

Louisville Metro Air Pollution Control District
850 Barret Ave., Louisville, Kentucky 40204
15 July 2011

Title V Statement of Basis

Company: Nuplex Resins LLC

Plant Location: 4730 Crittenden Drive, Louisville, Kentucky 40209

Date Application Received: 23 October 2008

Date Admin Complete: 22 December 2008

Date of Draft Permit: 12 February 2011

Date of Proposed Permit: 27 May 2011

District Engineer: Karen Thorne

Permit No: 120-97-TV (R2)

Plant ID: 185

SIC Code: 2851/2821

NAICS: 325211/32551

AFS: 00185

Introduction:

This permit will be issued pursuant to: (1) Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

Jefferson County is classified as an attainment area for lead (Pb), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), 8 hr ozone (O₃), particulate matter less than 10 microns (PM₁₀); and is a non-attainment area for particulate matter less than 2.5 microns (PM_{2.5}).

Application Type/Permit Activity:

Initial Issuance

Permit Revision

Administrative

Minor

Significant

Permit Renewal

Compliance Summary:

Compliance certification signed

Compliance schedule included

Source is out of compliance

Source is operating in compliance

I. Source Information

1. **Product Description:** Nuplex Resins manufactures synthetic resins including Acrylic, Alkyd, Polyester, Amino and Copolymer.
2. **Process Description:** Liquid raw materials such as solvents, acids, oils, and polyols are used in the production of resins. Bulk liquid raw materials are stored in outdoor above-ground storage tanks. Raw solid materials are received in drum quantities and stored in the onsite raw material warehouse. The resin manufacturing process consists of mixing solvents, monomers, and catalysts in a reactor. The contents of the reactor are heated to a set point temperature for a specified length of time to achieve a complete reaction. The resin is transferred to a thindown tank where additional solvent is added to adjust product quality. The resin is filtered and transferred to tank wagons, storage tanks or 55 gallon drums. Raw materials include solvents, resins, pigments and additives. The process includes premix, pigment grinding and dispersing, thindown and product fill-off.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.
4. **Emission Unit Summary:**

Emission Unit	Equipment Description
U3	One (1) resin production facility for amino and alkyd resins
U4	One (1) resin production facility for synthetic resins including Acrylic, Alkyd, Polyester, and Copolymer
U5	One (1) resin production facility for synthetic resins including Acrylic, Alkyd, Polyester, and Copolymer
U6	One (1) resin production facility for synthetic resins including Acrylic, Alkyd, Polyester, and Copolymer
U7	Thindown tanks
U8	Bulk Storage Tanks
U9	Resin Filtering
U10	Bulk loading facility for loading various resin products and organic compounds into tank trucks
U14	Building 3, Mix & Blend Resin Facility (Formerly PD2 Building Coating Manufacturing)
U15	Natural Gas Fired Boilers
U17	Drum Filling Station for loading various resin products and organic compounds into drums

Emission Unit	Equipment Description
U18	Sag Control Agents

5. **Fugitive Sources:** See the Title V permit application, section 2.2.

6. **Permit Revisions:**

Revision	Issue Date	Public Notice Date	Type	Page No.	Description
Initial	10/5/00	6/25/00	Initial	Entire Permit	Initial Permit Issuance
R1	1/30/04	NA	Revision	Cover page, U3, U4, U7, U9, U12, and U18	Incorporating Construction permits 85-01, 125-02, and 126-02. Adding 40 CFR 63 Subpart OOO conditions, deleting unit U12 (Solvent recovery), and changing responsible official
R2	07/15/11	02/12/11	Revision	Entire Permit	See Notes 1 and 2.

Notes:

- 1) The District changed the permit from a FEDOOP back to a Title V.
- 2) The District made the change U21 cold solvent parts washer to U21 cleaning operation.

7. **Emission Summary:**

Pollutant	Actual Emissions (tpy) 2009 Data	Pollutant the triggered Major Source Status (Based on PTE)
CO	3.13	No
NOx	3.73	No
SO2	0.00	No
PM	0.5866	No
VOC	5.833	Yes
Single HAP > 1 tpy	0.749	Yes
Total HAPs	1.43	Yes
Greenhouse gases (GHGs) ¹	4.066	No

¹ Actual 2009 emissions are expressed in terms of CO₂e.

8. Applicable Requirements:

<input type="checkbox"/> PSD	<input checked="" type="checkbox"/> NSPS	<input checked="" type="checkbox"/> SIP	<input checked="" type="checkbox"/> MACT
<input type="checkbox"/> NSR	<input type="checkbox"/> NESHAPS	<input checked="" type="checkbox"/> District-Origin	<input type="checkbox"/> Other

9. MACT Requirements: This plant is a major source for HAPs. Emission Unit U3 manufactures amino resins and is subject to 40 CFR Part 63, Subpart OOO - *Amino/Phenolic Resin Manufacturing*.

