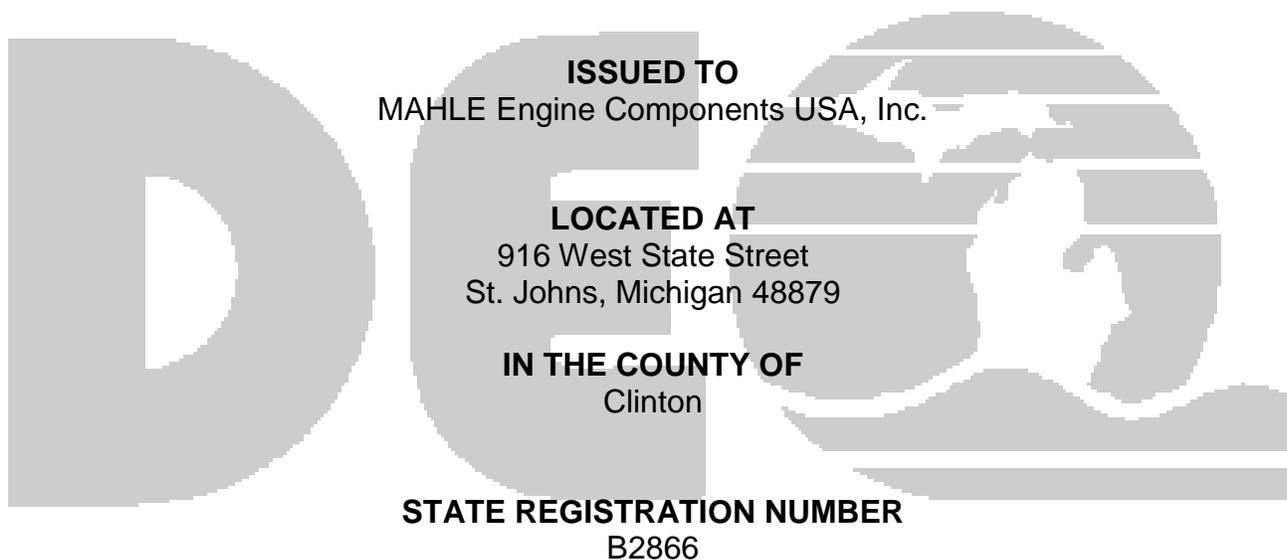


**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

March 11, 2009

**PERMIT TO INSTALL**

No. 2-08A



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:<br><b>2/11/2009</b> |            |
| DATE PERMIT TO INSTALL APPROVED:<br><b>3/11/2009</b>                         | SIGNATURE: |
| DATE PERMIT VOIDED:  | SIGNATURE: |
| DATE PERMIT REVOKED:   | SIGNATURE: |

**PERMIT TO INSTALL**

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**Common Abbreviations / Acronyms**

| <b>Common Acronyms</b> |   | <b>Pollutant/Measurement Abbreviations</b> |                                   |
|------------------------|---|--|-----------------------------------|
| AQD                    | Air Quality Division                                    | BTU  | British Thermal Unit              |
| BACT                   | Best Available Control Technology                       | °C   | Degrees Celsius                   |
| CAA                    | Clean Air Act   | CO   | Carbon Monoxide                   |
| CEM                    | Continuous Emission Monitoring                          | dscf                                       | Dry standard cubic foot           |
| CFR                    | Code of Federal Regulations                             | dscm                                       | Dry standard cubic meter          |
| COM                    | Continuous Opacity Monitoring                           | °F   | Degrees Fahrenheit                |
| EPA                    | Environmental Protection Agency                         | gr   | Grains                            |
| EU                     | Emission Unit   | Hg   | Mercury                           |
| FG                     | Flexible Group  | hr   | Hour                              |
| GACS                   | Gallon of Applied Coating Solids                        | H <sub>2</sub> S                           | Hydrogen Sulfide                  |
| GC                     | General Condition                                       | hp   | Horsepower                        |
| HAP                    | Hazardous Air Pollutant                                 | lb   | Pound                             |
| HVLP                   | High Volume Low Pressure *                              | m  | Meter                             |
| ID                     | Identification  | mg   | Milligram                         |
| LAER                   | Lowest Achievable Emission Rate                         | mm   | Millimeter                        |
| MACT                   | Maximum Achievable Control Technology                   | MM   | Million                           |
| MAERS                  | Michigan Air Emissions Reporting System                 | MW   | Megawatts                         |
| MAP                    | Malfunction Abatement Plan                              | ng   | Nanogram                          |
| MDEQ                   | Michigan Department of Environmental Quality            | NO <sub>x</sub>                            | Oxides of Nitrogen                |
| MSDS                   | Material Safety Data Sheet                              | PM   | Particulate Matter                |
| NESHAP                 | National Emission Standard for Hazardous Air Pollutants | PM10                                       | PM less than 10 microns diameter  |
| NSPS                   | New Source Performance Standards                        | PM2.5                                      | PM less than 2.5 microns diameter |
| NSR                    | New Source Review                                       | pph  | Pound 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                   | Reasonably 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 <sub>2</sub>                            | Sulfur Dioxide                    |
| SRN                    | State Registration Number                               | THC  | Total Hydrocarbons                |
| TAC                    | Toxic Air Contaminant                                   | tpy  | Tons per year                     |
| TEQ                    | Toxicity Equivalence Quotient                           | µg   | Microgram                         |
| VE                     | Visible Emissions                                       | 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).

