Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Title V, Operating
Permit: V-25-011
Sekisui Specialty Chemicals America, LLC
246 Johnson Riley Road
Calvert City, KY 42029
February 10, 2025
Durga Patil, Permit Review Branch

SOURCE ID:	21-157-00055
AGENCY INTEREST:	40292
ACTIVITY:	APE20230001

Table of Contents

SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 2821, Plastics Materials, Synthetic and Resins, and Nonvulcanizable Elastomers

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: Chemical process plants, except ethanol production facilities producing ethanol by natural fermentation under NAICS codes 325193 or 312140

County: Marshall

Nonattainment Area ☒ N/A ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ Ozone ☐ Lead
If yes, list Classification:

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☒ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☒ Yes ☐ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☒ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☒ Yes ☐ No
If yes, list which pollutant(s): Acetic Acid, Methanol, Vinyl Acetate

PTE* greater than 25 tpy for combined HAP ☒ Yes ☐ No

*PTE does not include self-imposed emission limitations.

Description of Facility:
The source produces Polyvinyl Alcohol (PVOH) using Vinyl Acetate Monomer (VAM), using methanol as a solvent, sodium hydroxide, and a peroxide catalyst. Acetic acid is produced as a byproduct. The PVOH plant is divided into the following areas: Polymerization (Poly); Saponification (SAP); Polyrectification (Polyrec); WEDCO; Acetic Acid Recovery (AAR); Flare; Tank Farm; Cooling Towers and Warehouse.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: V-25-011 Activities: APE20230001

Received: 12/21/2023 Application Complete Date(s): 2/15/2025

Permit Action: ☐ Initial ☒ Renewal ☐ Significant Rev ☐ Minor Rev ☐ Administrative
Construction/Modification Requested? ☐Yes ☒No NSR Applicable? ☐Yes ☒No

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

Description of Action:
APE20190001: 502(b)(10) notification
On June 3, 2019, the Division received a 502(b)(10) notification seeking authorization to replace the vinyl acetate rework tanks designated as T10, FB-5521 and FB-5522 in the permit with a single fixed roof tank to be designated as T10, FA-5522, serving the same process function as the existing two (2) tanks. The third tank within the T10 grouping, FB-5523, will not be affected by this project. There is no change in the capacitites of the tanks, however the facility did submit a DEP7007J form and new Tansk ESP calculations. The PTE from the new tanks and added equipment leak components have been shown to be below the PSD SER threshold for VOC.

APE20210001: 502(b)(10) notification
On November 29, 2021, the Division received a 502(b)(10) notification from Sekisui to install a new PVOH grinding operation in the plant's WEDCO Area in the 600 Line. This process will be situated between the underground PVOH product silos and the final product PVOH storage silos. PVOH received from the unground silos is pneumatically transferred to a surge bin (FE-5601) before being fed to the grinding units: the hammermill (PA-5615), and a second hammermill (PA-5616), then to a Rotex screener (JS-5624). The PVOH that passes through the screener is sent to storage in the existing final PVOH product silos. Maximum processing rate is 8,000 lb/hr of PVOH. Three product collection filters will operate upstream of blowers, which vent to the atmosphere, to move the material to and from the grinder. The transfer baghouse (FD-5630) and blower (GB-5605) move PVOH from the underground silos to the grinder surge bin; the recycle baghouse (FD-5631) and blower (GB-5632) recycle material from the screener back to the grinder surge bin; and the screener baghouse (FD-5632) and blower (GB-5622) move ground PVOH from the grinding units to the screener. No venting will occur from the grinding operation, but pneumatic transfer is associated with an emission point releasing particulate matter (PM) and organic compounds from evaporative losses at the atmospheric discharge of PVOH product conveyance air from the blower. The increase in emissions of VOC, PM/PM10/PM2.5 (based on outlet grain loading of 0.01 gr/dscf) has been shown to less than the significant emissions rate(SER) to trigger further review under 401 KAR 51:017.

PSD Criteria Pollutant	NO_X	CO	PM	PM_{10}	$PM_{2.5}$	SO_2	VOC
Change in Emissions (tpy)	--	--	3.38	3.38	3.38	--	2.58
PSD SER (tpy)	40	100	25	15	10	40	40
Further PSD Review	No	No	No	No	No	No	No

APE20220001: 502(b)(10) notification
On September 12, 2022, the Division received a 502(b)(10) notification from Sekisui to install a new PVOH grinding operation in the plant's WEDCO Area in the 400 Line. This process will be situated between the underground PVOH product silos and the final product PVOH storage silos. PVOH received from the unground silos is pneumatically transferred to a surge bin (FE-5403) before being fed to the grinding units: the hammermill (PA-5415), then to a Rotex screener (JS-5624). The PVOH that passes through the screener is sent to storage in the existing final PVOH product silos. Maximum processing rate is 8,000 lb/hr of PVOH. One product collection filter and two product collection cyclones will operate upstream of blowers, which vent to the atmosphere, to move the material to and from the grinder. The transfer cyclone (FC-5403) and blower (GB-5405) move PVOH from the underground silos to the grinder surge bin; the recycle cyclone (FC-5405) and blower (GB-5422) recycle material from the screener back to the grinder surge bin; and the screener feed baghouse (FD-5407) and blower (GB-5408) move ground PVOH from the grinding units to the screener. No venting will occur from the grinding operation, but pneumatic transfer is associated with an emission point releasing particulate matter (PM) and organic compounds from evaporative losses at the atmospheric discharge of PVOH product conveyance air from the blower. The increase in emissions of VOC, PM/PM10/PM2.5 (based on outlet grain loading of 0.01 gr/dscf) has been shown to less than the significant emissions rate to trigger further review under 401 KAR 51:017.

PSD Criteria Pollutant	NO_X	CO	PM	PM_{10}	$PM_{2.5}$	SO_2	VOC
Change in Emissions (tpy)	--	--	3.38	3.38	3.38	--	2.58
PSD SER (tpy)	40	100	25	15	10	40	40
Further PSD Review	No	No	No	No	No	No	No

APE20220002: Off-permit change notification
On November 22, 2022, the Division received an Off-permit change notification from Sekisui to install construct a new manufacturing process within existing warehouse space at the Calvert City plant. The product will be a mixture of liquid silicones (raw material), aluminum powders (raw materials), and product additives, to be used as thermal gap fillers for car batteries. The powders will be received in big bags and pneumatically transferred from a big bag station, through hoppers feeding one of six planetary mixers. The liquid silicones will be poured into one of the planetary mixers. Once the mixing process is complete, the product mixtures will be transferred to various quality inspection areas and subsequently transferred to final drum filling at a drum press station. The filled and sealed drums will be transferred to warehouse storage before shipping offsite.

The process also includes a paint-wetting impairment substance (PWIS) testing which is conducted under vacuum. The PWIS testing is conducted using aerosol paint cans within a small bench-top box with filtration and external ventilation for worker protection. The actual amount of paint used and resulting emissions is very small and in support of quality testing for each new lot of silicone A/B received. The facility also submitted the SDS for the paint used, as well as a calculation showing the PTE from this source. Actual total paint usage since June 2023 totaled 1 x 10 oz can.

The process also include batch manual cleaning using aerosols and ultrasonic cleaning using water based detergent cleaning products, none of these being subject to 401 KAR 59:185.

This process (identified as insignificant activity M13 in permit) will be operated by Sekisui Polymatech America LLC, which is identified as a single source with Sekisui (due to ownership

criteria) and so the increase in emissions of VOC, PM/PM10/PM2.5 from this operation is compared with the SER to determine if further review is required under 401 KAR 51:017 as shown in table below. The two processes can be considered insignificant activities due to the emissions profile and being subject to generally applicable regulation 401 KAR 59:010.

PSD Criteria Pollutant	NO_X	CO	PM	PM_{10}	$PM_{2.5}$	SO_2	VOC
Change in Emissions (tpy)	--	--	0.50	0.50	0.41	--	3.50
PSD SER (tpy)	40	100	25	15	10	40	40
Further PSD Review	No	No	No	No	No	No	No

APE20230001: Renewal

On December 21, 2023, the Division received the renewal application with request to incorporate the previous notifications and an update to the KYEIS process description for some units and update to the requirements from 40 CFR 63, Subpart FFFF based on the MON amendments which had a compliance date of August 12, 2023. Permit shield for all non-applicable regulations was requested with justification provided in the permit renewal of APE20120001. The Division also incorporated the requirement from the RAP analysis for warehouse fugitive emission point that was submitted 12/19/2019.

APE20240002: 502(b)(10) notification

On December 16, 2024, the Division received a 502(b)(10) notification from Sekisui to install a new PVOH grinding operation in the plant's WEDCO Area in the 200/250 Line. This process will be situated between the underground PVOH product silos and the final product PVOH storage silos. PVOH received from the unground silos is pneumatically transferred to a surge bin (FE-5403) before being fed to the grinding units: the hammermill (PA-5415), then to a Rotex screener (JS-5624). The PVOH that passes through the screener is sent to storage in the existing final PVOH product silos. Maximum processing rate is 8,000 lb/hr of PVOH. One product collection filter and two product collection cyclones will operate upstream of blowers, which vent to the atmosphere, to move the material to and from the grinder. The transfer cyclone (FC-5203 for 200 Line or FC-5253 for 250 Line) and blower (GB-5405) move PVOH from the underground silos to the grinder surge bin; the recycle cyclone (FC-5205 for 200 Line or FC-5255 for 250 Line) and blower (GB-5422) recycle material from the screener back to the grinder surge bin; and the screener feed baghouse (FD-5207 or FD-5254) and blower (GB-5408) move ground PVOH from the grinding units to the screener. No venting will occur from the grinding operation, but pneumatic transfer is associated with an emission point releasing particulate matter (PM) and organic compounds from evaporative losses at the atmospheric discharge of PVOH product conveyance air from the blower. The increase in emissions of VOC, PM/PM10/PM2.5 from all other 502(b)(10) notifications submitted in 2021 and 2022 have been considered together with changes to the emissions profile (based on updated outlet grain loading of 0.005 gr/dscf) and it has been shown to less than the significant emissions rate to trigger further review under 401 KAR 51:017.

PSD Criteria Pollutant	NO_X	CO	PM	PM_{10}	$PM_{2.5}$	SO_2	VOC
Change in Emissions (tpy)	--	--	6.76	6.76	6.76	9×10^{-4}	10.33
PSD SER (tpy)	40	100	25	15	10	40	40
Further PSD Review	No	No	No	No	No	No	No

The emissions in PM 2.5 from the project is more than 50% of the SER, however, the increase in emissions is based on the PTE of the units, based on baghouse outlet grain loading.

APE20240002: 502(b)(10) notification

On January 27, 2025 the Division received a 502(b)(10) notification from Sekisui to install a temporary flare to control emissions while the site's non-assisted flare, F01 was repaired. Sekisui requested flexibility for the temporary flare to remain onsite for up to two weeks with operation beginning on or around February 2, 2025. The temporary flare will be capable of meeting the 98% reduction of organic HAP emissions, as required by both the MON and HON. As the unit was only temporary, and no longer located on site, the Division has determined that changes to the permit are not required. The increase in emissions of all criteria air pollutants from the temporary flare have been considered and it has been shown to be less than the significant emissions rate to trigger further review under 401 KAR 51:017.