10. Referenced Federal Regulations in Permit:

40 CFR Part 60 Subpart A	General Provisions
40 CFR Part 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels for Petroleum Liquids (After July 23, 1984)
40 CFR Part 63 Subpart A	General Provisions
40 CFR Part 63 Subpart OOO	Amino/Phenol Resin Manufacturing
40 CFR Part 68 Subparts A-H	Chemical Accident Prevention Provisions

II. Regulatory Analysis

- 1. Acid Rain Requirements:** The source is not subject to the Acid Rain Program.
- 2. Stratospheric Ozone Protection Requirements:** Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.
- 3. Prevention of Accidental Releases 112(r):** The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, *Chemical Accident Prevention Provisions*, in a quantity in excess of the corresponding specified threshold amount.
- 4. Basis of Regulation Applicability**

a. Plant-wide

Nuplex Resins, LLC is a major source for VOC, single HAP, and total HAPs. Regulation 2.16 - *Title V Operating Permits* establishes requirements for major sources.

With the issuance of this Title V permit, the source is subject to a *plant-wide* individual HAP emission limit of less than 10 tons during any consecutive 12-month period and 1.00 tons during any calendar month. The source is also subject to a *plant-wide* total combined HAP emission

limit of less than 25 tons during any consecutive 12-month period and 2.50 tons during any calendar month. The source shall maintain monthly records including calculations that show the calendar month and rolling 12-month *plant-wide* emissions of each individual HAP and total HAP emissions. The source shall report the monthly and consecutive 12-month *plant-wide* emissions of each individual HAP and total HAP for each month in the reporting period. The HAP emission limits were taken to avoid applicability of 40 CFR 63 Subpart FFFF *Miscellaneous Organic NESHAP(MON)*. The limits will ensure that the source remains a synthetic minor source for HAPs for future standards promulgated under 40 CFR 63. The source is subject to 40 CFR 63 Subpart OOO, *National Emission Standards for Hazardous Air Pollutant Emissions: Manufacture of Amino/Phenolic Resins*.

The source is subject to a *plant-wide* VOC emission limit of less than 50 tons during any consecutive 12-month period and 5.00 tons during any calendar month for fee purposes. The source shall calculate, record and report the *plant-wide* monthly and consecutive 12-month total VOC emissions for each month in the reporting period.

The source is subject to a *plant-wide* PM emission limit of 50 tons during any consecutive 12-month period and 5.00 tons during any calendar month for fee purposes. The source shall calculate, record and report the *plant-wide* monthly and consecutive 12-month total PM emissions for each month in the reporting period.

This permit establishes monitoring, record keeping, and reporting requirements to demonstrate compliance with the requirements of District Regulation 1.13 - Control of Objectionable Odors in the Ambient Air.

Regulations 5.01, 5.21, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards.

Nuplex Resins submitted a STAR Category 1 TAC EA Demonstration, received December 22, 2006, and subsequent requested information submitted June 19, 2007 and October 17, 2008, including all air dispersion modeling input parameters and the associated EAG_C Risk, in units of risk in one million for each TAC. With the exception of formaldehyde, the potential emissions of all Category 1 TACs were below the de minimis threshold values. For formaldehyde, Tier 4 dispersion modeling was performed.

Based on ISCST3 refined air modeling, the carcinogenic risk for each Category 1 TAC is below 1.0 for non-industrial property and below 10.0 for industrial property, with a stack height of 50 feet for the K6 Reactor vent. The carcinogenic risk for all Category 1 TACs for all processes is

below 7.5 for non-industrial property and below 75.0 for industrial property.

The STAR Category 2 TAC EA Demonstration was received on April 2, 2008, including all air dispersion modeling input parameters and the associated EAGC Risk, in units of risk in one million for each TAC. With the exception of 1,6-hexamethylene diisocyanate, the potential emissions of all Category 2 TACs were below the de minimis threshold values. For 1,6-hexamethylene diisocyanate, Tier 4 dispersion modeling was performed. Based on ISCST3 refined air modeling, the non-carcinogenic hazard quotient for each Category 2 TAC is below 1.0.

Environmental Acceptability

TAC	Risk		Hazard Quotient
	Non-Industrial Property	Industrial Property	
Formaldehyde	0.52	1.13	NA
1,6-hexamethylene diisocyanate	NA	NA	0.072
Total	0.52	1.13	0.072

b. Emission Units

Emission Unit U3: Resin Production Facility for Amino and Alkyd Resins

Emission Point	Description	Applicable Regulation(s)	Control ID
E12	1 - 850 gal K6 weigh tank, TK-60	5.01, 5.21, 5.23, 7.25, 40 CFR 63 Subpart OOO	NA
E13	1 - 2,100 gal K6 recycle tank, TK-62	5.01, 5.21, 5.23, 6.24, 40 CFR 63 Subpart OOO	
E14	1 - 3,000 gal K6 recycle tank, TK-63	5.01, 5.21, 5.23, 6.09, 6.24, 40 CFR 63 Subpart OOO	C12 (Venturi Scrubber)
E10	1 - 7,800 gal K6 catch tank KO-50	5.11, 7.25, 40 CFR 63 Subpart OOO	NA
E214	1 - 500 gal K6 recycle weigh tank, TK-61		
E15	Packed tower separator system to recycle alcohols back into the process from K6 reactor	5.01, 5.12, 5.21, 5.23, 7.25, 40 CFR 63 Subpart OOO	
BLDG4	Building 4 Fugitive Emissions	5.01, 5.21, 5.23	

