

Commonwealth of Kentucky
Division for Air Quality
STATEMENT OF BASIS / SUMMARY

Conditional Major, Construction/Operating
Permit: F-26-023

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

April 29, 2026
Jonathon Hughes, Reviewer

SOURCE ID: 21-093-00166
AGENCY INTEREST: 169070
ACTIVITY: APE20260001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 2653, Corrugated and Solid Fiber Boxes

Single Source Det. Yes No If Yes, Affiliated Source AI:

Source-wide Limit Yes No If Yes, See Section 4, Table A

28 Source Category Yes No If Yes, Category:

County: Hardin

Nonattainment Area N/A PM₁₀ PM_{2.5} CO NO_x SO₂ Ozone Lead

If yes, list Classification:

PTE* greater than 100 tpy for any criteria air pollutant Yes No

If yes, for what pollutant(s)?

PM₁₀ PM_{2.5} CO NO_x SO₂ VOC

PTE* greater than 250 tpy for any criteria air pollutant Yes No

If yes, for what pollutant(s)?

PM₁₀ PM_{2.5} CO NO_x SO₂ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) Yes No

If yes, list which pollutant(s): Methanol

PTE* greater than 25 tpy for combined HAP Yes No

*PTE does not include self-imposed emission limitations.

Description of Facility:

Corrugated box plant with primary process of converting packaging feedstock (linerboard and corrugating medium) into recyclable corrugated boxes.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-26-023

Activity: APE20260001

Application Received: April 8, 2026

Application Complete Date: April 29, 2026

Permit Action: Initial Renewal Significant Rev Minor Rev Administrative

Construction/Modification Requested? Yes No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action Yes No

Description of Action:

Transition from a minor source permit to a conditional major permit. Facility has updated emission factors for the single HAP Methanol that results in a potential to emit greater than 10 tons per year. The facility is also requesting new construction authority for the 5th converting line that was originally permitted in S-21-050 but has not yet been constructed.

F-26-023 Emission Summary				
Pollutant	2025 Actual (tpy)	Previous PTE S-21-050 (tpy)	Change (tpy)	Revised PTE F-26-023 (tpy)
CO	6.76	11.7	+4.0	15.7
NO _x	2.63	6.11	+2.8	8.91
PT	0.781	46.6*	-5.3	41.3*
PM ₁₀	0.781	46.6*	-21.1	25.5*
PM _{2.5}	0.781	46.6*	-36.2	10.4*
SO ₂	0.048	0.084	+0.028	0.112
VOC	5.79	39.7	-5.2	34.5
Lead	0	0	0	0
Greenhouse Gases (GHGs)				
Carbon Dioxide	9658	16,724	+6,821	23,545
Methane	0.185	0.32	+0.12	0.44
Nitrous Oxide	0.177	0.31	-0.27	0.04
CO ₂ Equivalent (CO ₂ e)	9718	16,823	+6,747	23,570
Hazardous Air Pollutants (HAPs)				
Methanol	0	0	+12.7	12.7**
Combined HAPs:	0	0	+13.2	13.2

*Pre-control emissions.