PSD Criteria Pollutant	**NO_X**	**CO**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**
Change in Emissions (tpy)*	1.26	10.80	0.15	0.15	0.15	0.01	0.11
PSD SER (tpy)	40	100	25	15	10	40	40
Further PSD Review	No	No	No	No	No	No	No
* 14-Day maximum Emissions Annualized							

V-25-011 Emission Summary				
Pollutant	2023 Actual (tpy)	Previous PTE V-18-035 (tpy)	Change (tpy)	Revised PTE V-25-011 (tpy)
CO	6.68	41.08	0.01	41.09
NO_X	0.78	4.79	-	4.79
PT	6.99	5.04	14.28	19.32
PM10	1.85	5.04	8.52	13.56
PM2.5	0.39	5.04	5.88	10.92
SO_2	0.0034	3.2 E-2	--	0.032
VOC	363	938.46	76.34	**1014.8**
Lead		0	-	0
Greenhouse Gases (GHGs)				
Carbon Dioxide	1,748	9,822	1	9,823
Methane	0.027	0.16	-	0.16
Nitrous Oxide	0.0027	1.60 E-2	0.05E-02	1.65E-02
CO_2 Equivalent (CO_2e)		9,832	-	9,832
Hazardous Air Pollutants (HAPs)/Toxic Air Pollutants (TAPs)				
Acetic Acid (TAP)	13.46	48.36	-0.42	47.94
Acetaldehyde	0.644	1.78	-	1.78
Methanol	341.17	918.59	-3.41	922.0
Methyl Acetate (TAP)	363.9			1230
Vinyl Acetate	4.67	43.05	-24.82	18.23
Combined HAPs:	--	938.46	3.55	942.01

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

POLYMERIZATION (POLY) PROCESS AREA Emission Unit: (EU): P01, P03, P04, P06, P07, P08, P10, P11				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
HAP	Group 1 process vents must be vented to a FLARE via Closed Vent System (CVS) consisting of hard pipiping. Leak detection and repair (LDAR) program required	40 CFR 63, Subpart FFFF, 63.2455(a) and Table 1 of Subpart FFFF, 40 CFR 63, Subpart SS 63.983(d)(2)	ASPEN Process Simulator, Tanks 4.0d	Monitoring, Recordkeeping and Reporting
	Implement an LDAR program in accordance with 40 CFR 63, Subpart H	40 CFR 63.2480(a) and Table 6 to Subpart FFFF	EPA-453/R-95-017	Records required by 40 CFR 63.181; reports required by 40 CFR 63.182

Initial Construction: 1959; **Modification Dates:** 1983, 1984, 1990, 1996.

Process Description:
VAM is continuously polymerized to Polyvinyl Acetate (PVAc). The reaction uses methanol as a solvent and an organic peroxide as a catalyst. There are three polymerization lines: 50, 100 and 150.

Process is a Miscellaneous organic Chemical Processing Unit (MCPU) as defined by 40 CFR 63, Subpart FFFF.

Applicable Regulations:
401 KAR 63:002, Section 2 (4)(a)(lll), 40 C.F.R. 63.2430 through 632550, Tables 1 through 12 (Subpart FFFF), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. The Poly Area is subject to 40 CFR 63, Subpart FFFF (MON) as this area meets the definition of an MCPU and the facility is a major source of HAP emissions.

40 CFR 63.2455 applies to EU: 11C, 11E, 11H, 12C, 12E, 13C, 14C, 14E, 15C, each as a Group 1 continuous process vents pursuant to 40 CFR 63.2455(b). 40 CFR 63.2470 applies to the Group 2 MON storage tanks EU: P02, P05, P08, P09 and P10. 40 CFR 63.2480 applies to the equipment leaks EU: P11.

401 KAR 63:002, Section 2.(4)(c), 40 C.F.R. 63.160 through 63183 and Tables 1 through 4 (Subpart H)(HON), National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, as referenced by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2.(4)(ii), 40 C.F.R. 63.980 through 63999 (Subpart SS), National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process, as referenced by 40 CFR 63, Subpart FFFF.

State-origin requirement:
401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances, applies to sources which emit or may emit potentially hazardous or toxic substances provided such emissions are not elsewhere subject to the provisions of a National Emissions Standard for Hazardous Air Pollutants incorporated by reference in 401 KAR 63:002. The only sources in the Polymerization area that are not subject to 40 CFR 63, Subpart FFFF are the Diethylhydroxylamine (DEHA) Preparation Tank and Charge Pots at EU P10-01, P10-02, and P10-03, and these are the only sources subject to 401 KAR 63:020.

POLYMERIZATION (POLY) PROCESS AREA
Emission Unit: (EU): P01, P03, P04, P06, P07, P08, P10, P11

Non-applicable Regulations:
401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b through 60.117b (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.

This regulation does not apply to the storage tanks at EU P02, P05, P08, P09 and P10 because the storage capacity of each tank is less than the applicability threshold of 75 m^3 (19,812 gallons).

401 KAR 60:005, Section 2.(2)(bbb), 40 C.F.R. 60.480 through 60.489 (Subpart VV), Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006. This regulation is not applicable to the Poly Area units, as these units do not produce as a final product, or intermediate, any of the chemicals listed in 40 CFR 60.489.

401 KAR 60:005, Section 2.(2)(ppp), 40 C.F.R. 60.660 tthrough 60.668 (Subpart NNN), Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations. This regulation is not applicable to the Poly Area units, as these units do not produce as a product, co-product, by-product, or intermediate, any chemical listed under 40 CFR 60.667.

401 KAR 60:005, Section 2.(2)(ttt), 40 C.F.R. 60.700 through 60.708 (Subpart RRR), Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes, is not applicable to the Poly Area units, as these units do not produce as a product, co-product, by-product, or intermediate, any chemical listed under 40 CFR 60.707.

401 KAR 63:002, Section 2 (4)(a)(i), 40 C.F.R. 63 100 through 63107, Tables 1 through 4 (Subpart F)(HON), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, and related Subparts G and H, are not applicable to the Poly Area units, as these units do not produce chemicals listed under Table 1 of 40 CFR 63, Subpart F as a primary product nor do they use as a reactant or co-product any chemical in Table 2 of 40 CFR 63, Subpart F. This determination notwithstanding, specific provisions of Subparts, G and H are included in this section since they are incorporated by reference in 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2 (4)(a)(kkk), 40 C.F.R. 63.2330 through 632406, Tables 1 through 12 (Subpart EEEE), National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline), does not apply to Poly Area units pursuant to 40 CFR 63.2334(c)(1).

Comments:
Note:
40 CFR 63, Subpart F has been updated as cited in 89 FR 43153-43175, dated May 16, 2024; &
40 CFR 63, Subpart FFFF has been updated as cited in 89 FR 23868-23873 dated April 4, 2024.

Emission Factors:
AP-42 Ch 7.1 was used to derive tank cleaning losses.
Engineering Estimates provided by the source were used to quantify emissions from process equipment.

POLYMERIZATION (POLY) PROCESS AREA
Emission Unit: (EU): P01, P03, P04, P06, P07, P08, P10, P11

Controls:
FLARE: EP/EU-F01, John Zinc Flare, BA-5000, Assumed Efficiency: 98.0% (VOC & Organic HAPs)

Reporting:
Pursuant to 40 CFR 63, Subpart FFFF Reports Submitted for the Poly Process Area:
Pursuant to 40 CFR 63.2515(b), Initial Notification-The permittee has fulfilled this requirement through documentation dated March 8, 2004 submitted to U.S. EPA Region IV and the Division.

Pursuant to 40 CFR 63.2520(d), Notification of Compliance Status Report:The permittee has fulfilled this requirement through documentation submitted in October 2008 to U.S. EPA Region IV and the Division.

Changes to the information provided in the Notice of Compliance Status Report are required to be addressed in the semiannual compliance reports required by 40 CFR 63.2520(e).

Specific POLY Area Equipment; Three (3) Parallel Lines (50. 100, 150):
MON Group 1 Process Vents Routed *Directly* to the FLARE (EP-F01)
EU 11C, 11E, 11H:
50 Line Polykettle(PK) 5 Process Condenser (11C), EA-5053
50 Line Polykettle 6 Process Condenser (11E), EA-5054
50 Line Paste Stripper Accumulator (11H), FA-5052
EU 12C, 12E:
100 Line Polykettle 1 Process Condenser (12C), EA-5103
100 Line PK2 Process Condenser (12E), EA-5104
EU 13C: 100 Line Paste Stripper Accumulator, FA-5102
EU 14C, 14E:
150 Line Polykettle 3 Process Condenser (14C), EA-5153
150 Line Polykettle Process Condenser (14E), EA-5154
EU 15C: 150 Line Paste Stripper Accumulator (15C), FA-5152

Equipment Routed *Indirectly* to the FLARE (EP-F01) through the closed vent system (CVS):
EU 11A, 11B, 11D, 11F, 11G:
50 Line Polykettle Preheater (11A), DA-5056
50 Line Polykettle 5 (11B)-DA-5051
50 Line Polykettle 6 (11D), DC-5052
50 Line Paste Stripper (11F), DA-5051
50 Line Paste Stripper Condenser (11G), EA-5056
EU 12A, 12B, 12D:
100 Line Polykettle Preheater (12A), DA-5106
100 Line Polykettle 1 (12B), DC-5101
100 Line Polykettle 2 (12D), DC-5102
EU 13A, 13B:
100 Line Paste Stripper (13A), DA-5101
100 Line Paste Stripper Condenser (13B), EA-5106
EU 14A, 14B, 14D:
150 Line Polykettle Preheater (14A), DA-5156

POLYMERIZATION (POLY) PROCESS AREA
Emission Unit: (EU): P01, P03, P04, P06, P07, P08, P10, P11

150 Line Polykettle 3 (14B), DC-5151
150 Line Polykettle 4 (14D), DC-5152
EU 15A, 15B:
150 Line Paste Stripper (15A), DA-5151
150 Line Paste Stripper Condenser (15B), EA-5156

Emissions venting to the atmsphere:
EU-P01: Polymerization 50 Line Reactors, Stripper and Auxiliary Equipment Startups
EU-P03: Polymerization 100 Line Reactors, Stripper and Auxiliary Equipment Startups
EU-P06: Polymerization 150 Line Reactors, Stripper and Auxiliary Equipment Startups
EU-P02: 50 Line Catalyst Preparation Tanks (2) 684 gallons each, storing a solution of 8 weight percent DEHA in methanol,FA-5051A/B
EU-P05: 100 Line Catalyst Preparation Tanks (2), 272 gallons each, storing a solution of 8 weight percent DEHA in methanol, FA-5101A/B
EU-P08: 150 Line Catalyst Preparation Tanks (2), 272 gallons each, storing a solution of 8 weight percent DEHA in methanol FA-5151A/B
EU-P09: Phosphoric Acid Tank, 500 gallons FA-5123
EU-P11: Equipment Leaks

NOTE: Some of the affected facilities in this area are also subject to operating and emission limits in **SECTION 4, TABLE A – GROUP REQUIREMENTS.**

SAPONIFICATION (SAP) PROCESS AREA
EUs: S01, S02, S04, S05, S08, S09, S12, S13, S16 S17, S18, S19

Pollutant	Emission Limit or Standards	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
HAP	Group 2 CVSs: 600 SAP Vent Scrubber and Main Vent Scrubber shall be operated at all times when emissions are vented to them	40 CFR 63, Subpart FFFF, 63.2455(c); 40 CFR 63, Subpart SS, 63.982(e), 63.993(a)(2)	Engineering Estimate	Continuous measurement of scrubbing liquid flow rate and temperature
	Implement an LDAR program in accordance with 40 CFR 63, Subpart H	40 CFR 63.2480(a) and Table 6 to Subpart FFFF	EPA-453/R-95-017	Records required by 40 CFR 63.181 and reports required by 40 CFR 63.182
PM	S04: 7.09 lbs/hr S08: 7.09 lbs/hr S12: 7.09 lbs/hr S16: 8.48 lbs/hr Opacity: 20% (all)	401 KAR 59:010	Engineering Estimate	Monitoring Recordkeeping and Reporting

Initial Construction: 1978; **Modification Dates:** 1985, 1987, 1988, 1991, 1994

Process Description:
Following polymerization of VAM in the Poly Area, the PVAc in methanol is hydrolyzed to dry PVOH using sodium hydroxide an a peroxide as a catalyst.

