

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

April 4, 2018

PERMIT TO INSTALL
155-05B

ISSUED TO
Wacker Chemical Corporation

LOCATED AT
3301 Sutton Road
Adrian, Michigan

IN THE COUNTY OF
Lenawee

STATE REGISTRATION NUMBER
A2849

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203:

March 28, 2018

DATE PERMIT TO INSTALL APPROVED:

April 4, 2018

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

PERMIT TO INSTALL

Table of Contents

Section	Page
Alphabetical Listing of Common Abbreviations / Acronyms	2
General Conditions	3
Special Conditions	5
Emission Unit Summary Table.....	5
Special Conditions for EUHIBAY	5
Special Conditions for EUPOLYMERS	8
Special Conditions for EUHCR	10
Special Conditions for EURTV	13
Special Conditions for EU953RX	15
Flexible Group Summary Table	18
Special Conditions for FGFACILITY	18

Common Abbreviations / Acronyms

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO _{2e}	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
EU	Emission Unit	gr	Grains
FG	Flexible Group	HAP	Hazardous Air Pollutant
GACS	Gallons of Applied Coating Solids	Hg	Mercury
GC	General Condition	hr	Hour
GHGs	Greenhouse Gases	HP	Horsepower
HVLP	High Volume Low Pressure*	H ₂ S	Hydrogen Sulfide
ID	Identification	kW	Kilowatt
IRSL	Initial Risk Screening Level	lb	Pound
ITSL	Initial Threshold Screening Level	m	Meter
LAER	Lowest Achievable Emission Rate	mg	Milligram
MACT	Maximum Achievable Control Technology	mm	Millimeter
MAERS	Michigan Air Emissions Reporting System	MM	Million
MAP	Malfunction Abatement Plan	MW	Megawatts
MDEQ	Michigan Department of Environmental Quality	NMOC	Non-methane Organic Compounds
MSDS	Material Safety Data Sheet	NO _x	Oxides of Nitrogen
NA	Not Applicable	ng	Nanogram
NAAQS	National Ambient Air Quality Standards	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM10	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSR	New Source Review	pph	Pounds per hour
PS	Performance Specification	ppm	Parts per million
PSD	Prevention of Significant Deterioration	ppmv	Parts per million by volume
PTE	Permanent Total Enclosure	ppmw	Parts per million by weight
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO ₂	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EUHIBAY	HiBay silicones manufacturing process with condensers as air pollution control equipment.	NA
EUPOLYMERS	Polymer fluids area process equipment (reactor-mixers RX-0516, RX-0803, RX-0805, RX-0807, RX-0808, RX-0810, RX-803, RX-0811, RX-0813, T-847, T-861, T-862, T-860; vacuum pumps BL 885, 886, 888; evaporators CL-800, CL-0812; with vacuum system and scrubber TK-0550).	NA
EUHCR	Heat curable rubber production area. Area for production of silicone fluids, emulsions, sealants, and rubbers with baghouse control and a two scrubber in-series scrubbing system, SC073101 and SC073102.	NA
EURTV	RTV production area (mixers MX0208, MX0217, MX0228, MX0219, MX0257, and a two scrubber in-series scrubbing system, SC073101 and SC073102).	NA
EU953RX	Jacketed 1000-gallon reactor/mixer with ancillary equipment to charge solids and liquids and a plate and frame heat exchanger to cool product. Emission controls include a dust collector and a condenser.	NA
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.		

The following conditions apply to:
EUHIBAY

DESCRIPTION: HiBay silicones manufacturing process with condensers as air pollution control equipment.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT:

Condensers

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	6.7 pph	Test Protocol*	EUHIBAY	GC 13	R 336.1225
2. VOC	4.7 tpy	12-month rolling time period as determined at the end of each calendar month.	EUHIBAY	VI. 1, VI.2	R 336.1702(a)
3. Hexamethyl-disiloxane ^A	1.0 pph ¹	Test Protocol*	EUHIBAY	GC 13	R 336.1225
4. Hexamethyl-disiloxane ^A	2.0 tpy ¹	Test Protocol*	EUHIBAY	VI. 1, VI.2.	R 336.1225