**Note: Emissions limited by federally-enforceable emission limitations to ensure the source remains below major source thresholds to be classified as major stationary source as defined in 401 KAR 52:001.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit #01 Process Steam Boiler				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	0.42 lb/MMBtu	401 KAR 59:015, Section 4(1)(c)	AP-42 Chapter 1.4.	Assumed based upon natural gas combustion
	20% opacity	401 KAR 59:015, Section 4(2)	N/A	Assumed based upon natural gas combustion
SO ₂	1.82 lb/MMBtu	401 KAR 59:015, Section 5(1)	AP-42 Chapter 1.4.	Assumed based upon natural gas combustion
<p>Initial Construction Date: 2021</p> <p>Process Description: Provides process steam. Rated heat input capacity: 33.6 MMBtu/hr.</p> <p>Applicable Regulations: 401 KAR 59:015, New indirect heat exchangers.</p> <p>401 KAR 60:005 Section 2(2)(d), 40 C.F.R. 60.40c through 60.48c (Subpart Dc), Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.</p> <p>401 KAR 63:020, Potentially hazardous matter or toxic substances.</p> <p>Precluded Regulations: 401 KAR 63:002, Section 2(4)(iii) 40 C.F.R. 63.7480 through 63.7575, Tables 1 through 13 (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters is precluded since the facility has a source-wide HAP emissions limit below a major source threshold.</p> <p>Comments: Equipped with low NOx burners and flue gas recirculation, Emission factor used for NOx is reduced from 100 lb/MMscf to 32 lb/MMscf.</p> <p>401 KAR 63:002, Section 2(4)(jjjj) 40 C.F.R. 63.11193 through 63.11237, Tables 1 through 8 (Subpart JJJJJ), National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources does not apply since the boiler combusts only natural gas.</p>				

Emission Unit #03 Wastepaper Handling System				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	10.41 lbs/hr	401 KAR 59:010, Section 3(2)	AP-42 Table B.2-2	Briquetter, 99.9% control
	20% Opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly Visual Observation
Initial Construction Date: 2021				
Process Description:				
<p>The cyclone, balers, shredders, and briquetter are collectively deemed the Wastepaper Handling System. Maximum process rate is 5.57 tons per hour.</p> <p>Corrugated scraps, consisting of paper, paper dust, cut-out pieces, and mechanically shredded corrugated sheets, are channeled towards the wastepaper cyclone (located indoors), which collects scrap waste from the production equipment and waste material from the baler room. The shredders can further shred collected scrap, while the baler compresses the corrugated scraps into bales that are transferred off-site to be recycled. Particulate within the building is captured and controlled by a Continuous Cleaning Modular System, which filters the air through an air separator to separate particulate from the trim waste. The particulate is compacted in a briquetter, which creates pucks that will be taken off-site for disposal. There is no stack associated with the Continuous Cleaning Modular System or the cyclone.</p>				
Applicable Regulation:				
<p>401 KAR 59:010, New process operations. This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.</p>				
Comments:				
<p>Particulate matter (PM) emissions factors for the Wastepaper Handling System (EU03) were developed from the engineering judgement and particle size distribution data from U.S. EPA AP-42 Appendix B, Table B.2-2 Category 7. The annual waste baled was based on the 2025 Facility-wide scrap collection data and the Facility's production ratio as defined in Table B-5 in Appendix B. The briquetter provides 99.9% control on PM emissions and exhausts indoors.</p>				

Emission Unit #04 Corrugator				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
HAP	9 tons per year single HAP	To preclude 401 KAR 52:020	3.5 lb per MMsf corrugated board processed. See comments below	Monthly recordkeeping, 12-month rolling total.
Initial Construction Date: 2021				
Process Description: The Corrugator forms a double wall corrugated sheet that is held together by a starch-based slurry or adhesive that is prepared on-site in a starch kitchen. The starch-based adhesive is produced by mixing process water, caustic, and starch. Maximum throughput is 0.825 MMsf/hr.				
Applicable Regulation: 401 KAR 63:020, Potentially hazardous matter or toxic substances.				
Comments: Volatile organic compounds (VOC) and HAP emissions factors for the Corrugator (EU04) were developed from the San Joaquin Valley Air Pollution Control District Best Available Control Technology (BACT) Guideline 4.9.13 for Corrugated Board Manufacturing. It is assumed that the predominant HAP emitted is methanol; thus the VOC emissions factors are a surrogate factor for methanol. VOC and HAP are released from the paperboard as they are heated during the corrugating process.				