SAPONIFICATION (SAP) PROCESS AREA
EUs: S01, S02, S04, S05, S08, S09, S12, S13, S16 S17, S18, S19

This process is a MCPU which is defined by 40 CFR 63, Subpart FFFF.

Applicable Regulations:

401 KAR 59:010, New Process Operations, applies to each affected facility not subject to another emission standard for particulate matter (PM) in Chapter 59 of 401 KAR commenced on or after July 2, 1975. This regulation applies to EP S04, S08, S12 and S16 because these are process operations as defined by 401 KAR 59:010, Section 2(1).

401 KAR 63:002, Section 2.(4)(lll), 40 C.F.R. 63.2430 through 63.2550, Tables 1 through 12 (Subpart FFFF), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing as this area meets the definition of an MCPU and the facility is a major source of HAP emissions. 40 CFR 63.2455 applies to EP: S01 and S02, each as a Group 2 MON continuous process vent pursuant to 40 CFR 63.2455(c). 40 CFR 63.2470 applies to the Group 2 MON storage tanks EU: E1, H1 and S18. 40 CFR 63.2480 applies to the equipment leaks. 40 CFR 63.2485 applies to the wastewater streams from EU: S05, S09, S13 and S17.

401 KAR 63:002, Section 2.(4)(a), 40 C.F.R. 63.100 through 63.107, Tables 1 through 4 (Subpart F), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry as referenced by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2(4)(b), 40 C.F.R. 63.110 through 63.153, Tables 1 through 37 (Subpart G), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater applies to the Saponifier enclosure manhole hatches, at EU: A2, B2, C2 and D2, as referenced by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2.(4)(c), 40 C.F.R. 63.160 through 63.183, Tables 1 through 4 (Subpart H), National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, as referenced by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2.(4)(ii), 40 C.F.R. 63.980 through 63.999 (Subpart SS), National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process, as referenced by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2.(4)(mm), 40 C.F.R. 63.1060 through 63.1067 (Subpart WW), National Emission Standards for Storage Vessels (Tanks) - Control Level 2, as referenced by 40 CFR 63, Subpart FFFF.

State-origin requirement:

401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances, applies to sources which emit or may emit potentially hazardous or toxic substances provided such emissions are not elsewhere subject to the provisions of a National Emissions Standard for Hazardous Air Pollutants incorporated by reference in 40 CFR 63:002. The only sources in the SAP area that are not subject to 40 CFR 63, Subpart FFFF are the Product Transfer Collectors at EU S04, S08, S12 and S16 and thus subject to 401 KAR 63:020.

Non-applicable Regulations:

401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b through 60.117b (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for

SAPONIFICATION (SAP) PROCESS AREA
EUs: S01, S02, S04, S05, S08, S09, S12, S13, S16 S17, S18, S19

Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. This regulation does not apply to the storage tanks at EU: D5, D7 and D5 because the storage capacity of each tank is less than the applicability threshold of 75 m^3 (19,812 gallons).

401 KAR 60:005, Section 2.(2)(bbb), 40 C.F.R. 60.480 through 60.489 (Subpart VV), Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006. This regulation is not applicable to the Sap Area units, as these units do not produce as a final product, or intermediate, any of the chemicals listed in 40 CFR 60.489.

401 KAR 60:005, Section 2.(2)(ppp), 40 C.F.R. 60.660 through 60.668 (Subpart NNN), Standards of Performance for Volatile Organic Compound (VOC) Emissions From SOCMI Distillation Operations. This regulation is not applicable to the Sap Area units, as these units do not produce as a product, co-product, by-product, or intermediate, any chemical listed under 40 CFR 60.667.

401 KAR 60:005, Section 2.(2)(ttt), 40 C.F.R. 60.700 through 60.708 (Subpart RRR), Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes, is not applicable to the SAP Area units, as these units do not produce as a product, co-product, by-product, or intermediate, any chemical listed under 40 CFR 60.707.

401 KAR 63:002, Section 2 (4)(a)(i), 40 C.F.R. 63.100 through 63.107, Tables 1 through 4 (Subpart F), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, and related Subparts G and H, are not applicable to the Sap Area units, as these units do not produce chemicals listed under Table 1 of 40 CFR 63, Subpart F as a primary product nor do they use as a reactant or co-product any chemical in Table 2 of 40 CFR 63, Subpart F.
40 CFR 63, Subparts F, G & H is referred to as the HON.

401 KAR 63:002, Section 2 (4)(a)(kkk), 40 C.F.R. 63.2330 through 63.2406, Tables 1 through 12 (Subpart EEEE), National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline), does not apply to Sap Area units pursuant to 40 CFR 63.2334(c)(1).

Pursuant to the definition of Storage tank and Surge control vessel in 40 CFR 63, Subpart FFFF, 63.2550(i) surge control vessels are excluded from the definition of a storage tank. Pursuant to the definition of Surge control vessel in 40 CFR 63.2550(i), the SAP Slurry Tanks EU: A5, B5, C5 and D5, the SAP Filtrate Tanks EU: A7, B7, C7 and D7 and the Dryer Condensate Tanks A5, B5, C5 and D5 are considered surge control vessels, but they do not meet the capacity and vapor pressure thresholds for a Group 1 Tank (>10,000 gal and storing material that has a maximum true vapor pressure of total HAP greater than or equal to 6.9 kilopascals) and are not subject to the emission limits and work practice standards in Table 4 as referenced in 40 CFR 63.2450(r).

Comments:

Note:
40 CFR 63, Subpart F, G and H have been updated as cited in 89 FR 43153-43175; 89 FR 43175-43220; and 89 FR 43220-43234, dated May 16, 2024;
40 CFR 63, Subpart FFFF has been updated as cited in 89 FR 23868-23873 dated April 4, 2024.

SAPONIFICATION (SAP) PROCESS AREA
EUs: S01, S02, S04, S05, S08, S09, S12, S13, S16 S17, S18, S19

Emission Factors:
AP-42 Ch 7.1 was used to derive tank cleaning losses.
Engineering Estimates provided by the source were used to quantify emissions from process equipment.

Recovery Devices:
MON Recovery device and a MON Group 2 Process Vents.
EP-S01: 600 Sap Vent Scrubber: Countercurrent, crossflow packed bed scrubber, identified as 600 SAP Vent Scrubber, DA-5602/DA-5604.
600 SAP Vent Scrubber, DA-5602/DA-5604
Scrubbing Liquid: Water, methanol and methyl acetate; Scrubbing Liquid Flow Rate: 35 gal/min.
99% efficient for VOC.

EP-S02: Main Vent Scrubber: Countercurrent packed bed scrubber, DA-5605/DA5605B; 99% VOC.
Scrubbing Liquid: Chilled recovered methanol and methyl acetate recycled to the scrubber, chilled methanol, and water.
Scrubbing Liquid Flow Rate: 50 gal/min recycled methanol and methyl acetate, 5gal/min chilled methanol, and 5 gal/min water.

Reporting:
Pursuant to 40 CFR 63.2520(d), Notification of Compliance Status Report: The permittee has fulfilled this requirement through documentation submitted in October 2008 to U.S. EPA Region IV and the Division. Changes to the information provided in the Notice of Compliance Status Report are required to be addressed in the semiannual compliance reports required by 40 CFR 63.2520(e).

Emissions venting to a Baghouse, each 99.6% control efficiency for PM
EU S04: 200 Line Product Transfer Collector
EU S08: 250 Line Product Transfer Collector
EU S12: 400 Line Product Transfer Collector
EU S16: 600 Line Product Transfer Collector
Allowable PM emissions were calculated by the equation found in 401 KAR 59:010, Section 3(2):
$E = 3.59(P)^{0.62}$ Where P is the weight (tons) of material processed per hour.

Specific SAP Area Equipment; Four (4) Parallel Lines (200, 250, 400 & 600):
Vents to the 600 Sap Vent Scrubber **EP-S01**: Equipment Group (A through H):
EU A1, A2, A3, A4, A5, A6, A7:
200 Line Paste Mixer, GD-5201 A/B
200 Line Belt Saponifier, DC-5201
200 Line Primary Crushing Mill (#1 Polymer Cutting Machine (PCM)), PA-5201
200 Line Slurry Grinder (#2 PCM), PA-5202
200 Line Slurry Tank, FA-5201 (1,940 gallons), MON Surge Control Vessel
200 Line Centrifuge, JB-5201
200 Line Filtrate Tank, FA-5214 (415 gallons) MON Surge Control Vessel
EU B1, B2, B3, B4, B5, B6, B7:
250 Line Paste Mixer, GD-5251 A/B
250 Line Belt Saponifier, DC-5251

SAPONIFICATION (SAP) PROCESS AREA
EUs: S01, S02, S04, S05, S08, S09, S12, S13, S16 S17, S18, S19

250 Line Primary Crushing Mill (#1 PCM), PA-5251
200 Line Slurry Grinder (#2 PCM), PA-5202
250 Line Slurry Tank, FA-5251 (1,940 gallons), MON Surge Control Vessel
250 Line Centrifuge, JB-5251
250 Line Filtrate Tank, FA-5254 (650 gallons), MON Surge Control Vessel
EU C1, C2, C3, C4, C5, C6, C7:
400 Line Paste Mixer, GD-5401 A/B
400 Line Belt Saponifier, DC-5401
400 Line Primary Crushing Mill (#1 Polymer Cutting Machine (PCM)), PA-5401
400 Line Slurry Grinder (#2 PCM), PA-5402
400 Line Slurry Tank, FA-5401 (1,940 gallons), MON Surge Control Vessel
400 Line Centrifuge, JB-5401
400 Line Filtrate Tank, FA-5404 (630 gallons), MON Surge Control Vessel
EU D1, D2, D3, D4, D5, D6, D7:
600 Line Paste Mixer, GD-5601 A/B
600 Line Belt Saponifier, DC-5601
600 Line Primary Crushing Mill (#1 PCM), PA-5601
600 Line Slurry Grinder (#2 PCM), PA-5602
600 Line Slurry Tank, FA-5601 (1,940 gallons), MON Surge Control Vessel
600 Line Centrifuge, JB-5601
600 Line Filtrate Tank, FA-5604 (1,170 gallons), MON Surge Control Vessel
EU E1, F1, G1, H1:
Chilled MeOH Return Tank (250 gallons) FA-5203
NaOH Feed Tank, FA-5211, storing a solution of 10 weight percent sodium hydroxide, (4,210 gallons)
S01: G1-Mixer Flush Tank FA-5216
S01: H1-SAP Catalyst Makeup Tank FA-5261

