



ADDITIONAL TECHNICAL INFORMATION FOR DEGREASERS (PARTS CLEANERS)

The following information will be used for the technical review of a permit to install application for a **degreaser**. This information is in addition to the general requirements outlined in the AQD document "Information for an Administratively Complete Permit to Install Application", Part 2 - Additional Supporting Information, Items A through F. All of the information may not be needed for each application. Also, this document may not be all inclusive. Additional information beyond that identified may be necessary to complete the technical review of any individual application. In the event a determination is made that new additional information is needed for a technical review, this document will be updated.

All referenced guidance documents are available at <http://www.deq.state.mi.us/aps> or you may contact the Permit Section at 517-373-7023.

A. Process Description

1. Make, model number, and dimensions of the degreaser.
2. Type of unit (cold, heated, conveyORIZED, manual, automatic, continuous, batch).
3. The operating temperature of the bath.
4. A description of each solvent or cleaner to be used, consisting of the following information:
 - a) The density of the solvent, in pounds per gallon.
 - b) A listing of each component¹ in the solvent. In most cases, Material Safety Data Sheets are sufficient. This information will be used to determine compliance with Rule 225 which requires an analysis of Toxic Air Contaminant (TAC) emissions and their impacts. TAC emissions may result from individual components in the coating or from by-products created during the curing process. Therefore, multiple information sources and a chemical reaction analysis may be necessary to estimate emissions of TACs. For additional and more detailed documentation you may include, or in the future may be asked to include, additional sources of data such as Environmental Data Sheets, Environmental Constants Sheets or formulation data.
 - c) For each specific component provide:
 - i. The specific chemical name, such as xylene, methanol or lead chromate, and the respective Chemical Abstract Service (CAS) number. If after a rigorous effort has been made, the component does not appear to have a CAS number, identify the component by a generic or common name (i.e., aromatic hydrocarbon, alcohol, glycol ether, chromium pigment) and provide all available information on the chemical family, properties, characteristics, composition, etc. Lack of adequate chemical identification may delay the analysis of the TAC emissions.
 - ii. The percent of the component in the solvent by weight.
5. The normal and maximum amounts of solvent to be used in one hour and one year.
6. Describe any covers (powered or manual), devices for draining cleaned parts, the refrigerated freeboard device (if solvent is heated), conveyor (if so equipped), condenser, spray equipment, vapor level control device, the freeboard height, and air/vapor interface area.
7. Provide written operational procedures to be used, if available.

B. Regulatory Discussion

The following state air pollution control regulations may be applicable. Please review these regulations carefully to determine if they apply to your process and summarize the results in the application. The Air Pollution Control Rules may be viewed and downloaded from the AQD website at: www.michigan.gov/deqair.

¹ "Component" includes organic solvents, water, pigments, resins, catalysts, curing agents, accelerators, and other materials.

1. State of Michigan, Department of Environmental Quality, Act 451 of 1994, Natural Resources and Environmental Protection Act, Part 55 Air Pollution Control and the following promulgated rules:
 - a) Rules 215 and 216 apply to an existing facility which has a current Renewable Operating Permit (ROP). A Permit to Install issued for the installation of new equipment or modifications to existing equipment is incorporated into an ROP pursuant to Rules 215 and 216.
 - b) Rule 220 applies to a major source and/or a major modification at a source which is located in a non-attainment area. A non-attainment area is one where the National Ambient Air Quality Standards (NAAQS) are not being met. Rule 220 requires compliance with the lowest achievable emission rate (LAER) and an emission reduction (offset) for each non-attainment air contaminant emitted in significant quantities as defined by Rule 119(e). However, a source may choose to “net out” of the requirements of Rule 220. Refer to “Guidelines for a Netting Demonstration” for additional detailed information.
 - c) If the process or equipment was installed or modified after April 17, 1992, Rules 224 – 230 apply. Rule 224 requires the application of Best Available Control Technology for toxics (T-BACT) for all non VOC toxic air contaminants (TACs). T-BACT does not apply to emissions of VOCs. Rule 225 limits the emission impacts of TACs and requires a demonstration that the proposed emission of each TAC complies with a health-based screening level. Compliance can be demonstrated using any of three methods described in Rule 227(1) including the use of computerized dispersion modeling. Refer to “Guidelines for Conducting a Rule 224 T-BACT Analysis,” “TACs-Demonstrating Compliance with Rule 225,” and “Dispersion Modeling Guidance” for additional detailed information.
 - d) If the process or equipment was installed or modified after August 1, 1979, Rule 702 applies. This rule requires Best Available Control Technology (BACT) for new sources of volatile organic compounds (VOCs). Refer to “Instructions for Conducting a BACT Analysis” for additional detailed information. If the process or equipment was installed or modified before August 1, 1979, Part 6 rules are applicable.
 - e) Rules 707 - 710 address the requirements for various types of degreasers and cleaners.
 - f) Rule 901 prohibits emissions of an air contaminant in quantities that cause either a) injurious effects to human health or safety, animal life, plant life of significant economic value, or property; or b) unreasonable interference with the comfortable enjoyment of life and property.
2. National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP), 40 CFR Part 63, Subpart T, Standards for Halogenated Solvent Cleaning. If the process is subject to this regulation, describe the air pollution control combination or alternate standard that is proposed to meet the NESHAP requirements. If the alternate emissions standard or idling mode emission limits are proposed, supporting information demonstrating the ability to comply with the appropriate limit must be included.

C. Control Technology Analysis

1. Rule 702 BACT applies to all sources of VOCs proposed to be installed within the State of Michigan. A Rule 702 BACT analysis is very similar to a PSD top-down BACT analysis. Michigan’s air pollution control rules also define BACT as an emission limit. Rule 702 BACT should be applied on a flexible grouping of equipment – subdivisions of emission units and/or groupings of emission units – as long as it is logical to do so. Logical means that the principles on which the groupings (or subdivisions) are made are consistent with federal guidance and sound engineering practices. Refer to “Instructions for Conducting a BACT Analysis” for additional detailed information.
2. Best Available Control Technology for Toxics (T-BACT) means the maximum degree of emission reduction which the Department determines is reasonably achievable for each process that emits toxic air contaminants (TACs) taking into account energy, environmental and economic impacts, and other costs. T-BACT does not apply to VOCs. The analysis must be specific to the process and the TACs subject to a T-BACT review. T-BACT limits can be expressed as an emission limit, control equipment requirements, and/or work practice standards. Refer to “Guidelines for Conducting a Rule 224 T-BACT Analysis” for additional detailed information.
3. Lowest achievable emission rate (LAER) applies to a major source and/or a major modification at a source located in a non-attainment area. Currently the only two pollutants which may be subject to LAER in Michigan are VOCs and NOx. LAER is defined as the lowest emission limitation contained in any State Implementation Plan (SIP) or the lowest emission limitation achieved in practice. Such an emission limit is presumed to be LAER for that source class and category. If an applicant proposes to meet this presumptive

LAER, no site-specific control technology determination will be necessary. When an applicant believes the presumptive LAER limit is not achievable, a site-specific determination is required. This determination should include consideration of raw material changes, process changes, and add-on control equipment. The cost of these changes is not considered. Raw material and process changes should be evaluated through technology transfer (i.e., the likelihood that such a change will transfer from one industry to another), based on the manufacture of similar products or use of similar raw materials or fuels. Add-on controls should be evaluated based on the physical and chemical characteristics of the pollutant-bearing exhaust stream.