Emission Unit U4: Resin production facility for synthetic resins including Acrylic, Alkyd, Polyester, and Copolymer

Emission Point	Description	Applicable Regulation(s)	Control ID
E16	1 - 200 gal K8/K9 catalyst tank, TK-81	5.12, 7.25	NA
E17	1 - 2,500 gal K8 weigh tank, TK-80		
E18	1 - 5,500 gal K8 reactor with reflux condenser C6	5.11, 6.09, 6.24	C12 (Venturi Scrubber)
E19	1 - 10,000 gal K8/K9 catch tank, KO-80	5.12, 7.25	NA

Emission Unit U5: Resin Production Facility for Synthetic Resins including Acrylic, Alkyd, Polyester, and Copolymer

Emission Point	Description	Applicable Regulation(s)	Control ID
E20	1 - 1,540 gal K9 weigh tank, TK-90	5.11, 7.08, 7.25	NA
E21	1 - 2,500 gal weigh tank, TK-91		
E23	1 - 3,300 gal K9 reactor with reflux condenser C7	5.12, 7.08, 7.25	C8 (Condenser) / C12 (Venturi Scrubber)

Emission Unit U6: Resin production facility for synthetic resins including Acrylic, Alkyd, Polyester, and Copolymer

Emission Point	Description	Applicable Regulation(s)	Control ID
E24	1 - 1,200 gal K10 weigh tank, TK-10	5.11, 7.08, 7.25	NA
E25	1 - 1,700 gal K10 reactor with reflux condenser C9	5.12, 7.08, 7.25	C10 (Secondary Condenser) / C11 (Tertiary Condenser) / C12 (Venturi Scrubber)
E26	1 - 1,600 gal K10 catch tank, KO-10	5.12, 7.25	NA

Emission Unit U7: Thindown Tanks

Emission Point	Description	Applicable Regulation(s)	Control ID
E83-E85	3 Thindown tanks, TT-01 - TT-03, 8,000 gal each	5.12, 7.25	C24-C26 (Shell-and-Tube Condensers)
E86-E88	3 Thindown tanks, TT-04 - TT-06, 8,000 gal each	5.11, 6.24	C27-C29 (Shell-and-Tube Condensers)
E31-E33	3 Thindown tanks, TT-07 - TT-09, 5,076 gal each	5.11, 6.24, 40 CFR 63 Subpart OOO	C13-C15 (Shell-and-Tube Condensers)
E34	1 - 5,076 gal Thindown tank, TT-10	5.11, 6.24	C16 (Shell-and-Tube Condenser)
E35-E36	2 Thindown tanks, TT-11 & TT-12, 10,486 gal each	5.11, 6.24	C17 - C18 (Shell-and-Tube Condensers)
E172-E173	2 Thindown tanks, TT-13 & TT-14, 8,500 gal each	5.12, 7.25	C22 - C23 (Shell-and-Tube Condensers)