### 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, 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 AQD District Supervisor shall be notified, in writing, of a change in ownership or operational control of the stationary source or emission unit(s) authorized by this Permit to Install pursuant to R 336.1219. The notification shall include all of the information required by R 336.1219(1)(a) and (b). In addition, a new owner or operator must submit a written statement pursuant to R 336.1219(1)(c), agreeing to and accepting the terms and conditions of this Permit to Install, and shall notify the AQD District Supervisor of any change in the contact person for this Permit to Install. **(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.

| <b>Emission Unit ID</b> | <b>Emission Unit Description<br/>(Process Equipment &amp; Control Devices)</b>   | <b>Flexible Group ID</b> |
|-------------------------|--|--------------------------|
| EUCHROME1               | Hard chrome electroplating tank with individual two stage composite mesh pad scrubber vented to a common HEPA filter (with pre-filter).  | FGCHROME1                |
| EUCHROME2               | Hard chrome electroplating tank with individual two stage composite mesh pad scrubber vented to a common HEPA filter (with pre-filter).  | FGCHROME1                |
| EUCHROME3               | Hard chrome electroplating tank with individual two stage composite mesh pad scrubber vented to a common HEPA filter (with pre-filter).  | FGCHROME1                |
| EUCHROME4               | Hard chrome electroplating tank with individual two stage composite mesh pad scrubber vented to a common HEPA filter (with pre-filter).  | FGCHROME1                |
| EUCHROME5               | Hard chrome electroplating tank with a two stage composite mesh pad mist eliminator system for control along with in-line mist eliminators. EUCHROME5 and EUCHROME6 vent to a common HEPA filter control device and stack. | FGCHROME2                |
| EUCHROME6               | Hard chrome electroplating tank with a two stage composite mesh pad mist eliminator system for control along with in-line mist eliminators. EUCHROME5 and EUCHROME6 vent to a common HEPA filter control device and stack. | FGCHROME2                |

**FLEXIBLE GROUP SUMMARY TABLE**

| <b>Flexible Group ID</b> | <b>Flexible Group Description</b>   | <b>Associated<br/>Emission Unit IDs</b>             |
|--------------------------|---|---|
| FGCHROME1                | Four hard chrome electroplating tanks, each with its own two stage composite mesh pad scrubber system that is vented to a common HEPA filter.   | EUCHROME1,<br>EUCHROME2,<br>EUCHROME3,<br>EUCHROME4 |
| FGCHROME2                | Two hard chrome electroplating tanks, each with its own two stage composite mesh pad mist eliminator system with in-line mist eliminators. The two systems are vented to a common HEPA filter control device and stack. | EUCHROME5,<br>EUCHROME6                             |

**The following conditions apply to: FGCHROME1**

**I. EMISSION LIMITS**

| <b>Pollutant</b>                        | <b>Limit</b>   | <b>Time Period / Operating Scenario</b> | <b>Equipment</b> | <b>Testing / Monitoring Method</b> | <b>Underlying Applicable Requirements</b>             |
|---|----------------|---|------------------|------------------------------------|---|
| 1. Total chromium                       | 0.015 mg/dscm* | Test Method                             | FGCHROME1        | GC 13, SC VI.2, SC VI.3            | R 336.1225, R 336.1901, 40 CFR Part 63 Subparts A & N |
| * corrected to 70°F and 29.92 inches Hg |                |   |                  |                                    |   |

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. Within 30 calendar days of the date of permit approval, the permittee shall submit to the AQD District Supervisor, an approvable operation and maintenance plan. The plan shall contain all information required by 40 CFR 63.342(f)(3)(i), which includes the following: **(R 336.1225, R 336.1901, 40 CFR Part 63 Subparts A & N)**
  - a) Operation and maintenance criteria for each hard chrome electroplating tank in 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.