SAP Unit Line Drying: Vents to the Main Vent Scrubber **EP-S02:**
EU A1, A2, A4, A5:
200 Line Turbo Dryer, PA-5205
200 Line Post Dryer, DA-5206
200 Line Scrub Tower, DA-5201
200 Line Dryer Condensate Tank, FA-5202 (1,150 gallons), MON Surge Control Vessel
EU B1, B2, B4, B5:
250 Line Turbo Dryer, PA-5255
250 Line Post Dryer, DA-5256
250 Line Scrub Tower, DA-5251
250 Line Dryer Condensate Tank, FA-5252 (1,350 gallons), MON Surge Control Vessel
EU C1, C2, C4, C5:
400 Line Turbo Dryer, PA-5405
400 Line Post Dryer, DA-5403
400 Line Scrub Tower, DA-5401
400 Line Dryer Condensate Tank, FA-5402 (810 gallons), MON Surge Control Vessel
EU D1, D2, D4, D5:
600 Line Turbo Dryer, PA-5605
600 Line Turbo Dryer, PA-5606

SAPONIFICATION (SAP) PROCESS AREA
EUs: S01, S02, S04, S05, S08, S09, S12, S13, S16 S17, S18, S19

600 Line Scrub Tower, DA-5603
600 Line Dryer Condensate Tank, FA-5602 (2,750 gallons), MON Surge Control Vessel

Emissions venting to the atmosphere:
EU S03: 200 Line Turbo Dryer Startups PA-5202
EU S05: 200 Line Boilout Emissions (MON Maintenance Wastewater Streams)
EU S06: 200/250 Saponification Lines Spot Vent Blower:
EU S07: 250 Line Turbo Dryer Startups
EU S09:250 Line Boilout Emissions (MON Maintenance Wastewater Streams)
EU S10: 400 Line Spot Vent Blower
EU S11: 400 Line Turbo Dryer Startups
EU S12: 400 Line Product Transfer Collector
EU S13: 400 Line Boilout Emissions (MON Maintenance Wastewater Streams)
EU S14: 600 Line Spot Vent
EU S15: 600 Line Turbo Dryer Startups
EU S17: 600 Line Boilout Emissions (MON Maintenance Wastewater Streams)
EU S18: SAP Acid Tank Acetic Acid (185 gallons), FA-5215, MON Group 2 Storage Tank
EU S19: SAP Area MON Equipment Leaks

Additional Requirements:
Continuous Process Vents and Closed Vent Systems: Prior to diverting the process vent to 600 SAP Vent Scrubber (EP-S02), the permittee shall develop and maintain records of a TRE index value determination for this mode of operation using available process data to demonstrate EP S02 retains its Group 2 status.

Maintenance Wastewater Streams: Pursuant to 40 CFR 63.2485(a) and 40 CFR 63, Subpart FFFF, Table 7, item 2, the permittee shall comply with the requirements in 40 CFR 63.105(a) and the requirements referenced therein, except as specified in 40 CFR 63.2485, for the maintenance wastewaters.

Process Wastewater Streams: Pursuant to 40 CFR 63.2485(a), and 40 CFR 63, Subpart FFFF, Table 7, item 1, the permittee shall comply with the requirements in 40 CFR 63.132 through 40 CFR 63.148 and the requirements referenced therein.

Liquid Streams in Open Systems: 40 CFR 63.2485(a) and 40 CFR 63, Subpart FFFF, Table 7, item 3, the permittee shall comply with the requirements in 40 CFR 63.149 and 40 CFR 63, Subpart G, Table 35, item "Manhole."

NOTE: Some of the affected facilities in this area are also subject to operating and emission limits in **SECTION 4, TABLE A – GROUP REQUIREMENTS**.

POLYRECTIFICATION (POLYREC) PROCESS AREA EUs: R01, R02 R03, R04, R05				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
HAP	Group 1 process vents must be vented to a FLARE via Closed Vent System (CVS) consisting of hard pipiping. LDAR program is also required	40 CFR 63, Subpart FFFF, 63.2455(a) and Table 1 of Subpart FFFF, 40 CFR 63, Subpart SS 63.983(d)(2)	ASPEN Process Simulator, Tanks 4.0d	Monitoring, Recordkeeping and Reporting
	Implement an LDAR program in accordance with 40 CFR 63, Subpart H	40 CFR 63.2480(a) and Table 6 to Subpart FFFF	EPA-453/R-95-017	Records required by 40 CFR 63.181 and reports required by 40 CFR 63.182

Initial Construction: 1959; **Modification Dates:** 1984, 1986, 1996

Process Description:
VAM and methanol from the Polymerization area are separated to recover and recycle VAM and methanol.

This process is a MCPU which is defined by 40 CFR 63, Subpart FFFF.

Applicable Regulations:
401 KAR 63:002, Section 2.(4)(lll), 40 C.F.R. 63.2430 through 632550, Tables 1 through 12 (Subpart FFFF), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing as this area meets the definition of an MCPU and the facility is a major source of HAP . 40 CFR 63.2455 applies to EU R03-9C and R03-10C each as a Group 1 continuous process vent pursuant to 40 CFR 63.2455(b). 40 CFR 63.2470 applies to the Group 2 storage tank at EU R04. 40 CFR 63.2480 applies to the equipment leaks. 40 CFR 63.2485 applies to the wastewater streams from EU: R01-8A and R02-9D.

401 KAR 63:002, Section 2(4)(b), 40 C.F.R. 63.110 through 63.153, Tables 1 through 37 (Subpart G), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, as referenced by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2.(4)(c), 40 C.F.R. 63.160 through 63.183, Tables 1 through 4 (Subpart H), National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, as referenced by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2.(4)(ii), 40 C.F.R. 63.980 through 63.999 (Subpart SS), National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process, as referenced by 40 CFR 63, Subpart FFFF.

Non-applicable Regulations:
401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b through 60.117b (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, does not apply to the storage tank EU R04 because the storage capacity of the tank is less than the applicability threshold of 75 m^3 (19,812 gallons).

POLYRECTIFICATION (POLYREC) PROCESS AREA
EUs: R01, R02 R03, R04, R05

401 KAR 63:002, Section 2 (4)(a)(i), 40 C.F.R. 63.100 through 63.107, Tables 1 through 4 (Subpart F), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, and related Subparts G and H, are not applicable to the Polyrec Area units, as these units do not produce chemicals listed under Table 1 of 40 CFR 63, Subpart F as a primary product nor do they use as a reactant or co-product any chemical in Table 2 of 40 CFR 63, Subpart F. This determination notwithstanding, specific provisions of Subparts H and G are included in this section since they are incorporated by reference in 40 CFR 63 Subpart FFFF.

401 KAR 63:002, Section 2 (4)(a)(kkk), 40 C.F.R. 63.2330 through 63.2406, Tables 1 through 12 (Subpart EEEE), National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline), does not apply to Sap Area units pursuant to 40 CFR 63.2334(c)(1).

401 KAR 60:005, Section 2.(2)(bbb), 40 C.F.R. 60.480 through 60.489 (Subpart VV), Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006. This regulation is not applicable to the Saponification Area units, since chemical recovery is exempt from the standard, if the purified chemical is used in the same process unit (Polymerization Area and Polyrectification Area). This area is a part of the distillation unit of the Polymerization area where a listed feedstock chemical, vinyl acetate, is used in the Polymerization area and recovered in the Polyrec area to produce a non-listed chemical in 40 CFR 60.489, polyvinyl acetate.

401 KAR 60:005, Section 2.(2)(ppp), 40 C.F.R. 60.660 through 60.668 (Subpart NNN), Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry Distillation Operations. This regulation is not applicable to the Polyrec Area units, as these units do not produce as a product, co-product, by-product, or intermediate, any chemical listed under 40 CFR 60.667.

Comments:
Note:
40 CFR 63, Subpart G and H have been updated as cited in 89 FR 43175-43220; and 89 FR 43220-43234, dated May 16, 2024; &
40 CFR 63, Subpart FFFF has been updated as cited in 89 FR 23868-23873 dated April 4, 2024.

401 KAR 60:005, Section 2.(2)(ttt), 40 C.F.R. 60.700 through 60.708 (Subpart RRR), Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes, does not apply to the Polyrec Area units, as these units do not produce as a product, co-product, by-product, or intermediate, any chemical listed under 40 CFR 60.707.

Emission Factors:
AP-42 Ch 7.1 was used to derive tank cleaning losses.
Engineering Estimates provided by the source were used to quantify emissions from process equipment.

Controls:
FLARE: EP/EU-F01, John Zinc Flare, BA-5000, Assumed efficiency: 98.0% (VOC & Organic HAPs)

POLYRECTIFICATION (POLYREC) PROCESS AREA
EUs: R01, R02 R03, R04, R05

Reporting:
40 CFR 63.2515(b), Initial Notification – The permittee has fulfilled this requirement through documentation dated March 8, 2004 submitted to U.S. EPA Region IV and the Division.

40 CFR 63.2520(d), Notification of Compliance Status Report – The permittee has fulfilled this requirement through documentation submitted in October 2008 to U.S. EPA Region IV and the Division. Changes to the information provided in the Notice of Compliance Status Report are required to be addressed in the semiannual compliance reports required by 40 CFR 63.2520(e).

Pursuant to 40 CFR 63.146(b)(1 and 2), for the Group 2 wastewater stream, the permittee shall submit the information specified in Table 15 of Subpart G of Part 63 as part of the Notification of Compliance.

Specific POLYREC Area Equipment:
Routed Directly to the Flare (EP-F01)
MON Group 1 Process Vents:
EU 10C, R02-9C:
Vinyl Extraction Tower Vent Absorber(10C), DA-5108
Vinyl Recovery Tower Condenser (9C), EA-5170

Equipment *Indirectly* routed to the FLARE (EP-F01) through the CVS:

EU 8A: Polymethanol Tower-8A, DA5103 . MON Group 2 Wastewater Stream
EU 9A, 9D, 9E, 9F, 9G
Vinyl Recovery Tower (9A), FA-5104
Vinyl Recovery Tower Accumulator (9D), FA-5107
Vinyl Sludge Still (9E), FA- 5117
Vinyl Redistillation Tower (9F), DA-5105
Redistillation Condenser (9G), EA-5171
EU 10A, 10B, 10D:
Vinyl Extraction Tower(10A), DA-5110
Vinyl Extraction Tower Condenser (10B), EA-5170
Vinyl Extraction Tower Accumulator (10D), FA-5104

Emissions venting to the atmosphere:
EU R01: Polymethanol Tower Startups
EU R02: Vinyl Recovery Tower Startups
EU R03: Vinyl Extraction Tower Startups
EU-R04: Inhibitor (BQ) Feed Tank, FA-5109. MON Group 2 Storage Tank
EU T05: Polymethanol Reflux Accumulator (8B), FA-5120 (1,070 gallons)
EU-R05: Polyrectification Process Unit Fugitives; MON Equipment Leaks

Additional Requirements:
Process Wastewater Streams
Pursuant to 40 CFR 63.2485(a), and 40 CFR 63, Subpart FFFF, Table 7, item 1, the permittee shall comply with the requirements in 40 CFR 63.132 through 40 CFR 63.148 and the requirements referenced therein. Pursuant to 40 CFR 63.132(g), for the Group 1 wastewater stream from EU-(R02-9D), the permittee has

POLYRECTIFICATION (POLYREC) PROCESS AREA
EUs: R01, R02 R03, R04, R05

elected to transfer this stream to an off-site treatment operation.

