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Common Abbreviations / Acronyms Used in this Permit to Install

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	°F	Degrees Fahrenheit
CEM	Continuous Emission Monitoring	BTU	British Thermal Unit
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
EPA	Environmental Protection Agency	gr	Grains
EU	Emission Unit	Hg	Mercury
GACS	Gallon of Applied Coating Solids	hr	Hour
GC	General Condition	H ₂ S	Hydrogen Sulfide
HAP	Hazardous Air Pollutant	HP	Horsepower
HVLP	High Volume Low Pressure *	lb	Pound
ID	Identification	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	NO _x	Oxides of Nitrogen
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM-10	Particulate Matter less than 10 microns diameter
NSPS	New Source Performance Standards	pph	Pound per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonable Available Control Technology	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO ₂	Sulfur Dioxide
SRN	State Registration Number	THC	Total Hydrocarbons
TAC	Toxic Air Contaminant	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		VOC	Volatile Organic Compounds
		yr	Year

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

Supplement to Permit No. 81-95B

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, altered, 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. **[R336.1201(1)]**
2. If the installation, reconstruction, relocation, or alteration 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 person to whom this permit was issued, or the designated authorized agent, shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, PO Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or alteration of the equipment allowed by this Permit to Install. **[R336.1201(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 R336.1210, 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. **[R336.1201(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. **[R336.1201(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 R336.1219 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 R336.1219. The written request shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **[R336.1219]**
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. **[R336.1901]**
7. The owner or operator of a source, process, or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant in excess of standards for more than one hour, or of any air contaminant in excess of standards for more than two hours, as required in this rule, to the District Supervisor, Air Quality Division. The notice shall be provided no 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 District Supervisor within ten days, with the information required in this rule. **[R336.1912]**
8. Approval of this permit does not exempt the person to whom this permit was issued from complying with any future applicable requirements which may be promulgated under Part 55 of Act 451, PA 1994 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 Act 451, PA 1994, 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 R336.1301, a person 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 R336.1303. **[R336.1301]**
 - 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 R336.1370(2). **[R336.1370]**
13. Except as allowed by Rule 285 (a), (b), and (c), permittee shall not substitute any fuels, coatings, nor raw materials for those described in the application and allowed by this permit, nor make changes to the process or process equipment described in the application, without prior notification to and approval by the Air Quality Division. **[R336.1201(1)]**
14. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R336.2001 and R336.2003, under any of the conditions listed in R336.2001. **[R336.2001]**

SPECIAL CONDITIONS

Emission Unit Identification

Emission Unit ID	Emission Unit Description	Stack Identification
EUCHROMEJ1/2	Hard chrome electroplating tank (J) with 3-stage mesh pad scrubber with mist eliminator for control. This is a double plating tank, i.e., divided into two parts, a 2000 amp max section and 3000 amp max section	SV1
EUCHROMEK	Hard chrome electroplating rinse tank (K) with 3-stage mesh pad scrubber with mist eliminator for control.	SV1
EUCHROMEL3	Hard chrome electroplating tank (L) with 3-stage mesh pad scrubber with mist eliminator for control.	SV1
Changes to the equipment described in this table are subject to the requirements of R336.1201, except as allowed by R336.1278 to R336.1290.		

Flexible Group Identification

Flexible Group ID	Emission Units Included in Flexible Group	Stack Identification
FGCHROME1	EUCHROMEJ1/2, EUCHROMEK, EUCHROMEL3	SV1
The 3-stage mesh pad scrubber with mist eliminator controls all three hard chrome electroplating tanks.		

