## COMMON ABBREVIATIONS / ACRONYMS USED in this PERMIT to INSTALL

| Common Acronyms | | Pollutant / Measurement Abbreviations | |
|---|---|---|---|
| AQD | Air Quality Division | °C | Degrees Celsius |
| ANSI | American National Standards Institute | CO | Carbon Monoxide |
| BACT | Best Available Control Technology | °F | Degrees Fahrenheit |
| CAA | Clean Air Act | BTU | British Thermal Unit |
| CEM | Continuous Emission Monitoring | dscf | Dry standard cubic foot |
| CFR | Code of Federal Regulations | dscm | Dry standard cubic meter |
| COM | Continuous Opacity Monitoring | gr | Grains |
| EU | Emission Unit | Hg | Mercury |
| GACS | Gallon of Applied Coating Solids | hr | Hour |
| GC | General Condition | $H_2S$ | 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 |
| MIOSHA | Michigan Occupational Safety & Health Administration | PM | Particulate Matter |
| MSDS | Material Safety Data Sheet | PM-10 | Particulate Matter less than 10 microns diameter |
| NESHAP | National Emission Standard for Hazardous Air Pollutants | pph | Pound per hour |
| NSPS | New Source Performance Standards | ppm | Parts per million |
| NSR | New Source Review | ppmv | Parts per million by volume |
| PS | Performance Specification | ppmw | Parts per million by weight |
| PSD | Prevention of Significant Deterioration | psia | Pounds per square inch absolute |
| PTE | Permanent Total Enclosure | psig | Pounds per square inch gauge |
| PTI | Permit to Install | scf | Standard cubic feet |
| RACT | Reasonable Available Control Technology | sec | Seconds |
| SC | Special Condition | $SO_2$ | Sulfur Dioxide |
| SCR | Selective Catalytic Reduction | THC | Total Hydrocarbons |
| SRN | State Registration Number | tpy | Tons per year |
| TAC | Toxic Air Contaminant | µg | Microgram |
| VE | Visible Emissions | VOC | Volatile Organic Compounds |
| | | yr | Year |

## 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 |
|---|---|---|
| EUDEGREASER | A cross rod batch vapor degreaser and a 3-bed carbon adsorber. | SV003 |
| 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. | | |

### The following conditions apply to: EUDEGREASER

**Emission Limits**

| | Pollutant | Equipment | Limit | Time Period[3] | Compliance Method | Applicable Requirements |
|---|---|---|---|---|---|---|
| 1.1a | Trichlorethylene (TCE) | EUDEGREASER | 100 ppm max.[1] | Weekly | 40 CFR 63.466(e), SC 1.3, 1.7 and 1.11 | 40 CFR 63.463(e)(2)(vii)(A) |
| 1.1b | TCE | EUDEGREASER | 29 ppm[2] | 12-month rolling | SC 1.3, 1.8 and 1.10 | R336.1225 |
| 1.1c | TCE | EUDEGREASER | 2.5 tons[4] per year (TPY) | 12-month rolling | SC 1.2, 1.9, and 1.10 | R336.1225, R336.1702(a) |

[1] maximum allowable ppm of TCE in SV003 exhaust.
[2] time average allowable ppm of TCE in SV003 exhaust.
[3] all 12-month rolling time periods are determined at the end of each calendar month
[4] maximum allowable stack emissions from SV003 exhaust.

**Material Usage Limits**

1.2 The permittee shall not use more than 1,377 gallons of TCE, hereinafter "solvent", per year based on a 12-month rolling period as determined at the end of each calendar month. The amount of solvent used shall be determined on a "net usage" basis. "Net usage" is defined as the amount of solvent added to EUDEGREASER to bring the solvent levels up to starting levels less any amount of solvent removed as waste. **[R336.1205(3), R336.1225, R336.1702(a)]**

**Process/Operational Limits**

1.3 The permittee shall not operate EUDEGREASER except in compliance with the control requirements of 40 CFR 63.463(b)(2)(i)(option 6), & (e). The requirements include, but are not limited to the items identified in Appendix A. **[40 CFR Part 63 Subpart T, R336.1225]**

