUENE

LD50 (Oral): 5580 mg/kg Rat
LD50 (Dermal): 12124 mg/kg Rabbit
LC50 (Inhalation vapours): 28.1 mg/l/4h Rat

PHENILBIS (2,4,6-TRIMETHYLBENZOYL) -DIFOSFIN OXIDE

LD50 (Oral): > 2000 mg/kg rat
LD50 (Dermal): > 2000 mg/kg rat

2-PROPENOIC ACID, 2-METHIL,-2-HYDROXYETHYL ESTER, REACTION PRODUCTS WITH PHOSPHOROUS OXIDE

LD50 (Oral): > 2000 mg/kg Rat
LD50 (Dermal): > 2000 mg/kg rabbit

SKIN CORROSION / IRRITATION

Causes skin irritation
Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

11. Toxicological information ... / >>

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

Carcinogenicity Assessment:

107-98-2 1-METHOXY-2-PROPANOL

ACGIH:: A4

108-88-3 TOLUENE

ACGIH:: A4

IARC:3

79-10-7 ACRYLIC ACID

ACGIH:: A4

IARC:3

REPRODUCTIVE TOXICITY

Suspected of damaging fertility or the unborn child

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

May cause damage to organs

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it has negative effects on the aquatic environment.

12.1. Toxicity

PENTAERITRITOL TRI-TETRA ACRILATE

LC50 - for Fish

3.2 mg/l/96h carp

EC50 - for Crustacea

13 mg/l/48h water flea

ETHYL METHYL KETONE

LC50 - for Fish

1690 mg/l/96h

EC50 - for Crustacea

5091 mg/l/48h dafnia

2-HYDROXY-2-METHYL-PROPIO PHENONE

EC50 - for Crustacea

> 119 mg/l/48h daphnia magna

EC50 - for Algae / Aquatic Plants

1.95 mg/l/72h desmodesmus subspicatus

PHENILBIS (2,4,6-TRIMETHYLBENZOYL) -DIFOSFIN OXIDE

LC50 - for Fish

> 0.09 mg/l/96h brachydanio rerio

EC50 - for Crustacea

> 1.175 mg/l/48h daphnia magna

EC50 - for Algae / Aquatic Plants

> 0.26 mg/l/72h desmodesmus subspicatum

2-PROPENOIC ACID, 2-METHYL-,2-HYDROXYETHYL ESTER, REACTION PRODUCTS WITH PHOSPHOROUS OXIDE

LC50 - for Fish

> 100 mg/l/96h carpa

EC50 - for Crustacea

> 100 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants

> 100 mg/l/72h selenastrum capricornutum

12. Ecological information ... / >>

12.2. Persistence and degradability

1-METHOXY-2-PROPANOL Solubility in water Rapidly degradable	1000 - 10000 mg/l
ETHYL METHYL KETONE Solubility in water Rapidly degradable	> 10000 mg/l
N-BUTYL ACETATE Solubility in water	1000 - 10000 mg/l
TOLUENE Solubility in water Rapidly degradable	100 - 1000 mg/l

12.3. Bioaccumulative potential

1-METHOXY-2-PROPANOL Partition coefficient: n-octanol/water	< 1
ETHYL METHYL KETONE Partition coefficient: n-octanol/water	0.3
N-BUTYL ACETATE Partition coefficient: n-octanol/water BCF	2.3 15.3
TOLUENE Partition coefficient: n-octanol/water BCF	2.73 90

12.4. Mobility in soil

N-BUTYL ACETATE Partition coefficient: soil/water	< 3
--	-----

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

ADR / RID, IMDG, IATA: UN 1263

14. Transport information ... / >>

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
IMDG: PAINT or PAINT RELATED MATERIAL
IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3

IMDG: Class: 3 Label: 3

IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID: NO
IMDG: not marine pollutant
IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 33	Limited Quantities: 5 lt	Tunnel restriction code: (D/E)
	Special provision: 163, 367, 640(C-D), 650		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 lt	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 364
	Passengers:	Maximum quantity: 5 L	Packaging instructions: 353
	Special provision:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):
108-88-3 TOLUENE

Clean Air Act Section 602 Class I Substances:
No component(s) listed.

Clean Air Act Section 602 Class II Substances:
No component(s) listed.

Clean Water Act – Priority Pollutants:
108-88-3 TOLUENE

15. Regulatory information ... / >>

Clean Water Act – Toxic Pollutants:
108-88-3 TOLUENE

DEA List I Chemicals (Precursor Chemicals):
No component(s) listed.