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
5. Octamethylcyclotetrasiloxane ^A	1.0 pph ¹	Test Protocol*	EUHIBAY	GC 13	R 336.1225
6. PM	0.10 lb per 1000 lbs of exhaust gases, calculated on a dry gas basis.	Test Protocol*	EUHIBAY	GC 13	R 336.1331
7. PM	0.10 pph	Test Protocol*	EUHIBAY	GC 13	R 336.1331

*Test protocol shall specify averaging time
¹ Siloxanes are not classified as a VOC or HAP

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate the reactors, except for Reactor No. RX0905, unless the (respective) condensers are installed and operating properly. **(R 336.1702(a), R 336.1910)**
2. The permittee shall not use raw materials in Reactor No. RX0905 which would result in methanol emissions of more than 600 pounds.¹ **(R 336.1225)**
3. The batches run in EUHIBAY shall not exceed a maximum of 400 per month. **(R 336.1205(1), R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip and maintain the condensers with cooling water flow alarm. **(R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, monthly records of the number of batches run for EUHIBAY, as required by SC III.3. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(1), R 336.1225, R 336.1702(a))**
2. The permittee shall keep, in a satisfactory manner, 12-month time period records of VOC and Hexamethyldisiloxane emission calculations for EUHIBAY, as required by SC I.2 and I.4. Individual process batch records will be used to demonstrate compliance on a monthly basis with emission calculations performed once per year. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(1), R 336.1225, R 336.1702(a))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVHIBAY	12 ¹	24 ¹	R 336.1225

IX. OTHER REQUIREMENTS

NA

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to:
EUPOLYMERS

DESCRIPTION: Polymer fluids area process equipment (reactor-mixers RX-0516, RX-0803, RX-0805, RX-0807, RX-0808, RX-0810, RX-803, RX-0811, RX-0813, T-847, T-861, T-862, T-860; vacuum pumps BL 885, 886, 888; evaporators CL-800, CL-0812; with vacuum system and scrubber TK-0550).

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT:

Scrubber TK-0550

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC ^A	7.8 pph ¹	Test Protocol*	EUPOLYMERS	GC 13	R 336.1225
2. VOC ^A	13.5 tpy	12-month rolling time period as determined at the end of each calendar month	EUPOLYMERS	VI.2.	R 336.1702(a)
3. Formaldehyde	0.1 tpy ¹	12-month rolling time period as determined at the end of each calendar month	EUPOLYMERS	VI.2.	R 336.1225
4. Hydrogen chloride	0.1 pph ¹	Test Protocol*	EUPOLYMERS	GC 13	R 336.1225
*Test protocol shall specify averaging time ^A Siloxanes are not classified as a VOC or HAP					

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The batches run in EUPOLYMERS shall not exceed a maximum of 750 per month. **(R 336.1205(1), R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate the reactor-mixers unless the vacuum system is installed, maintained, and operated in a satisfactory manner, except when making products which are blended at atmospheric pressure. **(R 336.1702, R 336.1901, R 336.1910)**
2. The permittee shall not operate EUPOLYMERS unless the ejector/venture gas scrubber jet and the sodium hypochlorite scrubber tank are installed, maintained, and operated in a satisfactory manner. **(R 336.1702, R 336.1901, R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall keep, in a satisfactory manner, monthly records of the number of batches run for EUPOLYMERS, as required by SC III.1. All records shall be kept on file and made available to the Department upon request. (R 336.1205(1), R 336.1225, R 336.1702(a))
2. The permittee shall keep, in a satisfactory manner, 12-month time period records of VOC and Formaldehyde emission calculations for EUPOLYMERS, as required by SC I.2. and I.3. Individual process batch records will be used to demonstrate compliance on a monthly basis with emission calculations performed once per year. All records shall be kept on file and made available to the Department upon request. (R 336.1205(1), R 336.1225, R 336.1702(a))

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVPOLYMERS	12 ¹	28 ¹	R 336.1225
2. SVPOLYMERS1	2 ¹	1 ¹	R 336.1901
3. SVPOLYMERS2	3 ¹	3 ¹	R 336.1901