NOTE: Some of the affected facilities in this area are also subject to operating and emission limits in **SECTION 4, TABLE A – GROUP REQUIREMENTS**.

WEDCO PROCESS AREA
EUS: W01-W02, W04-W05, W7-W08, W10-W12, W14-W30, W32, W33, W34, W36, W37, W38

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	W01-W02: 8.48 lb/hr W04-W05: 8.48 lb/hr W07-W08: 8.48 lb/hr W10-W12: 8.48 lb/hr W14-W28: 14.02 lbs/hr (each) W29: 21.55 lbs/hr W30: 7.95 lbs/hr W33: 2.34 lbs/hr W34: 19.24 lbs/hr W37: 32.37 lbs/hr W38: 32.37 lbs/hr Opacity: 20% (each)	401 KAR 59:010	Engineering Estimate	Monitoring, recordkeeping and reporting

Initial Construction: 1959; **Modification Dates:** 1978, 1985, 2003, 2022, 2024

Process Description:
PVOH from the SAP Area is dry-grinded into the final PVOH product and transferred to silos.

Applicable Regulations:
401 KAR 59:010, New Process Operations, applies to each affected facility not subject to another emission standard for particulate matter (PM) in Chapter 59 of 401 KAR commenced on or after July 2, 1975. This regulation applies to EU W01-W02, W04-W05, W07-W08, W10-W12, W14-W30, W33, W34, W37 and W38 because these are Process operations as defined by 401 KAR 59:010, Section 2.(1).

401 KAR 63:010, Fugitive Emissions applies to sources of fugitive emissions not elsewhere subject to an opacity standard. Therefore, this regulation applies to EU W32 and W36. 401 KAR 59:010 does not apply pursuant to 59:010, Section 3.(2).

State-origin requirement:
401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances, applies to sources which emit or may emit potentially hazardous or toxic substances provided such emissions are not elsewhere subject to the provisions of a National Emissions Standard for Hazardous Air Pollutants incorporated by reference in 40 CFR 63:002. None of the sources in the WEDCO process areas are subject to 40 CFR 63 Subpart F, G, H, or FFFF, so all of the emission units at EU W01-W02, W04-W05, W07-W08, W10-12 and W14-W38 are subject to 401 KAR 63:020.

WEDCO PROCESS AREA
EUS: W01-W02, W04-W05, W7-W08, W10-W12, W14-W30, W32, W33, W34, W36, W37, W38

Comments:
Allowable PM emissions were calculated by the equation found in 401 KAR 59:010, Section 3(2):
$E = 3.59(P)^{0.62}$ Where P is the weight (tons) of material processed per hour.

Integral Controls:
EU W01-W02: Product separation baghouse FD-5204 and FD-5207, 0.005 gr/dscf (99% control efficiency)
EU W04-W05: Product separation baghouse FD-5254 and FD-5527, 0.005 gr/dscf (99% control efficiency)
EU W07-W08: Product separation baghouses FD-5404 and FD-5407, 0.005 gr/dscf (99% control efficiency)
EU W10-W12: Product separation baghouses FD-5630, FD-5632 and FD-5631, 0.005 gr/dscf (99% control efficiency)
Controls:
EU W14 though W28 : Vent Filters FD-5704, FD-5705, FD-5706, FD-5707, FD-5708, FD-5709, FD-5710, FD-5711, FD-5712, 99.6% PM control efficiency
EU W29 Bulk Loading Baghouse, FD-5716, 99.6% PM control efficiency
EU W30 Bulk Unloading Baghouse, FD-5718, 99.6% PM control efficiency
EU W34 Bagging Hopper Dust Collector, FD-5759, 99.6% PM control efficiency
EU-W37, W38 Trailer Mounted Filter Canister, 99.6% PM control efficiency

Specific WEDCO Area Equipment vented through Baghouses 99.6% PM control efficiency:
EU W14-W17, W26-W28 Final Product Silos #1- #4 and #15 -#17
EU W18 through W25: Intermediate Product Silos #7 through #14
EU W29 PVOH Bulk Loading-Railcar
EU W30 PVOH Bulk Unloading
EU W32 Bulk Loading/Unloading Fugitives (*not vented through a stack*)
EU W33 Bagging Operation/Filling-Sackmatic, PA-5716
EU W34 Bagging Hopper, FB-5723
EU W36 Bagging Area Fugitives (*not vented through a stack*)
EU W37 North Bulk Truck Loading Station
EU W38 South Bulk Truck Loading Station

NOTE: Some of the affected facilities in this area are also subject to operating and emission limits in **SECTION 4, TABLE A – GROUP REQUIREMENTS.**

ACETIC ACID RECOVERY (AAR) PROCESS AREA EUs: A01, A02, A03, A04, A05, A06, A07, A08, A09				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
HAP	All Group 1 process vents shall be vented to The FLARE EP-F01	40 CFR 63, Subpart G, 63.113(a)(1), 40 CFR 63, Subpart A, 63.11(b)	ASPEN Process Simulator, Tanks 4.0d	Monitoring Recordkeeping and Reporting
	Implement an LDAR program in accordance with 40 CFR 63, Subpart H	40 CFR 63, Subpart H	EPA-453/R-95-017	Records required by 40 CFR 63.181 and reports required by 40 CFR 63.182

Initial Construction: 1959; **Modification Dates:** 1988, 1989, 1990, 1996

Process Description:
The mother liquor (mixture of methanol and methyl acetate) from the SAP area is processed to extract and recycle the methanol. MeAc is converted to acetic acid and methanol in ion exchange beds. The methanol from this reaction is also recovered and recycled.

This process is a Chemical Manufacturing Process Unit (CMPU) as defined by 40 CFR 63, Subpart F.

Applicable Regulations:
401 KAR 60:005, Section 2.(2)(bbb), 40 C.F.R. 60.480 through 60.489 (Subpart VV), Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006. This regulation applies because the AAR produces Acetic Acid, a listed chemical in 40 CFR 60.489 Table 1. Compliance with 40 CFR 60, Subpart VV is demonstrated by compliance with 40 CFR 63, Subpart H, pursuant to 40 CFR 63.160(b)(1).

401 KAR 63:002, Section 2.(4)(a), 40 C.F.R. 63.100 through 63.107, Tables 1 through 4 (Subpart F), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry. This regulation applies as the AAR area is a CMPU that manufactures acetic acid, a chemical listed in table 1 of 40 CFR 60, Subpart F and the facility is a major source of HAP pursuant to 40 CFR 60.100.

401 KAR 63:002, Section 2(4)(b), 40 C.F.R. 63.110 through 63.153, Tables 1 through 37 (Subpart G), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, applies because the AAR is a CMPU and the facility is a major source of HAP pursuant to 40 CFR 60.100.

401 KAR 63:002, Section 2.(4)(c), 40 C.F.R. 63.160 through 63.183, Tables 1 through 4 (Subpart H), National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks. This regulation applies because the AAR is a CMPU and the facility is a major source of HAP pursuant to 40 CFR 60.100.

Non-applicable Regulations:
401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b through 60.117b (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, is not applicable to any of the storage tanks, as they were commenced before July 23, 1984, and there are no modification or reconstruction approvals for these units.

ACETIC ACID RECOVERY (AAR) PROCESS AREA
EUs: A01, A02, A03, A04, A05, A06, A07, A08, A09

401 KAR 60:005, Section 2.(2)(ppp), 40 C.F.R. 60.660 through 60.668 (Subpart NNN), Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations. This regulation is not applicable to the AAR Area units, pursuant to 40 CFR 63.110(d)(4), Subpart G.

401 KAR 60:005, Section 2.(2)(ttt), 40 C.F.R. 60.700 through 60.708 (Subpart RRR), Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes, is not applicable to the AAR Area units, pursuant to 40 CFR 63.110(d)(7).

401 KAR 63:002, Section 2 (4)(a)(kkk), 40 C.F.R. 63.2330 through 63.2406, Tables 1 through 12 (Subpart EEEE), National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline), does not apply to AAR Area units pursuant to 40 CFR 63.2334(c)(1).

Comments:
Note: 40 CF 60, Subpart VV has been updated as cited in 89 FR 43068-43070, dated May 16, 2024; & 40 CFR 63, Subpart F, G and H have been updated as cited in 89 FR 43153-43175; 89 FR 43175-43220; and 89 FR 43220-43234, dated May 16, 2024.

Emission Factors:
AP-42 Ch 7.1 was used to derive tank cleaning losses.
Engineering Estimates provided by the source were used to quantify emissions from process equipment.

Controls:
FLARE: EP/EU-F01, John Zinc Flare, BA-5000, Assumed efficiency: 98.0% (VOC & Organic HAPs)

Reporting:
Pursuant to 40 CFR 63.182(a)(1), Initial Notification - The permittee has fulfilled this requirement through documentation dated August 17, 1994 submitted to U.S. EPA Region IV and the Division.

Pursuant to 40 CFR 63.182(a)(2), Notification of Compliance Status - The permittee has fulfilled this requirement through documentation dated September 19, 1997 submitted to U.S. EPA Region IV and the Division.

Pursuant to 40 CFR 63.146(b)(1 and 2), for the Group 2 wastewater streams, the permittee shall submit the information specified in 40 CFR 63, Subpart G, Table 15 as part of the Notification of Compliance.