DEA List II Chemicals (Essential Chemicals):
108-88-3 TOLUENE
78-93-3 ETHYL METHYL KETONE

EPA List of Lists:
313 Category Code:
108-88-3 TOLUENE

EPCRA 302 EHS TPQ:
No component(s) listed.

EPCRA 304 EHS RQ:
No component(s) listed.

CERCLA RQ:
108-88-3 TOLUENE
78-93-3 ETHYL METHYL KETONE
123-86-4 N-BUTYL ACETATE

EPCRA 313 TRI:
108-88-3 TOLUENE

RCRA Code:
108-88-3 TOLUENE
78-93-3 ETHYL METHYL KETONE

CAA 112 (r) RMP TQ:
No component(s) listed.

State Regulations

Massachusetts:
108-88-3 TOLUENE
107-98-2 1-METHOXY-2-PROPANOL
78-93-3 ETHYL METHYL KETONE
123-86-4 N-BUTYL ACETATE

Minnesota:
108-88-3 TOLUENE
107-98-2 1-METHOXY-2-PROPANOL
78-93-3 ETHYL METHYL KETONE
123-86-4 N-BUTYL ACETATE

New Jersey:
108-88-3 TOLUENE
107-98-2 1-METHOXY-2-PROPANOL
78-93-3 ETHYL METHYL KETONE
123-86-4 N-BUTYL ACETATE

New York:
108-88-3 TOLUENE
78-93-3 ETHYL METHYL KETONE
123-86-4 N-BUTYL ACETATE

Pennsylvania:
108-88-3 TOLUENE
107-98-2 1-METHOXY-2-PROPANOL
78-93-3 ETHYL METHYL KETONE
123-86-4 N-BUTYL ACETATE

California:
108-88-3 TOLUENE
107-98-2 1-METHOXY-2-PROPANOL

15. Regulatory information ... / >>

78-93-3 ETHYL METHYL KETONE
123-86-4 N-BUTYL ACETATE

Proposition 65:

WARNING! This product contains chemicals known to the State of California to cause cancer and birth defects or reproductive harm.

108-88-3 TOLUENE

Hazard type	NSRL / MADL ($\mu\text{g}/\text{day}$)				Intravenous	Note
	Oral	Dermal	Inhalation			
Development toxicity	7000					

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H361	Suspected of damaging fertility or the unborn child.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAA 112 ® RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112®)
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REACH: Regulation (EC) 1907/2006
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value

16. Other information ... / >>

- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:
09.

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified Uses	Industrial	Professional	Consumer
MIXING	-	✓	-
PREPARATION	-	✓	-
APPLICATION	-	✓	-
FORMULATION	✓	-	-
MIXING	✓	-	-
PREPARATION	✓	-	-
APPLICATION	✓	-	-
USE IN ARTICLES	✓	✓	✓

1.3. Details of the supplier of the safety data sheet

[Redacted supplier information]

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Serious eye damage, category 1

Causes serious eye damage.

Hazard pictograms:



Signal words:

Danger

Hazard statements:

H318

Causes serious eye damage.

Precautionary statements:

Prevention:

P280

Wear eye protection / face protection.

Response:

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2. Hazards identification ... / >>

P310 Immediately call a POISON CENTER / doctor
Storage: --
Disposal: --

2.2. Other hazards

Additional hazards
Contains:
METHYL METHACRYLATE
May produce an allergic reaction.

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification:
BUTAN-1-OL <i>INDEX</i> 603-004-00-6	4.5 ≤ x < 5	Flammable liquid, category 3 H226, Acute toxicity, category 4 H302, Serious eye damage, category 1 H318, Skin irritation, category 2 H315, Specific target organ toxicity - single exposure, category 3 H335, Specific target organ toxicity - single exposure, category 3 H336
<i>EC</i> 200-751-6		
<i>CAS</i> 71-36-3		
<i>REACH Reg.</i> 01-2119484630-38		

* There is a batch to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-1910.1000.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
	TLV-ACGIH	ACGIH 2025

BUTAN-1-OL

Threshold Limit Value

Type	Country	TWA/8h mg/m3	ppm	STEL/15min mg/m3	ppm	Remarks / Observations
OSHA	USA	300	100			
CAL/OSHA	USA			150 (C)	50 (C)	SKIN
NIOSH	USA			150 (C)	50 (C)	SKIN

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	milky	
Odour	characteristic	
Odour threshold	not available	
pH	7-9	
Melting point / freezing point	not available	
Initial boiling point	> 100 °C	(212 °F)
Boiling range	not available	
Flash point	> 100 °C	(212 °F)
Evaporation rate	not available	

9. Physical and chemical properties ... / >>

Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Vapour pressure	not available	
Vapour density	not available	
Relative density	1,040-1,050	Remark:874.6 LB/GAL
Solubility	not available	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
Viscosity	not available	
Explosive properties	not available	
Oxidising properties	not available	

