

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

May 25, 2018

**PERMIT TO INSTALL
88-12E**

**ISSUED TO
Chemetall US, Inc.**

**LOCATED AT
1100 Technology Drive
Jackson, Michigan**

**IN THE COUNTY OF
Jackson**

**STATE REGISTRATION NUMBER
P0359**

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: May 17, 2018	
DATE PERMIT TO INSTALL APPROVED: May 25, 2018	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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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
EUKT1	1000 gallon mixing tank controlled by the Chrome Product packed bed wet scrubber (SC01).	FGCRMIX
EUKT2	5000 gallon mixing tank controlled by the Chrome Product packed bed wet scrubber (SC01).	FGCRMIX
EUKT3	1700 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT4	1100 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT5	1000 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT6	5000 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT7	1600 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT8	2000 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT9	1600 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT10	4000 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT11	2800 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT12	5000 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT13	3000 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT14	2000 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT15	550 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT16	1700 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT17	5000 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT18	220 gallon mixing tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUKT19	5000 gallon mixing tank controlled by the Oil Product packed bed wet scrubber (SC03).	FGOILMIX
EUKT21	3000 gallon mixing tank controlled by the Oil Product packed bed wet scrubber (SC03).	FGOILMIX

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EUKT22	2000 gallon mixing tank controlled by the Oil Product packed bed wet scrubber (SC03).	FGOILMIX
EUKT23	5000 gallon mixing tank controlled by the Oil Product packed bed wet scrubber (SC03).	FGOILMIX
EUSULFURICTK11	6000 gallon sulfuric acid storage tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUNITRICTK12	6500 gallon nitric acid storage tank controlled by the General Purpose packed bed wet scrubber (SC02).	FGGENMIX
EUSMBAT1	325 Gallon mixing tank controlled by the Small Batch packed bed wet scrubber (SC04).	FGSMBATMIX
EUSMBAT2	60 Gallon mixing tank controlled by the Small Batch packed bed wet scrubber (SC04).	FGSMBATMIX
EUSMBAT3	100 Gallon mixing tank controlled by the Small Batch packed bed wet scrubber (SC04).	FGSMBATMIX
EUSMBAT4	275 Gallon mixing tank controlled by the Small Batch packed bed wet scrubber (SC04).	FGSMBATMIX
EUCHOVER	Fume Collection Manifold controlled by the Small Batch packed bed wet scrubber (SC04).	FGSMBATMIX
EUFLMMIX1	2000 gal mixing tank controlled by the H2 room packed bed wet scrubber (SC05).	FGFLMMIX
EUFLMMIX2	800 gal mixing tank controlled by the H2 room packed bed wet scrubber (SC05).	FGFLMMIX
EUFLMMIX3	800 gal mixing tank controlled by the H2 room packed bed wet scrubber (SC05).	FGFLMMIX
EUFLMMIX4	800 gal mixing tank controlled by the H2 room packed bed wet scrubber (SC05).	FGFLMMIX
EUFLMMIX5	2000 gal mixing tank controlled by the H2 room packed bed wet scrubber (SC05).	FGFLMMIX
EUFLMMIX6	800 gal mixing tank controlled by the H2 room packed bed wet scrubber (SC05).	FGFLMMIX
EUFLMMIX7	2000 gal mixing tank controlled by the H2 room packed bed wet scrubber (SC05).	FGFLMMIX
EUFLMMIX8	92 gal mixing tank controlled by the H2 room packed bed wet scrubber (SC05).	FGFLMMIX
EUFLMMIX9	375 gal mixing tank controlled by the H2 room packed bed wet scrubber (SC05).	FGFLMMIX
EUFLMMIX10	660 gal mixing tank controlled by the H2 room packed bed wet scrubber (SC05).	FGFLMMIX
EUENGINE1	A 1,000 kW diesel-fueled emergency generator, with a 1,474 HP engine manufactured in 2018. This engine is subject to NSPS Subpart IIII.	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: EUENGINE