Specific AAR area Equipment:
HON Group 1 Process Vents Routed *Directly* to the FLARE (EP-F01) through the CVS
EU 2C, 3C, 4B, 5A, 7B
East MeAc Extraction Tower Vent Condenser (A01-2C), EA-5341, East MeAc Extraction Tower, DA-5300. HON Maintenance Wastewater Stream
West MeAc Extraction Tower Vent Condenser (A02-3C), EA-5339
Aldehyde Tower Condenser (A03-4A), EA-5308
SAP Methanol Tower (A04-5A), DA-5303
Product Acid Tower Condenser (A06-7B), EA-5332

ACETIC ACID RECOVERY (AAR) PROCESS AREA
EUs: A01, A02, A03, A04, A05, A06, A07, A08, A09

Equipment Routed *Indirectly* to the FLARE (EP-F01) through the CVS (not Group 1 HON Vents):
EU 2A, 2B, 2D:
East MeAc Extraction Tower (A01-2A), DA-5300
East MeAc Extraction Tower Condenser (A01-2B), EA-5310B
East MeAc Extraction Tower Reflux Accumulator (A01-2D), FA-5331 (2,538 gal)
EU 3A, 3B, 3D:
West MeAc Extraction Tower (A02-3A), DA-5304
West MeAc Extraction Tower Condenser (A02-3B), EA-5313
West MeAc Extraction Tower Reflux Drum (A02-3D), FA-5309 (5,299 gallons)
EU 4A, 4C:
Aldehyde Tower, DA-5302
Aldehyde Tower Reflux Drum (A03-4C), FA-5311 (1,018 gallons)
EU 5B, 5C:
Methanol Reboiler (A04-5B), EA-5309A
Methanol Reflux Drum (A04-5C), FA-5312 (9,000 gallons)
EU 6A, 6B, 6C, 6D, 6E, 6F:
Crude Acid Tower (A05-6A), DA-5308
Crude Acid Condenser (A05-6B), EA-5328
Crude Acid Tower Reflux Accumulator (A05-6C), FA-5325 (1,183 gal)
Ion Exchange Reactor (A05-6D), FA-5306A
Ion Exchange Reactor (A05-6E), FA-5306B
Ion Exchange Reactor (A05-6F), FA-5306E
EU 7A, 7C, 7D
Product Acid Tower (A06-7A), DA-5309
Product Acid Reflux Drum, (A06-7C), FA-5328 (1,648 gallons)
Sludge Still (A06-7D), FA-5319

Emissions venting to the atmosphere:
EU-A01: East MeAc Extraction Tower Startups
EU-A02: West Methyl Acetate (MeAc) Extraction Tower Startups
EU-A03: Aldehyde Tower Startups
EU-A04: SAP Methanol Tower Startups
EU-A05: Three (3) Ion Exchange Reactors and Crude Acid Tower Startups
EU-A06: Product Acid Tower Startups
EU A07: Dilute Acid Tank (A07-01), FA-5330 (10,000 gallons), Dilute Acid Tank Condenser, EA-5340
EU A08: Acetic Acid Rundown Tanks (2), FA-5322B & FA-5322C 10,000 gallons each
EU A09: Process IDs (01 through 08), AAR Process Unit Fugitives; HON Equipment Leaks

Additional Requirements:
Maintenance Wastewater Streams
Pursuant to 40 CFR 63.105(a), for maintenance wastewaters containing organic HAPs listed in Table 9 of 40 CFR 63, Subpart G from the AAR Area units, the permittee shall properly manage the wastewater and control organic HAP emissions.

ACETIC ACID RECOVERY (AAR) PROCESS AREA EUs: A01, A02, A03, A04, A05, A06, A07, A08, A09
Process Wastewater Streams Pursuant to 40 CFR 63.132(f), the permittee shall not discard liquid or solid organic materials with a concentration of greater than 10,000 parts per million of compounds in Table 9 of 40 CFR 63 Subpart G. NOTE: Some of the affected facilities in this area are also subject to operating and emission limits in **SECTION 4, TABLE A-GROUP REQUIREMENTS.**

FLARE : Non-assisted EP &EU: F01				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM and HAP	Shall not exceed 20 percent opacity for more than three minutes in any one day	401 KAR 63:015	NA	U.S. EPA Method 9
	No visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours	40 CFR 63, Subpart A, 63.11(b)(4)		Annual Testing using Method 22

Initial Construction: 1996

Process Description:
Manufacturer: John Zinc; Model: EEF-QS-10 Utility Non-assisted Flare; Assumed Efficiency: 98.0%
The FLARE (EU F01) is used to control hydrocarbon and HAP streams from the processing areas in the **POLY Area, POLYREC Area, AAR Area and TANK FARM:**

Applicable Regulations:
401 KAR 63:002, Section 2(1), 40 C.F.R. 63.1 through 63.16, Table 1 (Subpart A), General Provisions which incorporates by reference 40 CFR 63 Subpart A, General Provisions applies pursuant to 40 CFR 63.11.

401 KAR 63:002, Section 2 (4)(a)(lll), 40 C.F.R. 63.2430 through 63.2550, Tables 1 through 12 (Subpart FFFF), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. This regulation applies because the FLARE is being used as a control device for Group 1 MON Process Vents as defined by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2(4)(b), 40 C.F.R. 63.110 through 63.153, Tables 1 through 37 (Subpart G), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater because HON and MON Group 1 Process Vents are required to be vented to a control device.

401 KAR 63:002, Section 2.(4)(ii), 40 C.F.R. 63.980 through 63.999 (Subpart SS), National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process, as referenced by 40 CFR 63, Subpart FFFF, because the MON Group 1 Process Vents are required to be captured and vented to a control device pursuant to requirements of this regulation.

401 KAR 63:015, Flares, applies to the opacity of the flare, pursuant to Section 2(2).

FLARE : Non-assisted EP &EU: F01
Comments: *Note:* *40 CFR 63, Subpart G has been updated as cited in 89 FR 43175-43220, dated May 16, 2024;* *40 CFR 63, Subpart FFFF has been updated as cited in 89 FR 23868-23873 dated April 4, 2024.* Emission Factors: 40 CFR 98, Subparts Y and C was used to calculate methane and nitrous oxide emissions. A flare compliance assessment under 40 CFR 63, Subpart FFFF was conducted on May 8, 2008. **Additional Requirements:** The flare shall be operated with a flame present at all times when emissions may be vented to it.

TANK FARM EU: T01, T02, T03, T04, T05, T06, T07, T08, T09, T10				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
HAP	For the Group 1 HON storage vessels reduce HAP emissions by operating and maintaining a fixed roof and internal floating roof (IFR)	40 CFR 63, Subpart G, 63.119(a)(1)	TANKS 4.09d	Monitoring, Recordkeeping and Reporting
	For the Group 1 MON storage tanks reduce total organic HAP emissions by venting emissions through a closed vent system to a flare	40 CFR 63, Subpart FFFF, and 40 CFR 63, Subpart SS		
	For the Group 1 MON storage tank (T-05) shall maintain an IFR.	40 CFR 63, Subpart WW, 63.1063(a)(1-7)		
	Implement an LDAR program in accordance with 40 CFR 63, Subpart H	40 CFR 63.2480(a) and Table 6 to Subpart FFFF	EPA-453/R-95-017	Records required by 40 CFR 63.181 and reports required by 40 CFR 63.182

Initial Construction: 1959; **Modification Dates:** 1978, 2014

Process Description:
Various raw materials and intermediate products are stored eighteen (18) storage tanks located in the tank farm. Vinyl acetate, methanol, acetic acid and methyl acetate (or a mixture thereof) and wastewater are stored in these tanks ranging in volume from 14,800 gallons to 450,000 gallons.

Applicable Regulations:
401 KAR 63:002, Section 2 (4)(a)(lll), 40 C.F.R. 63.2430 through 63.2550, Tables 1 through 12 (Subpart FFFF), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. 40 CFR 63.2470 applies to the Group 1 storage tanks at EU T02-(16A-16D), T03-(17A-17D), T04-(18A-18B) and T10-(19A-19B). This regulation applies as these tanks are part of an MCPU.

401 KAR 63:002, Section 2(4)(b), 40 C.F.R. 63.110 through 63.153, Tables 1 through 37 (Subpart G), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater applies

TANK FARM
EU: T01, T02, T03, T04, T05, T06, T07, T08, T09, T10

to tanks at EU T01, T06, T07, T08 and T09 because they are defined as Group 1 HON storage tanks pursuant to Table 5 of 40 CFR 63, Subpart G.

401 KAR 63:002, Section 2.(4)(c), 40 C.F.R. 63.160 through 63.183, Tables 1 through 4 (Subpart H), National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, as referenced by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2.(4)(ii), 40 C.F.R. 63.980 through 63.999 (Subpart SS), National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process because the Group 1 MON Tanks EU-T10-(19A-19B) are required to be vented to a control device pursuant to 40 CFR 63.2470(a), as referenced by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2.(4)(mm), 40 C.F.R. 63.1060 through 63.1067 (Subpart WW), National Emission Standards for Storage Vessels (Tanks) - Control Level 2, as referenced by 40 CFR 63, Subpart FFFF this regulation applies to tank EU T05.

401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b through 60.117b (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. Pursuant to 40 CFR 63.2525(c), the source has elected to assign T04(18A-18B) to a MCPU and to comply with the requirements for Group 1 storage tanks under Subpart FFFF, which also demonstrates compliance with the requirements of 40 CFR 60 Subpart Kb.

Non-applicable Regulations:
401 KAR 59:050, New storage vessels for petroleum liquids. This regulation does not apply to any tanks in this section pursuant at this source pursuant to 401 KAR 59:050, Section (1) which defines an affected facility as vessel storing petroleum liquids. Pursuant to 401 KAR 59:050, Section (3), petroleum liquid means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery but does not mean Number 2 through Number 6 fuel oils, gas turbine fuel oil Numbers 2-GT through 4-GT, or diesel fuel oils Numbers 2-D and 4-D as specified by the cabinet. None of these materials are stored in these tanks.

401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b through 60.117b (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, does not apply to any storage tanks other than T04-(18A) and T04-(18B), since all other storage tanks were commenced before July 23, 1984, and there are no modification or reconstruction approvals for these units.

401 KAR 63:002, Section 2(4)(b), 40 C.F.R. 63.110 through 63.153, Tables 1 through 37 (Subpart G), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, is not applicable to the storage tanks at EU T02-(16A-16D), T03-(17A-17D), T04-(18A-18B) and T10-(19A-19B), as these tanks are not part of a chemical manufacturing processing unit that produces chemicals listed under Table 1 of 40 CFR 63, Subpart F as a primary product.

TANK FARM
EU: T01, T02, T03, T04, T05, T06, T07, T08, T09, T10

401 KAR 63:002, Section 2.(4)(c), 40 C.F.R. 63.160 through 63.183, Tables 1 through 4 (Subpart H), National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, is not applicable to the equipment leaks from the storage tanks at EU T02-(16A-16D), T03-(17A-17D), T04-(18A-18B) and T10(19A-19B) as these tanks are not part of a unit that produces chemicals listed under Table 1 of 40 CFR 63, Subpart F as a primary product.

401 KAR 63:002, Section 2 (4)(a)(kkk), 40 C.F.R. 63.2330 through 63.2406, Tables 1 through 12 (Subpart EEEE), National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) does not apply to the organic liquid distribution of methanol and vinyl acetate, listed under Table 1 of 40 CFR 63 Subpart EEEE, for the storage tanks at EU-T01, and T06-T09, because these tanks are subject to 40 CFR 63, Subparts F, G and H; and for the storage tanks at EU-T02-(16A-16D), T03-(17A-17D), T04-(18A-18B) and T10-(19A-19B), because these tanks are subject to 40 CFR 63, Subpart FFFF.

Comments:
Note:
40 CFR 63, Subparts G and H have been updated as cited in 89 FR 43175-43220 and 89 FR 43220-43234, dated May 16, 2024; &
40 CFR 63, Subpart FFFF has been updated as cited in 89 FR 23868-23873 dated April 4, 2024

Emission Factors:
AP-42 Ch 7.1 was used to derive tank cleaning losses.

Controls:
FLARE: EP/EU-F01, John Zinc Flare, BA-5000, Assumed efficiency: 98.0% (VOC & Organic HAPs)

Reporting:
Pursuant to 40 CFR 63.182(a)(1), Initial Notification - The permittee has fulfilled this requirement through documentation dated August 17, 1994 submitted to U.S. EPA Region IV and the Division.