1.4 The permittee shall not operate EUDEGREASER except in compliance with the work and operational practice requirements of 40 CFR 63.463(d)(1) through (d)(12). The requirements include, but are not limited to the items identified in Appendix B. **[40 CFR Part 63 Subpart T]**

1.5 The permittee shall not operate EUDEGREASER except in compliance with the design requirements of 40 CFR 63.463(a)(1) through (a)(7). The requirements include, but are not limited to the items identified in Appendix C. **[40 CFR Part 63 Subpart T]**

1.6 The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and T, as they apply to EUDEGREASER. **[40 CFR Part 63 Subpart T]**

**Monitoring**

1.7 The permittee shall not operate EUDEGREASER except in compliance with the monitoring requirements of 40 CFR 63.466. The requirements include, but are not limited to the items identified in Appendix D. **[40 CFR Part 63 Subpart T]**

1.8 The permittee shall measure the solvent concentration in the carbon adsorber exhaust on a weekly basis. The measurement shall be taken during working mode. An average monthly concentration shall be determined at the end of each calendar month. **[R336.1225]**

**Recordkeeping/Reporting/Notification**

1.9 The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the amount of solvent used in EUDEGREASER. 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. **[R336.1205(3), R336.1225, R336.1702(a)]**

1.10 In order to demonstrate compliance with the emission limits specified in special condition 1.1, the permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of calculations of the TCE emissions for EUDEGREASER. A control efficiency of 70% for the carbon adsorber should be applied to the emission calculations of TCE for EUDEGREASER. 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. **[R336.1205(3), R336.1225, R336.1702(a)]**

1.11 The permittee shall keep records for EUDEGREASER as specified in 40 CFR 63.467. The records include, but are not limited to the items identified in Appendix E. All records are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years, unless otherwise specified, and made available to the Department upon request. **[40 CFR Part 63 Subpart T]**

1.12 The permittee shall submit reports to the AQD District Supervisor as specified in 40 CFR 63.468. **[40 CFR Part 63 Subpart T]**

**Stack/Vent Restrictions**

| | Stack & Vent ID | Maximum Diameter (inches) | Minimum Height Above Ground Level (feet) | Applicable Requirements |
|---|---|---|---|---|
| 1.13 | SV003 | 12.0 | 29.0 | R336.1225 |
| | **The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.** | | | |

## APPENDIX A
## Control Requirements for Degreasers

The permittee shall not operate EUDEGREASER except in compliance with the control requirements of 40 CFR 63.463(b)(2)(i)(option 6), & 40 CFR 63.463(e). The requirements include, but are not limited to the following:

1) The ratio of the solvent cleaner freeboard height to the smaller interior dimension (length, width or diameter) of the solvent cleaner shall be at least 1.0.

2) The permittee shall maintain a temperature at the center of the chilled air blanket during idling conditions that is no greater than 57 °F. (Note: Must be less than or equal to 30% of the solvent boiling point.)

3) The flow of air across the top of the freeboard or within the solvent cleaner shall not exceed 50 feet per minute.

4) The permittee shall route all vapors collected from the solvent cleaner through a carbon adsorber. The maximum solvent concentration in the exhaust shall not exceed 100 ppm on a weekly basis nor 29 ppm on a 12-month rolling time period. If the exhaust concentration exceeds 100 ppm, the permittee shall adjust the desorption schedule or replace the carbon canister so that the exhaust concentration is brought below 100 ppm.

## APPENDIX B
## Work and Operational Practices for Degreasers

The permittee shall not operate EUDEGREASER, except in compliance with the work and operational practice requirements of 40 CFR 63.463(d)(1) through (d)(12). The requirements include, but are not limited to the following:

1) A reduced room draft as described in 40 CFR 63.463(e)(2)(ii) shall be used.

2) The parts baskets or parts being cleaned in an open-top batch solvent cleaner shall not occupy more than 50 percent of the solvent/air interface area unless the parts baskets or parts are introduced at a speed of 3 feet per minute or less.

3) Any spraying operations shall be done within the vapor zone or within a section of EUDEGREASER that is not directly exposed to the ambient air (i.e. a baffled or enclosed area of EUDEGREASER).

4) Parts shall be oriented so that the solvent drains from them freely. Parts having cavities or blind holes shall be tipped or rotated before being moved from EUDEGREASER unless an equally effective approach has been approved by the Department.