DESCRIPTION: A 1,000 kW diesel-fueled emergency generator, with a 1,474 HP engine manufactured in 2018. This engine is subject to NSPS Subpart IIII.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NMHC + NOx	5.8 g/kW-hr	Test Protocol*	EUENGINE	SC VI.2, SC VI.3	R 336.1205(1)(a), 40 CFR 60.4205(b), 60.4202(a), 40 CFR 52.21 (c) & (d), Table 1 of 40 CFR 89.112
2. HC	0.42 g/kW-hr	Test Protocol*	EUENGINE	SC VI.2, SC VI.3	R 336.1205(1)(a), R 336.1702(a)
3. CO	0.7 g/kW-hr	Test Protocol*	EUENGINE	SC VI.2, SC VI.3	R 336.1205(1)(a), 40 CFR 60.4205(b), 60.4202(a), 40 CFR 52.21 (d), Table 1 of 40 CFR 89.112
4. PM	0.1 g/kW-hr	Test Protocol*	EUENGINE	SC VI.2, SC VI.3	R 336.1205(1)(a), 40 CFR 60.4205(b), 60.4202(a), 40 CFR 52.21 (c) & (d), Table 1 of 40 CFR 89.112

*Test Protocol shall determine averaging time.

II. MATERIAL LIMITS

- The permittee shall burn only diesel fuel in EUENGINE with the maximum sulfur content of 15 ppm (0.0015 percent) by weight, and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. **(R 336.1205(1)(a), 40 CFR 60.4207, 40 CFR 80.510(b))**

III. PROCESS/OPERATIONAL RESTRICTIONS

- The permittee shall not operate EUENGINE for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**

2. The permittee may operate EUENGINE for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. EUENGINE may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing. Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or demand response, or to generate income for the permittee to supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 60.4211(f))**
3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart III, for the same model year and maximum engine power, the permittee shall meet the following requirements for EUENGINE:
 - a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions;
 - b. Change only those emission-related settings that are permitted by the manufacturer; and
 - c. Meet the requirements as specified in 40 CFR 89, 94, and/or 1068, as they apply to you.

If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine may be considered a non-certified engine. **(40 CFR 60.4211(a) and (c))**
4. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for EUENGINE and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4211(g)(3))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip and maintain EUENGINE with a non-resettable hours meter to track the operating hours. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4209)**
2. The maximum rated power output of EUENGINE shall not exceed 1,000 kW (1,474 HP), as certified by the equipment manufacturer. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4202)**

V. TESTING/SAMPLING

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

1. If the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:
 - a. Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
 - b. If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212 (less than 30 liters) OR 40 CFR 60.4213 (greater than 30 liters).
 - c. Conduct subsequent performance testing every 8,760 hours of engine operation or every 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards

No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(40 CFR 60.4211(g)(3) , 40 CFR 60.4212)**

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 calculations in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d))**
2. The permittee shall keep, in a satisfactory manner, the following records for EUENGINE:
 - a. For each certified engine: The permittee shall keep records of the manufacturer certification documentation.
 - b. For each uncertified engine: The permittee shall keep records of testing required in SC V.1.

The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**

3. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for EUENGINE:
 - a. For each certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.3.
 - b. For each uncertified engine: The permittee shall keep records of a maintenance plan, as required by SC III.4, and maintenance activities.

The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**

4. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for EUENGINE, on a monthly and 12-month rolling time period basis, in a manner acceptable to the District Supervisor, Air Quality Division. The permittee shall document how many hours are spent for emergency operation of EUENGINE, including what classified the operation as emergency. **(R 336.1205(1)(a) & (3), 40 CFR 60.4211, 40 CFR 60.4214)**
5. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in EUENGINE, demonstrating that the fuel meets the requirement of 40 CFR 80.510(b). The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. **(R 336.1205(1)(a) & (3), 40 CFR 60.4207, 40 CFR 80.510(b))**
6. The permittee shall monitor and record in a satisfactory manner the diesel fuel usage rate for EUENGINE on a monthly and 12-month rolling time period basis. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUENGINE. **(R 336.1201(7)(a))**

2. The permittee shall submit a notification specifying whether EUENGINE will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation. **(40 CFR Part 60 Subpart IIII)**
3. If EUENGINE has a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f), you must submit an annual report containing the information below:
 - a. Company name and address where the engine is located.
 - b. Date of the report and beginning and ending dates of the reporting period.
 - c. Engine site rating and model year.
 - d. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
 - e. Hours operated for the purposes specified in §60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(2)(ii) and (iii).
 - f. Number of hours the engine is contractually obligated to be available for the purposes specified in §60.4211(f)(2)(ii) and (iii).
 - g. Hours spent for operation for the purposes specified in §60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

The first annual report must cover the calendar year 2018 and must be submitted no later than March 31, 2019. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §60.4. **(40 CFR 60.4211)**

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. SVENGINE	3	10	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENTS

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart IIII, as they apply to EUENGINE. **(40 CFR Part 60 Subparts A & IIII)**
2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to EUENGINE. **(40 CFR Part 63 Subparts A and ZZZZ, 40 CFR 63.6595)**

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
FGCRMIX	Mixing tanks associated with the blending of chrome products. Emissions are controlled by the Chrome Product packed bed wet scrubber (SC01).	EUKT1, EUKT2
FGGENMIX	One sulfuric acid storage tank, one nitric acid storage tank, and mixing tanks associated with the blending of acid, alkaline, and other aqueous liquid products. Emissions are controlled by the General Purpose packed bed wet scrubber (SC02).	EUKT3, EUKT4, EUKT5, EUKT6, EUKT7, EUKT8, EUKT9, EUKT10, EUKT11, EUKT12, EUKT13, EUKT14, EUKT15, EUKT16, EUKT17, EUKT18, EUSULFURICTK11, EUNITRICTK12
FGOILMIX	Mixing tanks associated with the blending of mineral oil products. Emissions are controlled by the Oil Product packed bed wet scrubber (SC03).	EUKT19, EUKT21, EUKT22, EUKT23
FGFLMMIX	Mixing tanks associated with the blending of flammable products. Emissions are controlled by the Flammable Liquid Product packed bed wet scrubber (SC05).	EUFLMMIX1, EUFLMMIX2, EUFLMMIX3, EUFLMMIX4, EUFLMMIX5, EUFLMMIX6, EUFLMMIX7, EUFLMMIX8, EUFLMMIX9, EUFLMMIX10
FGSMBATMIX	Mixing tanks associated with the blending of acid, alkaline, and other aqueous liquid products. Emissions are controlled by packed bed wet scrubber (SC04).	EUSMBAT1, EUSMBAT2, EUSMBAT3, EUSMBAT4, EUCHOVER
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grandfathered and exempt equipment.	

The following conditions apply to: FGCRMIX

DESCRIPTION: Mixing tanks associated with the blending of chrome products

Emission Units: EUKT1, EUKT2

POLLUTION CONTROL EQUIPMENT: Chrome Product packed bed wet scrubber SC01

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Total hexavalent chromium (CAS No. 18540-29-9)	0.00010 pph ¹	hourly	FGCRMIX (SVSC1)	SC V.1	R 336.1225
2. PM	0.03 lb per 1,000 lbs of exhaust gases	hourly	FGCRMIX (SVSC1)	SC V.1	R 336.1225, R 336.1331
3. Visible emissions	10% opacity	6-minute average	FGCRMIX (SVSC1)	SC III.1, SC V.1, SC VI.2	R 336.1301, R 336.1331

II. MATERIAL LIMITS

1. The permittee shall not process more than 200,000 pounds of chromium (dry basis) as a raw material through FGCRMIX per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate FGCRMIX unless a malfunction abatement plan (MAP) as described in Rule 911(2), for FGCRMIX and the chrome product packed bed wet scrubber, is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of process equipment and air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FGCRMIX unless the packed bed wet scrubber is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining the scrubbing liquid pH, liquid flow rate, and pressure drop across the scrubber as specified by the manufacturer. The proper scrubbing liquid pH, liquid flow rate, and pressure drop range shall be specified in the malfunction abatement plan, as required by SC III.1. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor the FGCRMIX packed bed wet scrubber scrubbing liquid pH, liquid flow rate, and pressure drop on a continuous basis. **(R 336.1224, R 336.1225, R 336.1331, R 336.1702, R 336.1910)**

V. TESTING/SAMPLING

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

1. Upon request of the AQD District Supervisor, the permittee shall verify total hexavalent chromium (CAS No. 18540-29-9) and PM emission rates and visible emissions from FGCRMIX by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the table below.

Pollutant	Test Method Reference
Hexavalent chromium	40 CFR Part 60, Appendix A
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B;

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

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 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, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall maintain a log of all significant maintenance activities conducted and all significant repairs made to FGCRMIX according to the malfunction abatement plan (MAP) specified in SC III.1. Maintenance records for the process equipment and scrubber shall be consistent with the MAP. 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, R 336.1910, R 336.1911)**
3. The permittee shall keep, in a satisfactory manner, daily records of the FGCRMIX packed bed wet scrubber scrubbing liquid pH, liquid flow rate, and pressure drop, when FGCRMIX is in operation, on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**
4. The permittee shall keep a record of the amount of raw materials, in pounds, processed in FGCRMIX on a 12-month rolling time period as determined at the end of each calendar month. The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