The following conditions apply to: FGCHROME1

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Compliance Method	Applicable Requirements
1.1a	Hexavalent chromium	FGCHROME1	0.015 milligram per dry standard cubic meter, corrected to 70°F and 29.92 inches Hg	Test Method	GC 14 SC 1.8 SC 1.9 SC 1.10	R336.1225, R336.1941 40 CFR Part 63 Subpart N
1.1b	Hexavalent chromium	FGCHROME1	0.000545 pounds per hour	Test Method	GC 14 SC 1.8 SC 1.9 SC 1.10	R336.1225, R336.1941 40 CFR Part 63 Subpart N

Equipment

- 1.2 The permittee shall not operate FGCHROME1 unless the composite mesh pad scrubber with mist eliminator is installed, maintained, and operated in a satisfactory manner. [R336.1224, R336.1225, R336.1941, 40 CFR Part 63 Subpart N]
- 1.3 The permittee shall equip and maintain the composite mesh pad scrubber with mist eliminator with a pressure drop indicator for each stage. [R336.1224, R336.1225, R336.1910, R336.1941, 40 CFR 63.343(c)]

Process/Operational Limits

- 1.4 The permittee shall follow the approved operation and maintenance plan that was submitted to the AQD District Supervisor. The plan shall contain all information required by 40 CFR 63.342(f)(3)(i), which includes the following: **[R336.1224, R336.1225, R336.1942, 40 CFR Part 63 Subpart N]**
- a) Operation and maintenance criteria for FGCHROME1, add-on control device(s), and for the process and control device(s) monitoring equipment as well as a standardized checklist to document the operation and maintenance of the equipment;
 - b) The work practice standards for the add-on control device(s) and monitoring equipment;
 - c) Procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur; and
 - d) A systematic procedure for identifying process equipment, add-on control device(s) and monitoring equipment malfunctions and for implementing corrective actions to address such malfunctions.
- 1.5 The permittee shall use fresh water for any make-up water, and shall supply this water to the unit at the top of the mesh pad system. **[R336.1224, R336.1225, R336.1910, R336.1941, 40 CFR Part 63 Subpart N]**

Monitoring

- 1.6 The permittee shall perform inspections of the composite mesh pad (CMP) system as follows: **[R336.1224, R336.1225, R336.1910, R336.1941, 40 CFR Part 63 Subpart N]**
- a) Determine pressure drop across the CMP system on a daily basis. If the pressure drop across the control varies by more than ± 1 inch of water gauge, from the pressure drop determined during compliance testing, the variation shall be documented, and the operation and maintenance procedures shall be reviewed. Any corrective action shall be documented.
 - b) Visually inspect the CMP system, on a quarterly basis, to ensure there is proper drainage, no chromic acid build up on the pads, and no evidence of chemical attack on the structural integrity of the control device.
 - c) Visually inspect the back portion of the mesh pad closest to the fan, on a quarterly basis, to ensure there is no breakthrough of chromic acid mist.
 - d) Visually inspect ductwork from tanks to the CMP system, on a quarterly basis, to ensure there are no leaks.
 - e) At least once each day, the permittee shall turn off the fan and the plating tank and wash down the composite mesh pads for at least ten minutes.
- 1.7 The permittee shall monitor emissions and operating and maintenance information in accordance with the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and N. **[R336.1941, 40 CFR Part 63 Subpart N]**

Recordkeeping/Reporting/Notification

- 1.8 The permittee shall maintain records of inspections required to comply with applicable work practice standards of 40 CFR 63.342(f). Each inspection record shall identify the device inspected, the date, approximate time of inspection (for monitoring data), and a brief description of the working condition of the device during the inspection. The permittee shall also record any actions taken to correct the deficiencies found during the inspection. All records are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1224, R336.1225, R336.1910, R336.1941, 40 CFR Part 63 Subpart N]
- 1.9 The permittee shall keep records of emission information and operating and maintenance information to comply with the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and N. All source emissions and operating and maintenance information is for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the Department upon request. [R336.1941, 40 CFR Part 63 Subpart N]
- 1.10 The permittee shall keep daily records of the daily wash downs and daily pressure drop readings. [R336.1224, R336.1225, R336.1910, R336.1941, 40 CFR Part 63 Subpart N]

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirements
1.11	SV1	24	32.3	R336.1225
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				