Emission Unit U8: Bulk Storage Tanks

Emission Point	Description	Applicable Regulation(s)	Control ID
E176-E194	19 tanks, ST-01 - ST-19, 7,800 gal each	5.12, 7.12	NA
E195-E200	6 tanks, ST-20 - ST-25, 7,800 gal each	5.12, 7.12, 40 CFR 63 Subpart OOO	
E220	1 - 15,000 gal tank, HW-01	5.11, 6.13	
E163-E168	6 tanks, RT-106 - RT-111, 5,890 gal each	5.11, 6.13	
E230-E231	2 tanks, BT-01 & BT-02, 2,611 gal each	5.11, 6.13	
E215	1 - 5,200 gal tank, BT-04	5.11, 6.13	
E216	1 - 6,372 gal tank, BT-05	5.11, 6.13	NA
E40-E41	2 tanks, BT-A and BT-B , 4,200 gal each	5.11, 6.13	
E43-E46	4 tanks, BT-D, BT-E, BT-F & BT-G , 2,573 gal each	5.11, 6.13	
E47-E49	3 tanks, RM-H, RM-I & RM-J, 5,100 gal each	5.11, 6.13	NA
E94	1 - 6,100 gal tank, RM-K	5.11, 6.13	
E92-E93	2 tanks, RM-Y & RM-Z, 10,230 gal each	5.11, 6.13	
E58	1 - 25,900 gal tank, RM-01	5.11, 6.13	
E202-E203	2 tanks, RM-03 - RM-04, 25,900 gal each	5.11, 6.13	
E95-E97	3 tanks, RM-06 - RM-08, 10,000 gal each	5.11, 6.13	
E98	1 - 4,572 gal tank, RM-9	5.11, 6.13	
E90-E91	2 tanks, RM-10 & RM-11, 4,966 gal each	5.11, 6.13	
E99	1 - 8,000 gal tank, RM-12	5.11, 6.13	
E121-E122	2 tanks, RM-14 & RM-13, 30,455 gal each	5.11, 6.13	
E118-E120	3 tanks, RM-17, RM-16 & RM-15, 23,500 gal each	5.11, 6.13	
E123-E124	2 tanks, RM-18 & RM-19, 9,400 gal each	5.11, 6.13	
E100-E117	18 tanks, RM-20 - RM-37, 10,000 gal each	5.11, 6.13	
E217-E219	3 tanks, RM-38, RM-39 & RM-40, 15,000, 11,000 & 11,000 gal, respectively	5.12, 7.12, 40 CFR 60 Subpart Kb	NA
E11	1 - 15,300 gal formaldehyde (UF-85) tank, RM-14	5.01, 5.12, 5.15, 5.21, 5.23, 7.12, 40 CFR 63 Subpart OOO, 40 CFR 68	Vapor Balance System
E249	1 - 12,230 gal tank, RM-42	5.12, 7.12, 40 CFR 60 Subpart Kb	NA
E250	1 - 7,900 gal tank, RM-44	5.11, 6.13	NA
E244-E245	2 tanks, WW-05 & WW-06, 20,238 gal each	5.11, 6.13	NA

Note: For storage vessels E244-E245, Regulation 6.13 applies due to the size of the tanks, but since the vapor pressure as stored is less than 1.5 psia, there are no applicable standards in the regulation.

Emission Unit U9: Resin Filtering

Emission Point	Description	Applicable Regulation(s)	Control ID
E50	1 Filter press #2	5.11, 6.24	NA
E51	1 Filter press #6	5.11, 6.24, 40 CFR 63 Subpart OOO	
E52	1 Filter press #7	5.12, 7.25	

Emission Unit U10: Bulk Loading Facility for Loading Various Resin Products and Organic Compounds into Tank Trucks

Emission Point	Description	Applicable Regulation(s)	Control ID
E53	Bulk Volatile Organic Materials Loading Facility	5.01, 5.11, 5.14, 5.21, 5.23, 6.22	NA

Emission Unit U14: Building 3, Mix & Blend Resin Facility (Formerly PD2 Building Coating Manufacturing)

Emission Point	Description	Applicable Regulation(s)	Control ID
E133, E135	2 Tanks, L1 & L3, 2,172 gal each	5.11, 7.25	NA
E137, E139, E141	3 Tanks, L5, L7, L9, 2,287 gal each	5.11, 7.25	
E143	1 - 4,272 gal mixing tank, M11	5.11, 7.08, 7.25	C20 (Fabric Filter)
E146-E147	2 mixing tanks, M15 & M16, 4,678 gal each		
E150, E151	2 mixing tanks, M1 & M2 (D-1 & D-2) , 1,304 gal each	5.11, 6.09, 7.25	C21 (Fabric Filter)
E152, E153	2 mixing tanks, M3-A & M3-B, 667 gal each	5.11, 7.08, 7.25	
E154	1 - 1,300 gal mixing tank, M-2	5.11, 7.08, 7.25	

Emission Unit U15: Natural Gas Fired Boilers

Emission Point	Description	Applicable Regulation(s)	Control ID
E170-E171	2 Kewanee boilers, 10.46 MMBtu/hr each, 1973	7.06	NA
E22	1 - 4.0 MMBtu/hr hot oil heater HT-01, 1993		
E247	1 - 4.0 MMBtu/hr hot oil heater HT-02, 1995		
E251	1 - 1.4 MMBtu/hr hot oil heater HT-03, 1985		

Note: The District has determined that the 400 gallon hot oil expansion tank associated with the hot oil system does not require a permit at this time.

Emission Unit U17: Drum Filling Station for Loading Various Resin Products and Organic Compounds into Drums

Emission Point	Description	Applicable Regulation(s)	Control ID
E201	Drum Filling Station	5.01, 5.12, 5.14, 5.21, 5.23, 7.25	NA

Emission Unit U18: Sag Control Agents

Emission Point	Description	Applicable Regulation(s)	Control ID
E205	1 - 1,000 gal K12 reactor	5.01, 5.12, 5.21, 5.23, 7.08, 7.25	C29 (Shell-and-Tube Condenser)
E206-E208	3 - 160 gal K12 Weigh Tanks 1-3, WT-121, WT-122 & WT-123	5.01, 5.12, 5.21, 5.23, 7.25	NA
E209	1 - 110 gal K12 Weigh Tank 4, WT-124	5.12, 7.25	NA