Emission Unit #05 Converting Lines				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
HAP	9 tons per year single HAP	To preclude 401 KAR 52:020	SDS	Monthly recordkeeping, 12-month rolling total.
Initial Construction Dates: 2021 (for units 01 through 04), Proposed 2026 for unit 05.				
Process Description: Five converting lines – Two rotary die cutters (RDCs) and three flexographic folder/glueers (FFGs). Both units cut and print the boxes to specification. The FFG also adds glue to form the box; the RDC does not add any glue to the box. Maximum ink usage: 271 lbs/hr. Maximum glue usage: 40 lb/hr.				
Applicable Regulation: 401 KAR 63:020, Potentially hazardous matter or toxic substances.				
Precluded Regulations: 401 KAR 63:002, Section 2(4)(aa) 40 C.F.R. 63.820 through 63.831, Table 1, and Appendix A (Subpart KK), National Emission Standards for the Printing and Publishing Industry is precluded since the facility has a source-wide HAP emissions limit below a major source threshold. 401 KAR 63:002, Section 2(4)(ppp) 40 C.F.R. 63.3280 through 63.3420, Tables 1 through 2 (Subpart JJJ), National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating is precluded				

Emission Unit #05 Converting Lines

since the facility has a source-wide HAP emissions limit below a major source threshold.

Comments:

VOC and HAP emissions for the Converting Lines are calculated from the weight percentage of the inks and supplied chemicals on-site and facility-specific throughput data.

The permittee requested a permit shield for the regulations listed below. The Division has elected to address these regulations in the comments section rather than provide a permit shield under the “Non-Applicable Regulations” heading, as there is no uncertainty regarding their non-applicability. The facility does not operate the affected equipment, does not engage in the relevant industry, and/or is not a major source. Collectively or individually, these factors demonstrate that the referenced regulations are not applicable to the facility.

401 KAR 59:210, New fabric, vinyl and paper surface coating operations does not apply since the facility is not a major source of VOC emissions nor is located in a county designated as non-attainment for ozone.

401 KAR 60:005, Section 2(2)(ww) 40 C.F.R. 60.430 through 60.435 (Subpart QQ), Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing does not apply since the facility does not operate publication rotogravure printing presses as defined by the subpart.

401 KAR 60:005, Section 2(2)(xx) 40 C.F.R. 60.440 through 60.447 (Subpart RR), Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations does not apply since the facility does not operate a coating line (as defined in by the subpart) to produce pressure sensitive tape and/or label materials. Aqueous and solvent based coating lines which apply a variety of adhesives and specialty coatings to paper and film substrates and do not have pressure sensitive properties are not subject to Subpart RR per U.S. EPA Applicability Determination Index Control Numbers NR38 and 9900023.

401 KAR 60:005, Section 2(2)(hhh) 40 C.F.R. 60.580 through 60.585 (Subpart FFF), Standards of Performance for Flexible Vinyl and Urethane Coating and Printing does not apply since the facility does not print or coat flexible vinyl or urethane products as defined by the subpart.

401 KAR 60:005, Section 2(2)(uuu) 40 C.F.R. 60.710 through 60.718 (Subpart SSS), Standards of Performance for Magnetic Tape Coating Facilities does not apply since the operation does not involve the use of magnetic tape.

401 KAR 60:005, Section 2(2)(xxx) 40 C.F.R. 60.740 through 60.748 (Subpart VVV), Standards of Performance for Polymeric Coating of Supporting Substrates Facilities does not apply since the Facility does not perform Polymeric coating of supporting substrates as defined by the subpart. The Facility only performs printing on supporting webs made of paper.

401 KAR 63:002, Section 2(4)(ttt) 40 C.F.R. 63.4280 through 63.4371, Tables 1 through 6 (Subpart OOOO), National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles does not apply since the facility is not a major source of HAP and no fabric or textile as defined by the subpart is printed, coated, dyed or finished at the facility.

401 KAR 63:002, Section 2(4)(mmmm) 40 C.F.R. 63.7980 through 63.8105, Tables 1 through 11 (Subpart HHHHH), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing does not apply since the facility does not manufacture coatings.