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. SVSC1	12	42.6	R 336.1225, 40 CFR 52.21(c) & (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: FGGENMIX

DESCRIPTION: One sulfuric acid storage tank, one nitric acid storage tank, and mixing tanks associated with the blending of acid, alkaline, and other aqueous liquid products

Emission Units: EUKT3, EUKT4, EUKT5, EUKT6, EUKT7, EUKT8, EUKT9, EUKT10, EUKT11, EUKT12, EUKT13, EUKT14, EUKT15, EUKT16, EUKT17, EUKT18, EUSULFURICTK11, EUNITRICTK12

POLLUTION CONTROL EQUIPMENT: General Purpose packed bed wet scrubber SC02

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Potassium hydroxide (CAS No. 1310-58-3)	0.27 pph ¹	Hourly	FGGENMIX (SVSC2)	SC V.1	R 336.1225
2. PM	0.03 lb per 1,000 lbs of exhaust gases	Hourly	FGGENMIX (SVSC2)	SC V.1	R 336.1225, R 336.1331
3. Visible emissions	10% opacity	6-minute average	FGGENMIX (SVSC2)	SC III.1, SC V.1, SC VI.2	R 336.1301, R 336.1331

II. MATERIAL LIMITS

- The permittee shall not process more than 120,000,000 pounds of products through FGGENMIX per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

- The permittee shall not operate FGGENMIX unless a malfunction abatement plan (MAP) as described in Rule 911(2), for FGGENMIX and the general purpose packed bed wet scrubber, is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of process equipment and air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FGGENMIX unless the packed bed wet scrubber is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining the scrubbing liquid pH, liquid flow rate, and pressure drop across the scrubber as specified by the manufacturer. The proper scrubbing liquid pH, liquid flow rate, and pressure drop range shall be specified in the malfunction abatement plan, as required by SC III.1. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor the FGGENMIX packed bed wet scrubber scrubbing liquid pH, liquid flow rate, and pressure drop on a continuous basis. **(R 336.1224, R 336.1225, R 336.1331, R 336.1702, R 336.1910)**

V. TESTING/SAMPLING

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

1. Upon request of the AQD District Supervisor, the permittee shall verify potassium hydroxide (CAS No. 1310-58-3) and PM emission rates and visible emissions from FGGENMIX by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the table below.

Pollutant	Test Method Reference
Potassium hydroxide	40 CFR Part 60, Appendix A
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B;

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

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 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, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall maintain a log of all significant maintenance activities conducted and all significant repairs made to FGGENMIX according to the malfunction abatement plan (MAP) specified in SC III.1. Maintenance records for the process equipment and scrubber shall be consistent with the MAP. 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, R 336.1910, R 336.1911)**
3. The permittee shall keep, in a satisfactory manner, daily records of the FGGENMIX packed bed wet scrubber scrubbing liquid pH, liquid flow rate, and pressure drop, when FGGENMIX is in operation, on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**
4. The permittee shall keep a record of the amount of products, in pounds, processed in FGGENMIX on a 12-month rolling time period as determined at the end of each calendar month. The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

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. SVSC2	28	40	R 336.1225, 40 CFR 52.21(c) & (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: FGOILMIX

DESCRIPTION: Mixing tanks associated with the blending of mineral oil products

Emission Units: EUKT19, EUKT21, EUKT22, EUKT23

POLLUTION CONTROL EQUIPMENT: Oil Product packed bed wet scrubber SC03

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.03 lb per 1,000 lbs of exhaust gases	hourly	FGOILMIX (SVSC3)	SC V.1	R 336.1225, R 336.1331
2. Visible emissions	10% opacity	6-minute average	FGOILMIX (SVSC3)	SC III.1, SC V.1, SC VI.2	R 336.1301, R 336.1331

II. MATERIAL LIMITS

1. The permittee shall not process more than 22,500,000 pounds of products through FGOILMIX per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate FGOILMIX unless a malfunction abatement plan (MAP) as described in Rule 911(2), for FGOILMIX and the oil product packed bed wet scrubber, is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of process equipment and air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FGOILMIX unless the packed bed wet scrubber is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining the scrubbing liquid pH, liquid flow rate, and pressure drop across the scrubber as specified by the manufacturer. The proper liquid flow rate and pressure drop range shall be specified in the malfunction abatement plan, as required by SC III.1. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor the FGOILMIX packed bed wet scrubber scrubbing liquid pH, liquid flow rate, and pressure drop on a continuous basis. **(R 336.1224, R 336.1225, R 336.1331, R 336.1702, R 336.1910)**

V. TESTING/SAMPLING

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

1. Upon request of the AQD District Supervisor, the permittee shall verify PM emission rates and visible emissions from FGOILMIX by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the table below.