IX. OTHER REQUIREMENTS

NA

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to:
EUHCR

DESCRIPTION: Heat curable rubber production area. Area for production of silicone fluids, emulsions, sealants, and rubbers with baghouse control and a two scrubber in-series scrubbing system, SC073101 and SC073102.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT:

Baghouse
 Filter condensers
 Two scrubbers in series (SC073101 and SC073102)

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	0.16 pph ¹	Test Protocol*	EUHCR	GC 13	R 336.1225
2. VOC	0.7 tpy	12-month rolling time period as determined at the end of each calendar month.	EUHCR	VI.2. VI.3.	R 336.1702(a)
3. Siloxanes ^A	49 tpy ¹	12-month rolling time period as determined at the end of each calendar month	EUHCR	VI.2. VI.3.	R 336.1225
4. Ammonia	1.6 pph ¹	Test Protocol*	EUHCR	GC 13	R 336.1225
5. PM	0.02 lb per 1000 lbs of exhaust gases, calculated on a dry gas basis.	Test Protocol*	EUHCR	GC 13	R 336.1331
6. PM	0.9 pph	Test Protocol*	EUHCR	GC 13	R 336.1331
*Test protocol shall specify averaging time ^A Siloxanes are not classified as a VOC or HAP					

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

- The permittee shall maintain and operate the EUHCR control devices (baghouse filters, scrubbers, and filter-condensers) according to the procedures outlined in a preventative maintenance plan, approved by the AQD District Supervisor. **(R 336.1910, R 336.1911)**
- The batches run in EUHCR shall not exceed a maximum of 2500 per month. **(R 336.1205(1), R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EUHCR bag dump stations (powder changing stations) unless the baghouse filters are installed, maintained, and operated in a satisfactory manner. **(R 336.1331, R 336.1901, R 336.1910)**
2. The permittee shall not operate EUHCR mixers MX0710, MX0711, MX0712, MX0713, MX0719, nor MX0744 while emitting ammonia, unless the scrubbers (in series) are installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining a minimum scrubbing liquid flow rate of 20 gallons per minute. **(R 336.1901, R 336.1910)**
3. The permittee shall not operate any EUHCR mixers (with the exception of MX0704, MX0706, and MX0708) unless the filter-condensers are installed, maintained, and operated in a satisfactory manner. **(R 336.1331, R 336.1702, R 336.1901, R 336.1910)**
4. The permittee shall equip and maintain EUHCR scrubber systems SC073101 and SC073102 with feedback mechanical shutdown or flow alarm system to alert of scrubber failure. **(R 336.1702, R 336.1901, R 336.1910)**
5. The permittee shall equip and maintain each SC073101 and SC073102 scrubber with a pH monitor and scrubbing liquid flow rate indicator. **(R 336.1225, R 336.1901, R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall conduct all necessary maintenance and make all necessary attempts to keep all components of the EUHCR control devices maintained and operating in a satisfactory manner at all times. The owner or operator shall maintain a log of all significant maintenance activities conducted and all significant repairs made to the EUHCR control devices. Maintenance records for the devices shall be consistent with the approved preventative maintenance program. All records shall be kept on file and made available to the Department upon request. **(R 336.1910, R 336.1911)**
2. The permittee shall keep, in a satisfactory manner, monthly records of the number of batches run for EUHCR, as required by SC III.2. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(1), R 336.1225, R 336.1702(a))**
3. The permittee shall keep, in a satisfactory manner, 12-month time period records of VOC and Siloxanes emission calculations for EUHCR, as required by SC I.2 and I.3. Individual process batch records will be used to demonstrate compliance on a monthly basis with emission calculations performed once per year. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(1), R 336.1225, R 336.1702(a))**
4. The permittee shall keep, in a satisfactory manner, per shift records of the scrubbing liquid flow rate for SC073101 and SC073102, as required by SC IV.2 and IV.5. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1901, R 336.1910)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVHCR1	8	27.5	40 CFR 52.21(c) and (d)
2. SVHCR2	4	21.5	40 CFR 52.21(c) and (d)
3. SVHCR3	4	15	40 CFR 52.21(c) and (d)

IX. OTHER REQUIREMENTS

NA

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to:
EURTV

DESCRIPTION: RTV production area (mixers MX0208, MX0217, MX0228, MX0219, MX0257, and a two scrubber in-series scrubbing system, SC073101 and SC073102).