9.2. Other information

Total solids (250°C / 482°F)	36,00 %	
VOC (Directive 2010/75/EU) :	5,10 % - 53,45	g/litre

Remark:0.45 lb/Gal

10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

BUTAN-1-OL

Attacks various types of plastic materials.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

BUTAN-1-OL

Reacts violently developing heat on contact with: aluminium, strong oxidising agents, strong reducing agents, hydrochloric acid. Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

BUTAN-1-OL

Avoid exposure to: sources of heat, naked flames.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

11. Toxicological information ... / >>

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

BUTAN-1-OL	
LD50 (Oral):	790 mg/kg Rat
LD50 (Dermal):	3400 mg/kg Rabbit
LC50 (Inhalation vapours):	8000 ppm/4h Rat

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Contains:

METHYL METHACRYLATE

May produce an allergic reaction.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

Carcinogenicity Assessment:

79-10-7	ACRYLIC ACID
	ACGIH:: A4
	IARC: 3
80-62-6	METHYL METHACRYLATE
	ACGIH:: A4
	IARC: 3

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

12. Ecological information ... / >>

BUTAN-1-OL	
LC50 - for Fish	1376 mg/l/96h pimephales promelas
EC50 - for Crustacea	18 mg/l/48h daphnia magna
EC50 - for Algae / Aquatic Plants	225 mg/l/72h selenastrum capricornutum

12.2. Persistence and degradability

BUTAN-1-OL	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

BUTAN-1-OL	
Partition coefficient: n-octanol/water	1
BCF	3.16

12.4. Mobility in soil

BUTAN-1-OL	
Partition coefficient: soil/water	0.388

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

Classification according to the UN model on transport of dangerous goods.

14.1. UN number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14. Transport information ... / >>

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

Clean Air Act Section 112(b):

No component(s) listed.

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act – Priority Pollutants:

No component(s) listed.

Clean Water Act – Toxic Pollutants:

No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

No component(s) listed.

EPA List of Lists:

313 Category Code:

71-36-3 BUTAN-1-OL

EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

71-36-3 BUTAN-1-OL

EPCRA 313 TRI:

71-36-3 BUTAN-1-OL

RCRA Code:

71-36-3 BUTAN-1-OL

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations

15. Regulatory information ... / >>

Massachusetts:
71-36-3 BUTAN-1-OL

Minnesota:
71-36-3 BUTAN-1-OL

New Jersey:
71-36-3 BUTAN-1-OL

New York:
71-36-3 BUTAN-1-OL

Pennsylvania:
71-36-3 BUTAN-1-OL

California:
71-36-3 BUTAN-1-OL

Proposition 65:

This product does not contain any substances know to the State of California to cause cancer, reproductive harm or birth defects.

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAA 112 ® RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112®)
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REACH: Regulation (EC) 1907/2006
- REL: Recommended exposure limit

16. Other information ... / >>

- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

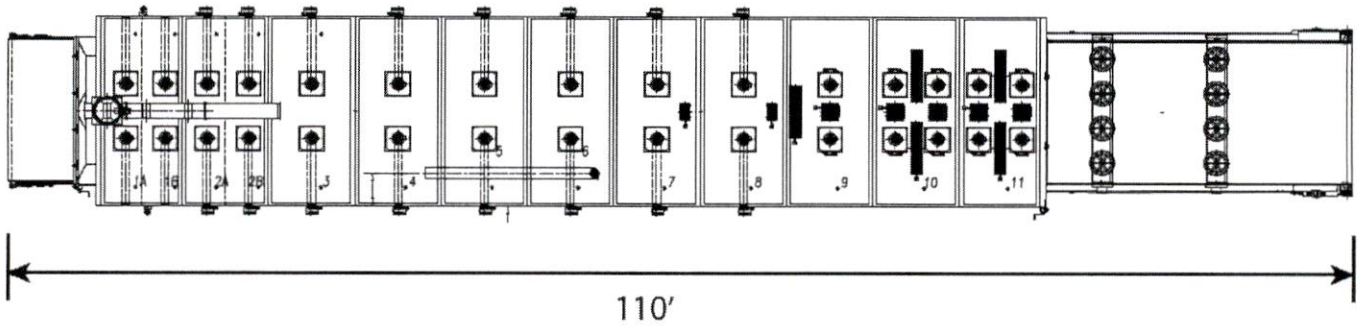
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