Emission Unit U19: Multi-Purpose Resin Reactor

Emission Point	Description	Applicable Regulation(s)	Control ID
E210	1 - 180 gal K13 reactor	5.12, 7.08, 7.25	C-180G (Shell-and-Tube Reflux Condenser)
E211	1 - 180 gal K13 Weigh Tank 1, WT-131	5.12, 7.25	NA
E212	1 - 20 gal catalyst K13 Weigh Tank 2, WT-132		
E213	1 - 1000 gal K13 catch tank, KO-13		

c. Basis for Applicability

Applicable Regulation	Basis for Applicability
5.11	Applicable to existing process equipment emitting TAPs
5.12	Applicable to new process equipment emitting TAPs
5.01, 5.21, 5.23	Applicable to process equipment emitting TACs
5.14	Applicable to affected facilities emitting HAPs
5.15, 40 CFR 68	Applicable to a stationary source that has more than a threshold quantity of a regulated substance in a process
6.09	Applicable to affected facilities constructed before September 1, 1976 for PM
6.13	Applicable to each storage vessel greater than 250 gallons constructed before September 1, 1976
6.22	Applicable to each loading facility loading more than 200 gallons/day of volatile organic material commenced before July 14, 1976
6.24	Applicable to affected facilities constructed before June 13, 1979 for VOC

Applicable Regulation	Basis for Applicability
7.06	Applicable to each indirect heat exchanger of more than 1 MMBtu/hr constructed after April 19, 1972 for facilities with a capacity \leq 250 MMBtu/hr
7.08	Applicable to affected facilities constructed after September 1, 1976 for PM
7.12	Applicable to each storage vessel greater than 250 gallons constructed after April 19, 1972
7.25	Applicable to affected facilities constructed after June 13, 1979 for VOC
40 CFR 60 Subpart Kb	Applicable to VOC storage vessels for constructed after July 23, 1984
40 CFR 63 Subpart OOO	Applicable to processes that produce amino/phenolic resins

d. Standards

i. VOC

- 1) For equipment subject to Regulation 6.24:
 - A) Class II Solvents - No owner or operator shall discharge into the atmosphere more than 40 pounds of organic materials in any one day, or more than 8 pounds in any one hour, from any existing affected facility in which any Class II solvent is used unless said discharge has been reduced by at least 85% by weight.
 - B) Class III Solvents - No owner or operator shall discharge into the atmosphere more than 3,000 pounds of organic materials in any one day, or more than 450 pounds in any one hour, from any existing affected facility in which any Class III solvent is used unless said discharge has been reduced by at least 85% by weight.
- 2) Regulation 7.25 limits the plant-wide VOC emissions, including all coatings, additives, catalysts, solvents, thinners, and cleaners to less than 25 tons during any calendar year and 2.50 tons/month, unless modeling or a BACT is submitted and approved by the District.²

² E205 (reactor K12) is controlled by a shell-and-tube condenser, which the District has determined meets the BACT requirements of Regulation 7.25.

- 3) Control devices C8, C10, C11, C13-C18, C22-C29 and C-180G shall be utilized at all times the processes are in operation.
- 4) Regulations 6.13 and 7.12 require submerged fill if the VOC has an as stored vapor pressure greater than 1.5 psia, for E40-E41, E43-46, E48, E163-168, E176-194, E195-E200, E220, E230-E231, E215 and E216, E11, E47-E49, E58, E90-E124, E217-E219, E202-E203, E244-E245 and E249-E250.
- 5) Pursuant to Regulation 6.22:
 - A) The total volatile organic material throughput of the loading facility, E53, shall not exceed 20,000 gallons for each operating day.
 - B) The source shall not load any volatile organic materials into any tank, truck, trailer, or railroad car unless such loading is accomplished by submerge fill, bottom loading, or equivalent methods approved by the District. Pneumatic, hydraulic, or other mechanical means shall be provided to prevent liquid organic compounds drainage from the loading device when it is removed from the hatch, or to accomplish complete drainage before such removal.

ii. **PM**

- 1) Pursuant to Regulation 6.09, PM emissions from E15, E18, E150 or E151 shall not exceed 2.58 lb/hr.
- 2) Pursuant to Regulation 7.08:
 - A) PM emissions from E20, E21, E23, E24, E25, E143, E146 or E147 shall not exceed 4.12 lb/hr.
 - B) PM emissions from E205 or E210 shall not exceed 3.0 lb/hr.
- 3) The owner or operator shall utilize the control devices C12, C20 and C21 at all times the process is in operation and solids charging is taking place; and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Regulation 2.03)

- 4) PM emissions shall not exceed the following limits. (Regulation 7.06)

EP	PM Limit (lb/MMBtu actual total heat input)
E170-E171	0.43
E22	0.30
E247	0.28
E251	0.26

iii. **Opacity**

Pursuant to Regulations 6.09, 7.06, and 7.08, visible emissions shall not equal or exceed 20% opacity.