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT:

Two scrubbers in series (SC073101 and SC073102)

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	1.1 pph ¹	Test Protocol	EURTV	GC 13	R 336.1225
2. VOC	4.4 tpy	12-month rolling time period as determined at the end of each calendar month.	EURTV	VI.1. VI.2.	R 336.1702(a)
3. Siloxanes ^A	48 tpy ¹	12-month rolling time period as determined at the end of each calendar month	EURTV	VI.1. VI.2.	R 336.1225
4. Naphtha	0.4 pph ¹	Test Protocol*	EURTV	GC 13	R 336.1225
5. Naphtha	1.6 tpy	12-month rolling time period as determined at the end of each calendar month	EURTV	VI.1. VI.2.	R 336.1331
6. Mineral spirits	0.4 pph ¹	Test Protocol*	EURTV	GC 13	R 336.1225
7. Mineral spirits	1.6 tpy ¹	12-month rolling time period as determined at the end of each calendar month	EURTV	VI.1. VI.2.	R 336.1225
8. Polydimethyl-siloxandiol ^A	8.9 pph ¹	Test Protocol*	EURTV	GC 13	R 336.1225
9. Polydimethyl-siloxandiol ^A	39 tpy ¹	12-month rolling time period as determined at the end of each calendar month	EURTV	VI.1. VI.2.	R 336.1225
10. Polydimethyl-siloxane ^A	2.1 pph ¹	Test Protocol*	EURTV	VI.1. VI.2.	R 336.1225
11. Polydimethyl-siloxane ^A	9.2 tpy ¹	12-month rolling time period as determined at the end of each calendar month	EURTV	VI.1. VI.2.	R 336.1225
12. PM	0.10 lb per 1000 lbs of exhaust gases, calculated on a dry gas basis	Test Protocol*	EURTV	GC 13	R 336.1331
13. PM	0.45 pph	Test Protocol*	EURTV	GC 13	R 336.1331
*Test protocol shall specify averaging time					
^A Siloxanes are not classified as a VOC or HAP					

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The disposal of spent filters shall be performed in a manner which minimizes the introduction of air contaminants to the outer air. **(R 336.1205, R 336.1224, R 336.1901)**
2. The batches run in EURTV shall not exceed a maximum of 1700 per month. **(R 336.1205(1), R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate MX0208, MX0224, MX0228, MX0219, nor MX0257 unless either SC073101 or SC073102 scrubber is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining a minimum scrubbing liquid flow rate of 20 gallons per minute. **(R 336.1225, R 336.1901, R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, monthly records of the number of batches run for EURTV, as required by SC III.2. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(1), R 336.1225, R 336.1702(a))**
2. The permittee shall keep, in a satisfactory manner, 12-month time period records of VOC, Siloxanes, Naphtha, Mineral spirits, Polydimethylsiloxandiol, and Polydimethylsiloxane emission calculations for EURTV, as required by SC I.2, I.3, I.5, I.7, I.9. and I.11. Individual process batch records will be used to demonstrate compliance on a monthly basis with emission calculations performed once per year. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(1), R 336.1225, R 336.1702(a))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVRTV1	8	27.5	R 336.1225

IX. OTHER REQUIREMENTS

NA

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to:
EU953RX

DESCRIPTION: Jacketed 1000-gallon reactor/mixer with ancillary equipment to charge solids and liquids and a plate and frame heat exchanger to cool product. Emission controls include a dust collector and a condenser.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT:

Dust collector
Condenser

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	115 pounds per month	Calendar month	EU953RX	SC VI.3	R 336.1702(a)