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B;

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

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 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, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall maintain a log of all significant maintenance activities conducted and all significant repairs made to FGOILMIX according to the malfunction abatement plan (MAP) specified in SC III.1. Maintenance records for the process equipment and scrubber shall be consistent with the MAP. 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, R 336.1910, R 336.1911)**
3. The permittee shall keep, in a satisfactory manner, daily records of the FGOILMIX packed bed wet scrubber scrubbing liquid pH, liquid flow rate, and pressure drop, when FGOILMIX is in operation, on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**
4. The permittee shall keep a record of the amount of products, in pounds, processed in FGOILMIX on a 12-month rolling time period as determined at the end of each calendar month. The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

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. SVSC3	16	42	R 336.1225, 40 CFR 52.21(c) & (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: FGSMBATMIX

DESCRIPTION: Mixing tanks associated with the blending of acid, alkaline, and other aqueous liquid products

Emission Units: EUSMBAT1, EUSMBAT2, EUSMBAT3, EUSMBAT4, EUCHOVER

POLLUTION CONTROL EQUIPMENT: Small Batch packed bed wet scrubber SC04

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.03 lb per 1,000 lbs of exhaust gases	hourly	FGSMBATMIX (SVSC4)	SC V.1	R 336.1225, R 336.1331
2. Visible emissions	10% opacity	6-minute average	FGSMBATMIX (SVSC4)	SC III.1, SC V.1, SC VI.2	R 336.1301, R 336.1331
3. Sodium hydroxide (CAS No. 1310-73-2)	0.37 pph ¹	hourly	FGSMBATMIX (SVSC4)	SC V.1	R 336.1225

II. MATERIAL LIMITS

- The permittee shall not process more than 1,080,000 pounds of products through FGSMBATMIX per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

- The permittee shall not operate FGSMBATMIX unless a malfunction abatement plan (MAP) as described in Rule 911(2), for FGSMBATMIX and the small batch packed wet bed scrubber, has been submitted within 60 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of process equipment and air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FGSMBATMIX unless the packed bed wet scrubber is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining the scrubbing liquid pH, liquid flow rate, and pressure drop across the scrubber as specified by the manufacturer. The proper liquid flow rate and pressure drop range shall be specified in the malfunction abatement plan, as required by SC III.1. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor the FGSMBATMIX packed bed wet scrubber scrubbing liquid pH, liquid flow rate, and pressure drop on a continuous basis. **(R 336.1224, R 336.1225, R 336.1331, R 336.1702, R 336.1910)**

V. TESTING/SAMPLING

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

1. Upon request of the AQD District Supervisor, the permittee shall verify sodium hydroxide (CAS No. 1310-73-2) and PM emission rates and visible emissions from FGSMBATMIX by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the table below.

Pollutant	Test Method Reference
Sodium hydroxide	40 CFR Part 60, Appendix A
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B;

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

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 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, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall maintain a log of all significant maintenance activities conducted and all significant repairs made to FGSMBATMIX according to the malfunction abatement plan (MAP) specified in SC III.1. Maintenance records for the process equipment and scrubber shall be consistent with the MAP. 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, R 336.1910, R 336.1911)**
3. The permittee shall keep, in a satisfactory manner, daily records of the FGSMBATMIX packed bed wet scrubber scrubbing liquid pH, liquid flow rate, and pressure drop, when FGSMBATMIX is in operation, on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**
4. The permittee shall keep a record of the amount of products, in pounds, processed in FGSMBATMIX on a 12-month rolling time period as determined at the end of each calendar month. The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

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. SVSC4	28	34	R 336.1225, 40 CFR 52.21(c) & (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: FGFLMMIX

DESCRIPTION: Mixing tanks associated with the blending of flammable products

Emission Units: EUFLMMIX1, EUFLMMIX2, EUFLMMIX3, EUFLMMIX4, EUFLMMIX5, EUFLMMIX6, EUFLMMIX7, EUFLMMIX8, EUFLMMIX9, EUFLMMIX10