iv. **HAP**

The owner or operator shall comply with the standards as specified in 40 CFR 63 Subpart OOO.

v. **TAC**

- 1) Pursuant to Regulations 5.01 and 5.21, TAC emissions shall not exceed environmentally acceptable levels whether specifically established by modeling or derived from default de minimis levels provided by the District.
- 2) Formaldehyde emissions from the following emission points shall not exceed: (Regulation 5.21)
 - A) 225 lb/consecutive 12-month period from BLDG4;
 - B) 1,309.4 lb/consecutive 12-month period from E15; and
 - C) 109.1 lb/consecutive 12-month period from E11.
- 3) The owner or operator shall maintain a minimum stack height of 50 feet for the K6 Reactor vent. (Regulation 5.21)
- 4) A vapor balance system shall be utilized at all times to return formaldehyde vapors to the tank truck that are displaced from E11 when loading formaldehyde solution.
- 5) 1,6-hexamethylene diisocyanate emissions from the following emission points shall not exceed: (Regulation 5.21)
 - A) 44.7 lb/consecutive 12-month period from E205; and
 - B) 459.0 lb/consecutive 12-month period from E208.

vi. **TAP**

1) For E214, E17, E18, E20, E21, E24, E31-E36, E86-88, E40-E41, E43-E46, E48, E163-168, E220, E230-231, E215, E216, E50, E51, E53, E244-E245, E47-E49, E58, E90-E124, E202-E203, E250, E143, E146, E147, E150, E151, subject to Regulation 5.11:

A) Emissions of TAPs not regulated by 40 CFR 63 Subpart OOO or applicable in Regulation 5.21 (Category 1 and 2 TAC) are limited to the ASL rates based on a weighted height of release plant-wide, unless modeling or a RACT analysis has been submitted and approved by the District. Any raw material changes shall be submitted to the District for review and approval.

B) The following emission limits shall not be exceeded:

Emission Point	Pollutant	Emission Rate (lb/hr)
E214	Acrylic acid	11.57
	Phosphoric acid	0.38
E17, E18	Acrylic acid	11.57
	Phosphoric acid	0.38
E40-E41, E43-E46, E163-168, E220, E230-E231, E215, E216	Ethyl benzene	85.89
E53	n-Butyl alcohol	32.75
E143, E146-E147, E150, E151	Barium	0.03
	Titanium dioxide	0.33

C) The hourly charging rate for trimellitic anhydride shall be less than or equal to 852 lb/hr averaged over an 8 hour period.

2) For E15-a, E16, E19, E23, E25, E26, E176-194, E195-E200, E52, E11, E217-E219, E249, E205-E209, subject to Regulation 5.12:

A) Emissions of TAPs not regulated by 40 CFR 63 Subpart OOO or applicable in Regulation 5.21 (Category 1 and 2 TAC) from the following emission units shall not exceed the ASL value, unless modeling or a BACT analysis has been submitted and approved by the District: U3 (E15-a), U4 (E16 and E19) and U6 (E26) combined; U5 (E23); U6 (E25) and U9 (E52) combined; U7 (E83-

E88 and E172-E173), U8 (E176-E200) and U17 (E201) combined; E217-E219; and E205-E209.

B) The following emission limits shall not be exceeded:

Emission Point	Pollutant	Emission Rate (lb/hr)
E23	Acrylamide	0.08
	Phthalic anhydride	1.57
	Trimelletic anhydride	0.04
E25, E26	Acrylamide	0.08
	Phthalic anhydride	1.57
	Trimelletic anhydride	0.04
E217-E219	Tank RM-38 (styrene)	11.19
	Tank RM-39 (methyl methacrylate)	16.63
	Tank RM-40 (vinyl toluene)	9.737
E201	Acrylic acid	11.57
	Phosphoric acid	0.38
	n-Butyl alcohol	32.75
E205-E209	Ethyl benzene	6.882
E210, E211, E212, E213	Acrylic Acid	1.217
	Methyl Methacrylate	16.6314
	Styrene	8.723
	Ethyl benzene	17.649
	Isobutanol	6.085
	Ethylene Glycol	3.562
	Phosphoric Acid	0.041
	Maleic Anhydride	0.041
	Phthalic Anhydride	0.243

vii. **NO_x**

Pursuant to Regulation 6.09, NO_x emissions from E15 shall not exceed 300 ppm by volume expressed as NO₂.

viii. **District Regulation 5.15 Regulated Substance** (40 CFR Part 68 Subpart G)

For E11, the owner or operator shall comply with the Risk Management Plan for Regulation 5.15, which has been submitted to the District and U.S. EPA.

ix. **SO₂**

Pursuant to Regulation 7.06, Section 5.1.1, sulfur dioxide emissions shall not exceed 1.0 pounds per million BTU actual total heat input for combustion of liquid and gaseous fuels.