II. MATERIAL LIMITS

1. The permittee shall not process more than 770 batches in EU953RX per year, based on a 12-month rolling time period as determined at the end of each calendar month. **(R 336.1225, R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall charge solid materials to the reactor only in a manner that mixes them with liquids before the mixed stream enters the reactor. **(R 336.1224, R 336.1225, R 336.1331)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate the Ystral mixer in EU953RX unless the dust collector is installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1331, R 336.1910)**
2. The permittee shall not operate EU953RX unless the condenser is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the condenser includes maintaining a coolant outlet target temperature of 40 degrees Fahrenheit during process operation. Upon detection of a coolant outlet temperature of 45 degrees or higher, the permittee shall take the following actions:
 - a. Temperature 45 degrees or higher, but less than 50 degrees: take actions to reduce the coolant outlet temperature to 45 degrees or less.
 - b. Temperature 50 degrees or higher: stop process operation as quickly as possible, consistent with safe operation.**(R 336.1225, R 336.1702(a), R 336.1910)**
3. The permittee shall equip and maintain the condenser with a device to monitor the outlet coolant temperature. **(R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required records and calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1702(a))**
2. The permittee shall keep a record of the number of batches processed in EU953RX during each calendar month and during the 12-month rolling time period ending that calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**
3. The permittee shall calculate the VOC emission rate from EU953RX monthly, using a method acceptable to the AQD District Supervisor. Emission calculations for each batch shall be based on the maximum coolant outlet temperature observed during the batch. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1702(a))**
4. The permittee shall monitor and record, in a satisfactory manner, the coolant outlet temperature from the condenser once during each batch while fluids are being charged to the reactor. **(R 336.1910)**
5. During processing of each EU953RX batch that uses the Ystral mixer, the permittee shall conduct a visible emissions check of the Ystral mixer during charging of the mixer. The visible emission check shall be conducted in accordance with Method 22 or an alternate method approved by the AQD District Supervisor. If a check reveals any visible emissions, the permittee shall inspect the mixer and dust collector and perform any maintenance required to eliminate visible emissions. **(R 336.1910)**
6. The permittee shall keep a record of each visible emissions check required by SC VI.5. The record shall include the following:
 - a. The date and time of the visible emissions check.
 - b. Whether visible emissions were observed from the mixer or the dust collector.
 - c. The name of the person checking for visible emissions.
 - d. If visible emissions were observed, the name of the person inspecting the mixer and dust collector and the findings of the inspection.
 - e. If visible emissions were observed, the name of the person conducting maintenance and the maintenance activities taken to eliminate visible emissions.

The permittee shall keep the record on file at the facility and make it available to the Department upon request. **(R 336.1910)**

7. The permittee shall keep a record of actions taken when the condenser coolant outlet temperature reaches 45 degrees Fahrenheit or higher. The record shall be in a format acceptable to the AQD District Supervisor, and shall contain the following information for each such occurrence:
 - a. Date and time a coolant outlet temperature of 45 degrees or higher temperature was observed.
 - b. Actions taken to restore coolant outlet temperature to less than 45 degrees.
 - c. If process shutdown is necessary, the date and time shutdown was initiated.
 - d. The initials of the person supervising the corrective actions or shutdown.**(R 336.1910)**

VII. REPORTING

1. Within 30 days after commencement of trial operation of EU953RX, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the event. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV953RX ^A	4	30	R 336.1225, 40 CFR 52.21(c)&(d)
^A This vent is not required to discharge unobstructed vertically upwards.			

IX. OTHER REQUIREMENTS

NA

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	

The following conditions apply Source-Wide to:
FGFACILITY

POLLUTION CONTROL EQUIPMENT:

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	60 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	VI.2.	R 336.1205(1)
2. Each individual HAP	8.9 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	VI.2.	R 336.1205(1)
3. Total HAPs	Less than 22.5 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	VI.2.	R 336.1205(1)

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor, in a satisfactory manner, the process throughput rates for all FGFACILITY process equipment (for means of calculating emissions) on a continuous basis. **(R 336.1205(1))**
2. The permittee shall keep, in a satisfactory manner, 12-month rolling time period records of VOC, Individual HAP, and Total HAPs emission calculations for FGFACILITY, as required by SC I.1., I.2. and I.3. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(1))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).