POLLUTION CONTROL EQUIPMENT: Flammable Liquid Product packed bed wet scrubber SC05

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.03 lb per 1,000 lbs of exhaust gases	hourly	FGFLMMIX (SVSC5)	SC V.2	R 336.1225, R 336.1331
2. Visible emissions	10% opacity	6-minute average	FGFLMMIX (SVSC5)	SC III.1, SC V.2, SC VI.2	R 336.1301, R 336.1331

II. MATERIAL LIMITS

1. The permittee shall not process more than 3,825,048 pounds of products through FGFLMMIX per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**
2. The permittee shall not use any materials in FGFLMMIX processes that contain 2-mercaptobenzothiazole (Chemical Abstracts Service (CAS) No. 149-30-4). **(R 336.1225)**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate FGFLMMIX unless a malfunction abatement plan (MAP) as described in Rule 911(2), for FGFLMMIX and the flammable product packed bed wet scrubber, has been submitted within 60 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of process equipment and air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FGFLMMIX unless the packed bed wet scrubber is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining the scrubbing liquid pH, liquid flow rate, and pressure drop across the scrubber as specified by the manufacturer. The proper liquid flow rate and pressure drop range shall be specified in the malfunction abatement plan, as required by SC III.1. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor the FGFLMMIX packed bed wet scrubber scrubbing liquid pH, liquid flow rate, and pressure drop on a continuous basis. **(R 336.1224, R 336.1225, R 336.1331, R 336.1702, R 336.1910)**

V. TESTING/SAMPLING

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

1. The permittee shall verify within 90 days of startup for FGFLMMIX, that the maximum product loss to the packed bed wet scrubber system is less than or equal to 1% of the total batch weight. This shall be determined on a mass balance basis and shall be done for a minimum of three batches. **(R 336.1224, R 336.1225, R 336.1331, R 336.1702)**
2. Upon request of the AQD District Supervisor, the permittee shall verify PM emission rates and visible emissions from FGFLMMIX by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in the table below.

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B;

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

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 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, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall maintain a log of all significant maintenance activities conducted and all significant repairs made to FGFLMMIX according to the malfunction abatement plan (MAP) specified in SC III.1. Maintenance records for the process equipment and scrubber shall be consistent with the MAP. 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, R 336.1910, R 336.1911)**
3. The permittee shall keep, in a satisfactory manner, daily records of the FGFLMMIX packed bed wet scrubber scrubbing liquid pH, liquid flow rate, and pressure drop, when FGFLMMIX is in operation, on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**

4. The permittee shall keep a record of the amount of products, in pounds, processed in FGFLMMIX on a 12-month rolling time period as determined at the end of each calendar month. The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**
5. The permittee shall keep a record of the batch weight, final product weight and mass balance calculations used to determine product loss to the scrubber system is less than or equal to 1% of the total batch weight, as specified by SC V.1. The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1331, R 336.1702)**

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. SVSC5	14	34	R 336.1225, 40 CFR 52.21(c) & (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 Source-Wide to: FGFACILITY

POLLUTION CONTROL EQUIPMENT: Various packed bed wet scrubbers

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Nickel (CAS No. 7440-2-0)	8 lbs per year ¹	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1225
2. Benzene (CAS No. 71-43-2)	90 lbs per year ¹	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1225

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 complete all required records/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.¹ **(R 336.1225)**
2. The permittee shall calculate the nickel (CAS No. 7440-2-0) emission rates from FGFACILITY for each calendar month and 12-month rolling time period, using a method acceptable to the AQD District Supervisor. This calculation will involve record keeping of the facility-wide nickel compound raw material usage and final product processed, and calculating nickel emissions via a mass balance while taking into account the appropriate control equipment efficiency. The permittee shall keep records of nickel emission rates on file at the facility and make them available to the Department upon request.¹ **(R 336.1225)**

3. The permittee shall calculate the benzene (CAS No. 71-43-2) emission rates from FGFACILITY for each calendar month and 12-month rolling time period, using a method acceptable to the AQD District Supervisor. This calculation will involve record keeping of the facility-wide benzene compound raw material usage and final product processed and calculating benzene emissions via a mass balance while taking into account the appropriate control equipment efficiency. This calculation shall also include recordkeeping of the facility-wide fuel usage in combustion sources and benzene emission factors for each fuel and calculating benzene emissions via the emission factors. The permittee shall keep records of benzene emission rates on file at the facility and make them available to the Department upon request.¹ **(R 336.1225)**

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).