e. **Monitoring and Record Keeping**

The owner or operator shall monitor and maintain the following records.

i. **VOC**

- 1) The total number of gallons of each batch processed or manufactured for each operating day;
- 2) The batch formulation including the name and weight percent of each VOC;
- 3) The number of operating hours per operating day;
- 4) The hourly and daily VOC emissions for Class II and III solvents subject to Regulation 6.24.
- 5) For E205-E213, the pounds yielded on each batch manufactured each operating day; the batch formulation including the name and weight percent of each VOC; and the batch cycle time per batch.
- 6) Monthly calculate and record the plant-wide monthly and consecutive 12-month VOC emissions for each calendar month for equipment subject to Regulation 7.25.
- 7) The identification of all periods when control device C8, C10, C11, C13-C18, C22 - C23, C24-C26 or C27-C29 was not operating or bypassing occurred.
- 8) The outlet gas stream temperature from condensers C8, C10, C11, C13-C18, C22-C29 and C-180G once each operating day to ensure the temperatures are less than or equal to 130°F.
- 9) A record of monthly maintenance inspections of the conservation vents and tank lids to ensure proper operation for E40-E41, E43-E46, E48, E163-168, E176-E200, E220, E230-E231, E215, E216, E11, E47-E49, E58, E90-E124, E217-E219, E202-E203 and E249-E250.
- 10) For E53, daily records of the total volatile organic materials throughput for each operating day and filling loss.
- 11) Records showing the dimensions and an analysis showing the capacity of E217-E219 and E249, as required by [60.116b](#)(b) of Subpart Kb. E217-E219 and E249 are not

subject to any other provisions of Subpart Kb. These records shall be kept for the life of the storage tanks.

- 12) For E201, the formulation and throughput for each product processed each month and the monthly VOC emissions.

ii. **PM**

- 1) Monthly records of the type and amount of products transferred.
- 2) Daily records of the hours of operation.
- 3) Monthly calculation of the PM emissions on a average hourly basis.
- 4) Monthly records of a visual inspection of the structural and mechanical integrity of the control devices, including repair, as needed.
- 5) For any time that the control device is not in operation when the process is operating, the date; start and stop time; identification of the control device and process equipment; PM emissions (lb/hr); summary of the cause or reason; corrective action taken to minimize the extent or duration; and measures implemented to prevent reoccurrence of the situation.
- 6) The pressure drop across venturi scrubber C12 once each operating day to ensure the pressure drop is between 3 and 8 inches water column.
- 7) The pressure drop across baghouses C20 and C21 each operating day to ensure the pressure drop is between 1 and 5 inches water column.
- 8) For E205 and E210, the pounds yielded on each batch manufactured each operating day; the batch formulation including the weight percent of all solids; and the batch cycle time per batch.

iii. **Opacity**

Conduct a monthly visible emissions survey and maintain records of the results.^{3,4}

³ The District has determined that, due to a history of no visible emissions, periodic visible emissions surveys are no longer required for U3, U4, U5, U6, U14, U18 or U19.

iv. **HAP**

- 1) The owner or operator shall comply with the monitoring and record keeping as specified in 40 CFR 63 Subpart OOO.
- 2) A copy of the Material Safety Data Sheet (MSDS) for each HAP containing material used at this plant.

iv. **TAC**

- 1) Records of each TAC contained in all materials used onsite.
- 2) Calculate and record the 12-consecutive month formaldehyde emissions from BLDG4, E15 and E11.
- 3) Calculate and record the 12-consecutive month 1,6-hexamethylene diisocyanate emissions from E205 and E208.
- 4) The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.
- 5) If a new TAC is introduced or the content of a TAC in a raw material increases, the owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions.

v. **TAP**

- 1) To demonstrate ongoing compliance with Regulation 5.11:
 - A) Records of the formulation for each batch of resin produced, including the name and weight percent of each TAP.
 - B) Daily records of the number of operating hours.
 - C) Monthly record the number of gallons and weight percent TAP for each batch processed by each filter press.
 - D) Monthly calculate and record the ASL based on a weighted height of release from all equipment subject to Regulation 5.11 *plant-wide*.

⁴ The District has determined that no periodic visible emissions surveys are required for the natural gas fired boilers E170, E171, E22, E247, and E251.