Pursuant to 40 CFR 63.182(a)(2), Notification of Compliance Status - The permittee has fulfilled this requirement through documentation dated September 19, 1997 submitted to U.S. EPA Region IV and the Division.

Pursuant to 40 CFR 63.2515(b), Initial Notification – The permittee fulfilled this requirement through documentation dated March 8, 2004 submitted to U.S. EPA Region IV and the Division.

Pursuant to 40 CFR 63.2520(d), Notification of Compliance Status Report-The permittee has fulfilled this requirement through documentation submitted in October 2008 to U.S. EPA Region IV and the Division. Changes to the information provided in the Notice of Compliance Status Report are required to be addressed in the semiannual compliance reports required by 40 CFR 63.2520(e).

40 CFR 63.151(b), Initial Notification - The permittee has fulfilled this requirement through documentation dated August 17, 1994 submitted to U.S. EPA Region IV and the Division.

TANK FARM
EU: T01, T02, T03, T04, T05, T06, T07, T08, T09, T10

Pursuant to 40 CFR 63.152(b), Notification of Compliance Status - The permittee has fulfilled this requirement through documentation dated September 19, 1997 submitted to U.S. EPA Region IV and the Division.

Additional Requirements:
Maintenance Wastewater Streams
Pursuant to 40 CFR 63.2485(a) and 40 CFR 63, Subpart FFFF, Table 7, item 2, the permittee shall comply with the requirements in 40 CFR 63.105(a) and the requirements referenced therein.

NOTE: Some of the affected facilities in this area are also subject to operating and emission limits in **SECTION 4, TABLE A – GROUP REQUIREMENTS.**

LOADING AREA
EP & EU: M04 M05, M06, M12

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
HAP	Implement an LDAR program in accordance with 40 CFR 63, Subpart H	40 CFR 63, Subpart FFFF, 63.2480(a) and Table 6 to Subpart FFFF, and 40 CFR 63, Subpart H	EPA-453/R-95-017	Records required by 40 CFR 63.181 and the reports required by 40 CFR 63.182

Initial Construction: 1959; **Modification Date:** 1988.

Process Description:
Materials (Methanol, Methyl Acetate, Acetic Acid and Vinyl Acetate) are shipped out and received by truck and/or railcar.

Applicable Regulations:
401 KAR 63:002, Section 2 (4)(a)(lll), 40 C.F.R. 63.2430 through 63.2550, Tables 1 through 12 (Subpart FFFF), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. This regulation applies because loading operations are part of an MCPU and the facility is a major source of HAP. Additionally, Loading Rack M06 is defined as a MON Group 2 Transfer Rack. Equipment leaks at EU M12 are subject to 40 CFR 63.2480.

401 KAR 63:002, Section 2(4)(b), 40 C.F.R. 63.110 through 63.153, Tables 1 through 37 (Subpart G), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater applies because Loading Rack M04 and M05 are defined as HON Group 2 Transfer Racks, as referenced by 40 CFR 63, Subpart FFFF.

401 KAR 63:002, Section 2.(4)(c), 40 C.F.R. 63.160 through 63.183, Tables 1 through 4 (Subpart H), National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, as referenced by 40 CFR 63, Subpart FFFF.

LOADING AREA
EP & EU: M04 M05, M06, M12

Non-applicable Regulation:
401 KAR 63:002, Section 2 (4)(a)(kkk), 40 C.F.R. 63.2330 through 63.2406, Tables 1 through 12 (Subpart EEEE), National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)

Comments:
Note:
40 CFR 63, Subparts G and H have been updated as cited in 89 FR 43175-43220; and 89 FR 43220-43234, dated May 16, 2024; &
40 CFR 63, Subpart FFFF has been updated as cited in 89 FR 23868-23873 dated April 4, 2024.

Emission Factors:
AP-42, Ch. 5.2 was used to estimate Loading Losses at the loading/unloading racks.

Reporting:
40 CFR 63.182(a)(1), Initial Notification - The permittee has fulfilled this requirement through documentation dated August 17, 1994 submitted to U.S. EPA Region IV and the Division.

40 CFR 63.182(a)(2), Notification of Compliance Status - The permittee has fulfilled this requirement through documentation dated September 19, 1997 submitted to U.S. EPA Region IV and the Division.

40 CFR 63.2515(b), Initial Notification. The permittee has fulfilled this requirement through documentation dated March 8, 2004 submitted to U.S. EPA Region IV and the Division.

Pursuant to 40 CFR 63.2515(c), a notification of performance test at least 60 calendar days before the performance test is scheduled to begin as required in 40 CFR 63.7(b)(1), if applicable.

40 CFR 63.2520(d), Notification of Compliance Status Report. The permittee has fulfilled this requirement through documentation submitted in October 2008 to U.S. EPA Region IV and the Division. Changes to the information provided in the Notice of Compliance Status Report are required to be addressed in the semiannual compliance reports required by 40 CFR 63.2520(e).

NOTE: Some of the affected facilities in this area are also subject to operating and emission limits in **SECTION 4, TABLE A – GROUP REQUIREMENTS.**

3,000 gallon Gasoline Underground Storage Tank (FB-0003) EP: M08				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC	Equip with a permanent submerged fill pipe	401 KAR 59:050, Section 3(2)	TANKS 4.09d	Visual inspection for presence of a submerged fill pipe

Initial Construction: 1988.

Process Description:
One 3,000 gallon Gasoline Underground Storage Tank equipped with a submerged fill pipe.

Applicable Regulations:
401 KAR 59:050, New storage vessels for petroleum liquids. Pursuant to 59:050, Section3(2), the tank must be equipped with a submerged fill pipe.

State-origin requirement:
401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances, applies to sources which emit or may emit potentially hazardous or toxic substances.

Comments:
Emission Factors:
TANKS 4.09d was used to estimate Loading Losses. The are no breathing losses due to the fact it is an underground storage tank.

COOLING TOWERS EU CT-(CT-6 & 7)				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	Twenty (20) percent opacity 20.41 lbs/hr total PM emisssions	401 KAR 59:010	AP-42 Ch. 13.4, Total Dissolved Solids (TDS) Monitoring, Reisman and Frisbie paper (2004)	Monitoring, Recordkeeping and Reporting
HAP	Eliminate process equipment leaks into the cooling water	40 CFR 63, Subpart FFFF	NA	Monitoring, Recordkeeping and Reporting

COOLING TOWERS
EU CT-(CT-6 & 7)

Initial Construction: 1959; **Modification Date:** 2018.

Process Description:
The cooling water system includes two (2) cooling towers, CT-6 and CT-7 capable of processing 33,000 gallons/min, together. These towers provide water cooling for various processes (both HON and MON) throughout the plant.

Applicable Regulations:
401 KAR 59:010, New process operations.

401 KAR 63:002, Section 2 (4)(a)(lll), 40 C.F.R. 63.2430 through 63.2550, Tables 1 through 12 (Subpart FFFF), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing. This regulation is applicable because Cooling Tower CT-7 is part of MCPU subject to 40 CFR 63, Subpart FFFF and the facility is a major source of HAP emissions.

401 KAR 63:002, Section 2.(4)(a), 40 C.F.R. 63.100 through 63.107, Tables 1 through 4 (Subpart F), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, as referenced by 40 CFR 63, Subpart FFFF.

Non-applicable Regulations:
401 KAR 63:002, Section 2.(4)(a), 40 C.F.R. 63.100 through 63.107, Tables 1 through 4 (Subpart F), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, is applicable as referenced by 40 CFR 63, Subpart FFFF and applies to the Cooling Towers. This regulation does not apply to EU-CT-6 as this cooling tower is not part of a chemical manufacturing processing unit that produces chemicals listed under Table 1 of 40 CFR 63, Subpart F as a primary product.

Precluded Regulation:
401 KAR 63:002, Section 2.(4)(j), 40 C.F.R. 63 63.400 through 63.407, Table 1 (Subpart Q), National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers. The regulation is precluded by the prohibition of chromium based chemicals in the cooling towers.

Comments:
Note:
40 CFR 63, Subpart F has been updated as cited in 89 FR 43153-43175 dated May 16, 2024; &
40 CFR 63, Subpart FFFF has been updated as cited in 89 FR 23868-23873 dated April 4, 2024

The process rate of 33,000 gallons/min in terms of tons per hour is calculated as follows:

Process rate = 33,000 gallons/min x 8.34 lbs/gal x 2000ppmw x 60 min/hr/1000000/2000lbs/ton = 16.5 Tons Per Hour; Where:
33,000 is the water circulation rate (gallons/min)
8.34 lbs/gallon is the density of water
2,000 ppmw is the amount of Total Dissolved Solids (TDS)

COOLING TOWERS
EU CT-(CT-6 & 7)

From appendix A of 401 KAR 59:010, $E = 3.59x(16.5)^{0.62} = 20.41$ lbs/hr
Emissions are estimated by sampling of the cooling water for VOC/HAP.
VOC/HAP emissions can be calculated using any EPA-approved method. See 40 CFR 63, Subpart FFFF.

Reporting:
40 CFR 63.2515(b), Initial Notification – The permittee has fulfilled this requirement through documentation dated March 8, 2004 submitted to U.S. EPA Region IV and the Division.

Pursuant to 40 CFR 63.2515(c), a notification of performance test at least 60 calendar days before the performance test is scheduled to begin as required in 40 CFR 63.7(b)(1), if applicable.

Pursuant to 40 CFR 63.2520(d), Notification of Compliance Status Report – The permittee has fulfilled this requirement through documentation submitted in October 2008 to U.S. EPA Region IV and the Division.

Changes to the information provided in the Notice of Compliance Status Report are required to be addressed in the semiannual compliance reports required by 40 CFR 63.2520(e).

WAREHOUSE FUGITIVES
EU M10

Initial Construction: 1988.

Process Description:
Bagged PVOH product is stored in the warehouse prior to shipping.

Applicable Regulations:
401 KAR 50:012, General application.
Pursuant to 401 KAR 50:012 Section 1(2), in the absence of a standard specified in 401 KAR 50 to 65, all major air contaminant sources shall as a minimum apply control procedures that are reasonable, available, and practical (RAP).

401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances, applies to sources which emit or may emit potentially hazardous or toxic substances. (State-origin requirement)

Comments:
Residual methanol is the pollutant of concern from the warehouse. RAP involves the following conditions:

- The facility shall load product containing 5 percent methanol or less, on a monthly basis.
- The permittee shall close each bulk bag immediately after loading process completes and maintain the closure throughout the storage period of each bulk bag.