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate a hard chrome electroplating tank in FGCHROME1 unless that tanks corresponding two stage composite mesh pad scrubber system with mist eliminator is installed, maintained, and operated in a satisfactory manner. **(R 336.1225, R 336.1901, 40 CFR Part 63 Subparts A & N)**
2. The permittee shall not operate any hard chrome electroplating tank in FGCHROME1 unless the common HEPA filter with pre-filter is installed, maintained, and operated in a satisfactory manner. **(R 336.1225, R 336.1901, 40 CFR Part 63 Subparts A & N)**
3. The permittee shall equip and maintain each of the composite mesh pad systems in FGCHROME1 with a differential pressure monitoring device. **(R 336.1225, R 336.1901, R 336.1910, 40 CFR 63.343(c))**

#### **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 perform inspections of each of the composite mesh pad (CMP) systems in FGCHROME1 as follows: **(R 336.1225, R 336.1901, R 336.1910, 40 CFR Part 63 Subparts A & N)**
  - a) Determine pressure drop across the CMP system on a daily basis. If the pressure drop across the control varies by more than  $\pm 2$  inch of water gauge, from the pressure drop determined during compliance testing, the permittee shall document the variation, and review the operation and maintenance procedures. The permittee shall document any corrective action.
  - 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) Perform wash-down of composite mesh pads in accordance with manufacturer's recommendations.
2. 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. The permittee shall keep records of all source emissions and operating and maintenance information on file and make them available to the Department upon request. **(40 CFR Part 63 Subparts A & N)**
3. 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, 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. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1901, R 336.1910, 40 CFR Part 63 Subparts A & N)**

#### **VII. REPORTING**

1. The permittee shall submit the following notifications to the Department in accordance with 40 CFR Part 63.347: **(40 CFR Part 63 Subparts A & N)**
  - a) Ongoing Compliance Status report.

#### **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:

| <b>Stack &amp; Vent ID</b> | <b>Maximum Exhaust Diameter/ Dimensions (inches)</b> | <b>Minimum Height Above Ground (feet)</b> | <b>Underlying Applicable Requirements</b> |
|----------------------------|--|---|---|
| 1. SVCHROME1               | 30   | 32  | R 336.1225                                |

**IX. OTHER REQUIREMENTS**

NA

**Footnotes:**

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

**The following conditions apply to: FGCHROME2**

**I. EMISSION LIMITS**

| <b>Pollutant</b>                        | <b>Limit</b>   | <b>Time Period / Operating Scenario</b> | <b>Equipment</b> | <b>Testing / Monitoring Method</b> | <b>Underlying Applicable Requirements</b>                      |
|---|----------------|---|------------------|------------------------------------|--|
| 1. Total chromium                       | 0.015 mg/dscm* | Test Method                             | FGCHROME2        | SC V.1,<br>SC VI.2,<br>SC VI.3     | R 336.1225,<br>R 336.1901,<br>40 CFR Part 63<br>Subparts A & N |
| 2. Total chromium                       | 0.000038 lb/hr | Test Method                             | FGCHROME2        | SC V.1                             | R 336.1225   |
| * corrected to 70°F and 29.92 inches Hg |                |   |                  |                                    |  |

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. Within 30 calendar days of the date of permit approval, the permittee shall submit to the AQD District Supervisor, an approvable operation and maintenance plan. The plan shall contain all information required by 40 CFR 63.342(f)(3)(i), which includes the following: **(R 336.1225, R 336.1901, 40 CFR Part 63 Subparts A & N)**
  - a) Operation and maintenance criteria for each hard chrome electroplating tank in FGCHROME2, 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.

#### **IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate either hard chrome electroplating tank in FGCHROME2 unless the tanks corresponding two stage composite mesh pad mist eliminator system is installed, maintained, and operated in a satisfactory manner. **(R 336.1225, R 336.1901, 40 CFR Part 63 Subparts A & N)**
2. The permittee shall not operate any hard chrome electroplating tank in FGCHROME2 unless the common HEPA filter is installed, maintained, and operated in a satisfactory manner. **(R 336.1225, R 336.1901, 40 CFR Part 63 Subparts A & N)**
3. The permittee shall equip and maintain each of the composite mesh pad mist eliminator systems in FGCHROME2 with a differential pressure monitoring device. **(R 336.1225, R 336.1901, R 336.1910, 40 CFR 63.343(c))**

#### **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 perform inspections of each of the composite mesh pad (CMP) systems in FGCHROME2 as follows: **(R 336.1225, R 336.1901, R 336.1910, 40 CFR Part 63 Subparts A & N)**
  - a) Determine pressure drop across the CMP system on a daily basis. If the pressure drop across the control varies by more than  $\pm 2$  inch of water gauge, from the pressure drop determined during compliance testing, the permittee shall document the variation, and review the operation and maintenance procedures. The permittee shall document any corrective action.
  - 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) Perform wash-down of composite mesh pads in accordance with manufacturer's recommendations.
2. 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. The permittee shall keep records of all source emissions and operating and maintenance information on file and make them available to the Department upon request. **(40 CFR Part 63 Subparts A & N)**
3. 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, 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. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1901, R 336.1910, 40 CFR Part 63 Subparts A & N)**

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**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:

| <b>Stack &amp; Vent ID</b> | <b>Maximum Exhaust Diameter/ Dimensions (inches)</b> | <b>Minimum Height Above Ground (feet)</b> | <b>Underlying Applicable Requirements</b> |
|----------------------------|--|---|---|
| 1. SVCHROME2               | 20   | 27  | R 336.1225                                |

**IX. OTHER REQUIREMENTS**

NA

**Footnotes:**

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