5) Parts or parts baskets shall not be removed from EUDEGREASER until dripping has stopped.

6) During startup of EUDEGREASER, the primary condenser shall be turned on before the sump heater.

7) During shutdown of EUDEGREASER, the sump heater shall be turned off, and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

8) When solvent is added to or drained from EUDEGREASER, the solvent shall be transferred using threaded or other leak-proof couplings and closed plumbing directly to the sump or waste drum, and the end of the pipe in the solvent sump or waste drum shall be located beneath the liquid solvent surface.

9) EUDEGREASER and associated controls shall be maintained as recommended by the manufacturer of the equipment or by using alternate maintenance practices that have been demonstrated to the Department's satisfaction to achieve the same or better results as those recommended by the manufacturer.

10) Each operator of EUDEGREASER shall complete and pass the applicable sections of the solvent cleaner operating procedures tests as given in Appendix B of 40 CFR Part 63 Subpart T if requested by the Department.

11) Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers.

12) Sponges, fabric, wood, and paper products shall not be cleaned in EUDEGREASER.

## APPENDIX C
## Design Requirements for Degreasers

The permittee shall not operate EUDEGREASER except in compliance with the design requirements of 40 CFR 63.463(a)(1) through (a)(7). The requirements include, but are not limited to the following:

1) A reduced room draft as described in 40 CFR 63.463(e)(2)(ii) shall be used.

2) The freeboard ratio shall be 0.75 or greater.

3) An automated parts handling system, capable of moving parts or parts baskets at a speed of 11 feet per minute or less from the initial loading of parts through the removal of cleaned parts, shall be used.

4) EUDEGREASER shall be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

5) EUDEGREASER shall be equipped with a vapor level control device that shuts off the sump heat if the vapor level rises above the height of the primary condenser.

6) EUDEGREASER shall be equipped with a primary condenser.

7) If EUDEGREASER uses a lip exhaust, it shall be designed and operated to route all collected solvent vapors through a carbon adsorber that is installed, maintained and operated in a satisfactory manner and meets the requirements of 40 CFR 63.463(e)(2)(vii).

## APPENDIX D
## Monitoring Requirements for Degreasers

The permittee shall not operate EUDEGREASER except in compliance with the monitoring requirements of 40 CFR 63.466. The requirements include, but are not limited to the following:

1) On a weekly basis, the permittee shall measure the temperature at the center of the air blanket during idling mode. [40 CFR 63.466(a)(1)]

2) An initial test of wind speed and room parameters used to achieve the reduced room draft, quarterly monitoring of the wind speed, and weekly monitoring of the room parameters. The wind speed shall be measured within the enclosure, as described in 40 CFR 63.466(d)(2).

3) The permittee shall measure the solvent concentration of the carbon adsorber exhaust on a weekly basis. The measurement shall be taken during working mode and shall be obtained as described in 40 CFR 63.466(e). The permittee may use a meter designed for reading ppm of TCE in the airstream in place of a colorimetric detector tube. [40 CFR 63.466(g)]

4) The hoist speed shall be determined on a monthly basis, in accordance with 40 CFR 63.466(c). If no hoist speed exceedances are measured in the first year, the monitoring may be done quarterly. If a hoist speed exceedance occurs, the monitoring frequency shall return to monthly until another year of compliance is demonstrated.

## APPENDIX E
## Recordkeeping Provisions for Degreasers

The following records shall be kept on file for a period of at least five years, unless other wise specified.

1) Owners' manuals, or if not available, written maintenance and operating procedures, for EUDEGREASER and control equipment, maintained for the life of EUDEGREASER.

2) Records of the monthly cover inspections or reduced room draft.

3) Records of the hazardous air pollutant (HAP) content of each solvent used in EUDEGREASER, maintained for the life of EUDEGREASER.

4) Records as required in 40 CFR 63.467(b)(2).

5) Records of all hoist speed determinations.

6) Records of the amount of solvent used each month and 12-month rolling time period.

7) Records of the temperature measured at the center of the air blanket during idling mode.

8) Records of the initial test of wind speed and room parameters used to achieve the reduced room draft.

9) Records of the monitored wind speed and room parameters.

10) Records of the date and result of all measurements of the solvent concentration in the carbon adsorber exhaust.