The source is in compliance with 401 KAR 63:020 based on the rates of emissions of airborne toxics provided in the application submitted by the source

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
EP: F01-01	FLARE	Net heating value of vented gas and exit velocity requirements	40 CFR 63.11(b)(6), 63.11(b)(7), 40 CFR 63.116(a)(2) and (3), 40 CFR 63.987(b), and 40 CFR 63.2450(f)(1), 401 KAR 63:015	Upon request by the Division	40 CFR63.11	Flare must be operated in accordance with Net heating value of vented gas and exit velocity requirements	Pass	Net heating value of vented gas and exit velocity requirements	CMN20080002	5/8/2008

Footnotes:

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

GROUP REQUIREMENTS				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC PM	Production Limitations and emission limitations	The synthetic minor limits precluding the applicability of 401 KAR 51:017 were included in the following permits: Permit No. VF-03-001, issued on September 5, 2003. Permit No. S-95-198R, issued on June 4, 1998. Permit No. S-97-054. issued on May 20, 1997. Permit No. C-86-172 (Revision 1), issued on September 26, 1995. Permit No. O-87-015, issued on March 27, 1987. Permit No. C-84-146, issued on August 21, 1984	See Sections above	Specific Monitoring, Recordkeeping, Reporting, Specific Control Equipment Operating Conditions, calculation and reporting of PM and VOC emissions

Initial Construction: 1959.
Modification Dates: 1984, 1987, 1995, 1997

Process Description:
Since the plant was built in 1959, many additions/modifications have been made. The permits listed above contain operating limitations, production, VOC and PM emission limits on the following affected facilities to avoid the applicability of 401 KAR 51:017, Preventing of Significant Deterioration of Air Quality (PSD).

EPs:

F01-11C 50 Line PK5 Process Condenser
F01-11E 50 Line PK6 Process Condenser
F01-11H 50 Line Paste Stripper Accumulator
F01-12C 100 Line PK1 Process Condenser
F01-12E 100 Line PK2 Process Condenser
F01-13C 100 Line Paste Stripper Accumulator
F01-14C 150 Line PK3 Process Condenser
F01-14E 150 Line PK4 Process Condenser
F01-15H 150 Line PK4 Paste Stripper Accumulator
P02 Polymerization Line 50 Catalyst Preparation Tanks
P05 Polymerization Line 100 Catalyst Preparation Tanks
P08 Polymerization Line 150 Catalyst Preparation Tanks
S01 Saponification Process Unit

GROUP REQUIREMENTS

S02 Saponification Process Unit Drying
S04 200 Saponification Line Product Transfer Collector
S08 250 Saponification Line Product Transfer Collector
S12 400 Saponification Line Product Transfer Collector
S16 600 Saponification Line Product Transfer Collector
W14-W25 WEDCO Silos #1 - #4, #7 - #15
W26-W28 WEDCO Ground Silos #15 - #17
W29 WEDCO Bulk Loading
W33 Bagging Operation: Filling - Sackmatic, PA-5716
W34 Bagging Hopper, FB-5723
W36 Bagging Area Fugitives
W37 North Bulk Truck Loading Station
W38 South Bulk Truck Loading Station
F01-2C, A01: East MeAc Extraction Tower Vent Condenser, EA-5341
F01-3C, A02 West MeAc Extraction Tower Vent Condenser, EA-5339
F01-5A SAP Methanol Tower, DA-5303
F01-9C Vinyl Recovery Tower East Condenser, EA-5108
R02 Vinyl Recovery Tower Startups
F01-10C Vinyl Extraction Tower Vent Absorber, DA-5108
R03 Vinyl Extraction Tower Startups
A07 Dilute Acid Tank Condenser, EA-5340
A08 Two (2) Acetic Acid Rundown Tanks, FA-5322B&C
R04 Inhibitor (BQ) Feed Tank, FA-5109
F01-18A&18B Paste Storage Tank West Nest #3 (2), FB 5509-10
T01 MeAc/Methanol Storage Tank, FB-1513
T05 Methanol Storage Tank, FB-5531
T06 Four (4) Methanol Saponification Tank System, FB 5532-35
T07 North Mother Liquor Storage Tank, FB-5536
T08 South Mother Liquor Storage Tank, FB-5537
T09 MeAc/Methanol Storage Tank, FB-5538
F01-(19A-19B) Recovered Vinyl Acetate Rework Storage Tanks (3), FA-5522 and FB-5523
T11 Four (4) Acetic Acid Tanks, FB-5101-03, 1517

Precluded Regulations:
This source has elected to accepted myriad production and emission limitations and other requirements in order to preclude the applicability of 401 KAR 51:017, of Air Quality (PSD) for VOC and PM.

Comments:
The limits and other requirements to keep VOC and PM emission limits identified in the permits listed above, were necessary to avoid PSD applicability for each modification authorized. Therefore the affected facilities listed above remain subject to the requirements contained in these permits and are included in this permit renewal.

Emission factors, control equipment, allowable emission rates, emission limits and operating limitations are discussed in the applicable Areas described above.

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010, New Process Operations	S04, S08, S12, S16, W07, W08, W10-W12, W14-W30, W33, W34, W37 and W38, CT
401 KAR 63:010, Fugitive Emissions	W32 and W36
401 KAR 63:020, State-Origin Requirement	P10-01, P10-02; P10-03 S04, S08, S12 and S16 W07, W08, W10-W12, W14-W38 M08, M10
401 KAR 63:002, Section 2 (4)(a)(lll), 40 C.F.R. 63.2430 through 632550, Tables 1 through 12 (Subpart FFFF), National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing (401 KAR 63:002, Section 2 (4)(a)(i), 40 C.F.R. 63.100 through 63107, Tables 1 through 4 (Subpart F), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, and related Subparts G and H, as referenced by 40 CFR 63, Subpart FFFF	P01-(11C, 11E, 11H), P02, P03-12E, P04-14C, P05, P06-14E, P07-15C, P08, P09 and P11 S01-(A1-A7, B1-B7, C1-C7, D1-D7, E1, F1), S02-(A1, A2, A4, A5), , S18, S05, S09, S13 and S17, S19 F01-9C, F01-10C, R04, R01-8A and R02-9D, R05. F01 T01, T02, T03, T04, T05, T06, T07, T08, T09, T10, T11, T14, T15 M05, M06, M12 CT
401 KAR 63:002, Section 2.(4)(ii), 40 C.F.R. 63.980 through 63.999 (Subpart SS), National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process	P01-(11H, 11C, 11E, -12C, 12E, 13C, 14C, 14E, 15C) R02-9C, R03-10C S01, S02 T02, T03, T04, T05, T10 F01
401 KAR 60:005, Section 2.(2)(bbb), 40 C.F.R. 60.480 through 60.489 (Subpart VV), Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006	A09
401 KAR 63:002, Section 2.(4)(c), 40 C.F.R. 63.160 through 63.183, Tables 1 through 4 (Subpart H), National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks	P11, S19, R05, A09, T14
401 KAR 63:002, Section 2(4)(b), 40 C.F.R. 63.110 through 63.153, Tables 1 through 37 (Subpart G), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater	P01-(11C, 11E, 11H), P02, P03-12E, P04-14C, P05, P06-14E, P07-15C, P08, P09 and P11 S01-(A1-A7, B1-B7, C1-C7, D1-D7, E1, F1), S02-(A1, A2, A4, A5), , S18, S05, S09, S13 and S17, S19 F01-9C, F01-10C, R04, R01-8A

Applicable Regulations	Emission Unit
	and R02-9D, R05. F01 T01, T02, T03, T04, T05, T06, T07, T08, T09, T10, T11, T14, T15 M04, M05, M06, M12 A01-(2, 2C, 3,), A02-(3, 3C), A03-4B, A04-(5, 5A), A05-(6A, 6D, 6E, 6F), A06-(7, 7B)
401 KAR 63:002, Section 2.(4)(a), 40 C.F.R. 63.100 through 63107, Tables 1 through 4 (Subpart F), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry	AAR units, CT
401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b through 60.117b (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	T04
401 KAR 63:002, Section 2.(4)(mm), 40 C.F.R. 63.1060 through 631067 (Subpart WW), National Emission Standards for Storage Vessels (Tanks) - Control Level 2	T05
401 KAR 63:015, Flares	F01
401 KAR 50:012, General application	M10
401 KAR 59:050, New storage vessels for petroleum liquids	M08

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 51:017, Prevention of Significant Deterioration of Air Quality (PSD) for volatile organic compounds and particulate matter. These PSD preclusions are included on the following permits: Permit No. VF-03-001, issued on September 5, 2003 Permit No. S-95-198R, issued on June 4, 1998 Permit No. S-97-054, issued on May 20, 1997 Permit No. C-86-172 (Revision 1), issued on September 26, 1995 Permit No. O-87-015, issued on March 27, 1987 Permit No. C-84-146, issued on August 21, 1984	Source-wide

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS (CONTINUED)

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
401 KAR 60:005, Section 2.(2)(ppp), 40 C.F.R. 60.660 through 60.668 (Subpart NNN), Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations	All Poly, Polyrec, SAP and AAR Area units
401 KAR 60:005, Section 2.(2)(ttt), 40 C.F.R. 60.700 through 60.708 (Subpart RRR), Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	All Poly, Polyrec, SAP and AAR Area units
401 KAR 63:002, Section 2 (4)(a)(kkk), 40 C.F.R. 63.2330 through 63.2406, Tables 1 through 12 (Subpart EEEE), National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)	All Poly, Polyrec, SAP and AAR Area and Loading Area units
401 KAR 60:005, Section 2.(2)(r), 40 C.F.R. 60.110b through 60.117b (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	P02, P05, P08, P09 and P10-01-03, T11
401 KAR 60:005, Section 2.(2)(bbb), 40 C.F.R. 60.480 through 60.489 (Subpart VV), Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006., as these units do not produce as a final product, or intermediate, any of the chemicals listed in 40 CFR 60.489	All Poly, Polyrec and Sap Area units
401 KAR 63:002, Section 2 (4)(a)(i), 40 C.F.R. 63 100 through 63.107, Tables 1 through 4 (Subpart F), National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, and related Subparts G and H.	All Poly, Polyrec and Sap Area units

Air Toxic Analysis

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

The Division for Air Quality (Division) has performed SCREEN View (or AERMOD) on December 17, 2018 of potentially hazardous matter or toxic substances (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/ Revision Date	Summary of Action	PSD/Syn Minor
C-84-146	Construction	Unknown	Unknown	8/21/1984	*	Syn Minor
O-87-015	Operating	Unknown	Unknown	3/27/1987	*	Syn Minor
C-86-172 R1	Construction	Unknown	Unknown	9/26/1995	*	Syn Minor
S-97-054	Construction	Unknown	Unknown	5/20/1997	*	Syn Minor
S-95-198 R1	Construction	Unknown	Unknown	6/4/1998	*	Syn Minor
V-05-076	Title V Initial	APE20040001	12/12/2002	9/26/2007	Initial Title V permit for the PVOH plant	
V-05-076 R1	Minor Revision	APE20080002	12/12/2002	10/15/2008	Methanol Loading	
V-05-076 R2	Admin. Amendment	APE20090002	12/12/2002	8/25/2009	Name Change from Celanese to Sekisui	
VF-03-001	Significant Revision	APE20050001	6/10/2003	9/5/2003	Installation of 2 Bulk Truck Loading Stations	
V-12-032	Title V Renewal	APE20120001	5/26/2012	12/19/2013	Renewal and inclusion of 40 CFR 63, Subpart FFFF requirements	
V-18-035	Renewal	APE20180003	7/16/2018	6/30/2019	Renewal	

*These permits were issued with limits which precluded the applicability of 401 KAR 51:017 (PSD) and have been carried forward to this renewal V-18-035.

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

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