- E) Monthly calculate and record the average hourly TAP emissions *plant-wide* from all equipment subject to Regulation 5.11.
 - F) Monthly calculate and record the average hourly emissions of acrylic acid, phosphoric acid, trimellitic anhydride, ammonia, ethyl benzene, xylene, toluene, n-butyl alcohol, formaldehyde, barium and titanium dioxide.
 - G) Daily records of the total material throughput for each operating day for E53.
 - H) Daily records of the throughput of each of the storage tanks E40-E41, E43-E46, E163-E168, E220, E230-E231, E215, E216, E47-E49, E58, E90-E124, E202-E203 and E250, and using the most recent EPA approved TANKS program, monthly calculate the average hourly TAP emissions.
- 2) To demonstrate ongoing compliance with Regulation 5.12:
- A) Records of the formulation for each batch of resin produced, including the name and weight percent of each TAP.
 - B) Daily records of the number of operating hours.
 - C) Monthly record the number of gallons and weight percent TAP for each batch processed by each filter press.
 - D) Monthly calculate and record the ASL based on a weighted height of release from U3 (E15-a); U4 (E16 and E19) and U6 (E26) combined; U5 (E23); U6 (E25) and U9 (E52) combined; and U7 (E83-E88 and E172-E173) and U8 (E176-E200) and U17 (E201) combined.
 - E) Monthly calculate and record the average hourly TAP emissions for each TAP from U3 (E15-a); U4 (E16 and E19) and U6 (E26) combined; U5 (E23); U6 (E25) and U9 (E52) combined; and U7 (E83-E88 and E172-E173) and U8 (E176-E200) and U17 (E201) combined.
 - F) Monthly calculate and record the average hourly emissions of acrylamide, ethyl acrylate, phthalic anhydride and trimellitic anhydride.
 - G) Daily records of the throughput of each of the storage tanks E176-E194, E11, E217-E219, and E249, and using the most recent EPA approved TANKS program, monthly calculate the average hourly TAP emissions.
 - H) The formulation and monthly throughput for each product processed for E201.

- 3) A copy of the Material Safety Data Sheet (MSDS) for each TAP-containing material used at this plant.

vii. **NO_x and SO₂**

There are no monitoring or record keeping requirements for these pollutants.

f. **Reporting**

Semi-annual compliance monitoring reports shall include the following information:

i. **VOC**

- 1) For equipment subject to Regulation 6.24, identification of all periods of exceedances of the hourly and daily VOC emission limit, including the quantity of excess emissions.
- 3) For equipment subject to Regulation 7.25, the plant-wide monthly and consecutive 12-month VOC emissions for each calendar month in the reporting period.
- 4) For control devices C10, C11, C12, C13 - C18, C22 - C29 and C-180G, identification of all periods of exceedances of the operating parameter being monitored.
- 5) Identification of all periods of time when a process was operating and the control device was not operating and calculated quantity of VOC emitted.
- 6) For E40, E41, E43-E46, E48, E163-168, E176-E200, E220, E230-E231, E215, E216, E11, E47-E49, E58, E90-E124, E217-E219, E202-E203, E249, E250, an identification of all inspections not performed.
- 7) For E53, identification of all periods of exceedance of the throughput limit.

ii. **PM**

- 1) For PM, identification of all periods of exceedances of the hourly PM emission limit, including the quantity of excess emissions.

- 3) For the pressure drop of control devices C12, C20 and C21, identification of all periods of exceedances of the operating parameter being monitored.
- 4) Identification of all periods of time when a process was operating and the control device was not operating and calculated quantity of PM emitted.

iii. **Opacity**

The results of each visible emissions survey conducted that resulted in visible emissions being observed and the results of each Method 9 conducted.

iv. **HAP**

The owner or operator shall comply with the reporting as specified in 40 CFR 63 Subpart OOO.

v. **TAC**

- 1) If a new TAC is introduced or the content of a TAC in a raw material increases, the owner or operator shall submit the re-evaluated environmental acceptability demonstration within 6 months of the change.
- 2) The consecutive 12-month emissions of formaldehyde and 1,6-hexamethylene diisocyanate for each calendar month in the reporting period.

vi. **TAP**

Identification of all periods of exceedances of the emission limits.

vii. **NO_x and SO₂**

There are no reporting requirements for these pollutants.

III. Other Requirements

1. **Temporary Sources:** The source did not request to operate any temporary facilities.
2. **Short Term Activities:** The source did not report any short term activities.
3. **Emissions Trading:** NA

4. **Alternative Operating Scenarios:** The source did not request to operate under alternative operating scenarios.
5. **Compliance Status:** The source is required to submit their annual Compliance Certification to the District on or before April 15th of each calendar year. As of the effective date of Permit 120-97-TV (R2), there are no compliance schedules in effect or progress reports required.
6. **Insignificant Activities**

Equipment	Quantity	Basis of Exemption
Brazing, Soldering or Welding Equipment	1	Regulation 2.02, Section 2.3.4
Storage Tanks for Fuel or Lubricating Oils with V.P. < 10 mm HG of 20°C	7	Regulation 2.02, Section 2.3.9.2
Lab Ventilating & Exhausting Systems, Non-Radioactive Materials	2	Regulation 2.02, Section 2.3.11
Cold solvent parts cleaners with secondary reservoirs (EU21-a, P/PE 70-08)	3	Regulation 2.02, Section 2.3.22
Research & Development (R&D) Activities, potential emissions less than 5 tons per year (U16, Reactor K11)	1	Regulation 2.02, Section 2.3.27