Starch Silo Loading (Insignificant Activity)				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	3.38 lbs/hr	401 KAR 59:010, Section 3(2)	AP-42 Table 9.9.1-1	Compliance assumed based on supplied emission factors
	20% Opacity	401 KAR 59:010, Section 3(1)	N/A	Monthly Visual Observation
<p>Initial Construction Date: 2021</p> <p>Process Description: Emissions of particulate from the pneumatic loading of starch silo. Maximum process rate 0.9075 tons per hour.</p> <p>Applicable Regulation: 401 KAR 59:010, New process operations. This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.</p> <p>Comments: Process utilizes a fabric filter with 99% control efficiency, however the mass standard in 401 KAR 59:010 is met based on pre-control potential to emit. Pre-control potential to emit is less than 1 ton per year for all species of PM.</p>				

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements/Results

N/A

Footnotes:

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
9.0 tpy of individual HAP emissions	To preclude major source status for HAP	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010 , New process operations.	03
401 KAR 59:015 , New indirect heat exchangers.	01
401 KAR 60:005 Section 2(2)(d) , 40 C.F.R. 60.40c through 60.48c (Subpart Dc), Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.	01
401 KAR 63:020 , Potentially hazardous matter or toxic substances	01, 04 & 05

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 63:002, Section 2(4)(aa) 40 C.F.R. 63.820 through 63.831, Table 1, and Appendix A (Subpart KK), National Emission Standards for the Printing and Publishing Industry	05
401 KAR 63:002, Section 2(4)(ppp) 40 C.F.R. 63.3280 through 63.3420, Tables 1 through 2 (Subpart JJJJ), National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating	05
401 KAR 63:002, Section 2(4)(iii) 40 C.F.R. 63.7480 through 63.7575, Tables 1 through 13 (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	01

Table D - Summary of Non-Applicable Regulations:

N/A

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS (CONTINUED)

Air Toxic Analysis

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*

The Division for Air Quality (Division) has performed modeling using SCREEN View on May 5, 2026 of potentially hazardous matter or toxic substances (Acetaldehyde, Methanol and Vinyl Acetate) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination

N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Activity #	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
S-21-050	Initial	APE20210002	6/15/2021	6/29/2021	Initial Construction Permit	N/A

SECTION 6 – PERMIT APPLICATION HISTORY
None

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS	– Ambient Air Quality Standards
BACT	– Best Available Control Technology
Btu	– British thermal unit
CAM	– Compliance Assurance Monitoring
CO	– Carbon Monoxide
Division	– Kentucky Division for Air Quality
ESP	– Electrostatic Precipitator
GHG	– Greenhouse Gas
HAP	– Hazardous Air Pollutant
HF	– Hydrogen Fluoride (Gaseous)
MSDS	– Material Safety Data Sheets
mmHg	– Millimeter of mercury column height
NAAQS	– National Ambient Air Quality Standards
NESHAP	– National Emissions Standards for Hazardous Air Pollutants
NO _x	– Nitrogen Oxides
NSR	– New Source Review
PM	– Particulate Matter
PM ₁₀	– Particulate Matter equal to or smaller than 10 micrometers
PM _{2.5}	– Particulate Matter equal to or smaller than 2.5 micrometers
PSD	– Prevention of Significant Deterioration
PTE	– Potential to Emit
SO ₂	– Sulfur Dioxide
TF	– Total Fluoride (Particulate & Gaseous)
VOC	– Volatile Organic Compounds

APPENDIX B – INDIRECT HEAT EXCHANGER EMISSIONS LIMITATIONS

EU	Fuel	Capacity (MMBtu/hr)	Construction Date	Notes/ Removal Date	Basis for PM Limit	Total Heat Input Capacity for PM Limit (MMBtu/hr)	Basis for SO₂ Limit	Total Heat Input Capacity for SO₂ Limit (MMBtu/hr)
01	Natural Gas	33.6	2021	N/A	Section 4(1)(c)	33.6	Section 5(1)(c)2.	33.6