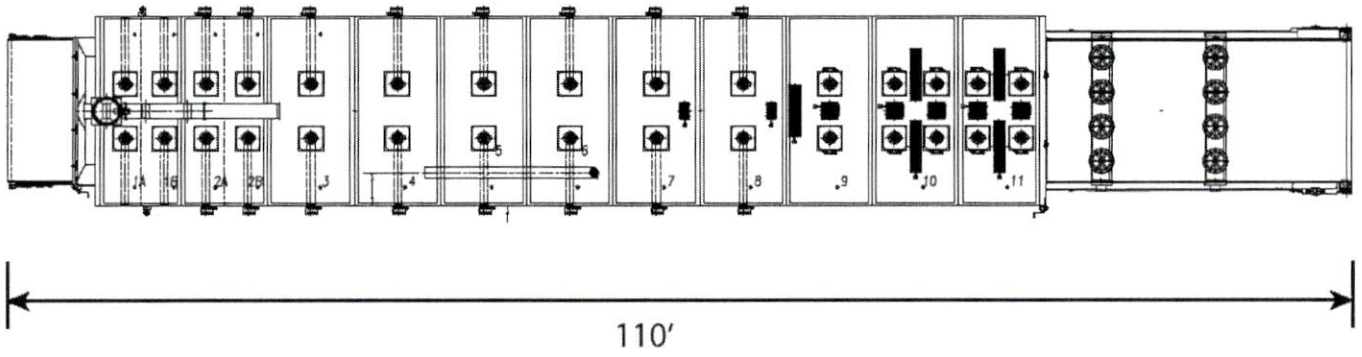
The following sections were modified:
08 / 09 / 14.



Lehr 1

Specifications:

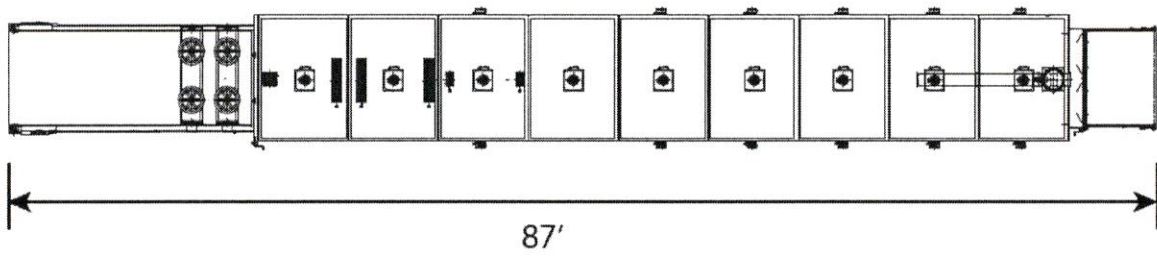
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- [REDACTED] - gas fired decorating lehr oven
- 6.3MBTU/H



Lehr 2

Specifications:

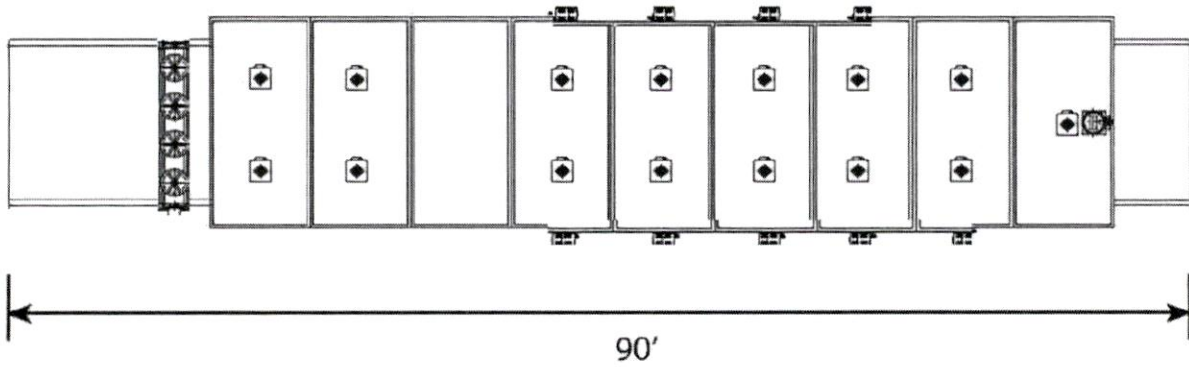
- Manufacturer: [REDACTED] oven
- 4.3MBTU/H



Lehr 3

Specifications:

- Manufacturer: [REDACTED]
- [REDACTED] gas fired decorating lehr oven
- 2.86 MBTU/H



Lehr 4

Specifications:

- Manufacturer: [REDACTED]
- [REDACTED] gas fired decorating lehr oven
- 3.4 MBTU/H

