

Air Program Fact Sheet

Solvent Parts Cleaning Environmental Overview

February 2017

Solvent parts cleaning regulations

There are a variety of regulations that apply to operations that involve cleaning parts with solvents. These regulations may apply to a facility based on certain criteria. If a facility performs parts cleaning with solvents, it should review the following information to see if it is affected by any of the rules.

Federal air pollution standards

On December 2, 1994, the U.S. Environmental Protection Agency (US EPA) issued a MACT (Maximum Achievable Control Technology) standard regulating hazardous air pollutant emissions generated from the use of **halogenated** solvent cleaning machines. The goal of the standard is to reduce the amount of harmful pollutants emitted into the atmosphere when solvents evaporate.

When does this federal standard affect a business?

Businesses that use any of the following halogenated compounds, or combinations of them, in concentrations greater than 5% by weight, as a cleaning or drying agent are affected by the federal standard:

- Methylene Chloride
- Trichloroethylene
- Carbon Tetrachloride
- 1,1,1-Trichloroethane
- Chloroform
- Perchloroethylene

To determine if a solvent contains any of these chemicals, refer to the Safety Data Sheet (SDS) or ask the supplier. Mineral spirits and stoddard solvent, two commonly used cleaning solvents, are not affected by this standard.

How does a business comply with this standard?

The federal standard offers several compliance options. A business may choose to:

- switch to a non-chlorinated, water-based or semi-water based solvent (this option will exempt a facility from the federal standard, so it is in the facility's best interest to investigate it)
- comply with one of the equipment standards
- show that the cleaning machine meets the appropriate idling emission limit
- meet the appropriate alternative emission limit

Affected facilities must file Initial Notification Reports. The filing deadline has passed for existing sources, but new sources must file this report before construction or reconstruction begins.

Wisconsin air pollution standards

Wisconsin's regulation to control air pollution from solvent metal cleaning operations (ch. NR 423, Wisconsin Administrative Code) was first established in 1980 and then revised in 1996 to eliminate any conflicts with the MACT standard.

When does the state standard affect a business?

Throughout the state, this rule applies to the following types of solvent metal cleaning operations:

- Cold cleaners (parts cleaners)
- Open top (batch) vapor cleaners
- Conveyorized vapor cleaners
- Conveyorized non-vapor cleaners

In a nine-county ozone nonattainment and former nonattainment area, process line wipe cleaning operations are also addressed. This area includes the counties of: Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha.

Exemptions to the rule

Solvent metal cleaning operations throughout the state are affected by this standard. On a **statewide** basis, a business is exempt if:

- it uses only cleaning solvents with a VOC (volatile organic compound) content of 2.0% by volume, or less, or
- it uses photochemically unreactive solvents (i.e., methylene chloride or 1,1,1- trichloroethane).

If a facility is **not** in an ozone nonattainment or former nonattainment area, then the cleaner may be exempt from chapter NR 423, Wis. Adm. Code, if it is:

- a cold cleaner with a throughput less than 1.5 gallons of solvent per day, or
- an open top vapor cleaner or conveyorized cleaner emitting less than 15 lbs of VOC per day.

If a facility does not meet these emission-based exemptions, it still may be exempt from the pollution control device requirements of ch. NR 423 if it has:

- a cold cleaner with an open area less than 1.1 sq. ft.
- an open top vapor cleaner with an open area less than 10.8 sq. ft., or
- a conveyorized cleaner with an open area less than 21.6 sq. ft.

If a facility **is located** in an ozone nonattainment or former nonattainment area, a cleaner may be exempt from the control device requirements if it is:

- a cold cleaner with throughput less than 1.5 gallons of solvent per day and an open area less than 1.1 sq. ft.
- an open top vapor cleaner emitting less than 15 pounds of VOC per day and having an open area less than 10.8 sq. ft.
- a conveyorized cleaner emitting less than 15 pounds of VOC per day and having an open area less than 21.6 sq. ft., or
- a wipe-cleaning operation emitting less than 15 pounds of VOC per day

Whether exempt or not, a facility must still comply with general reporting and record keeping requirements.

How does a business comply with this standard?

All compliance deadlines for this rule have passed and all affected sources should be in compliance with the rule. If a facility is not in compliance with either section of the regulation, talk with a DNR inspector to arrange a compliance schedule, or contact the Small Business Environmental Assistance Program (SBEAP). SBEAP has detailed fact sheets available summarizing both the solvent MACT and the solvent RACT rules.

Pollution prevention

Pollution prevention reduces the amount of pollutants entering the environment by using alternative materials, changing processes, or increasing the efficiency of current processes. By using pollution prevention alternatives, a business may save money and avoid being affected by environmental regulations.

How pollution prevention benefits a business

- reduces costs of waste disposal, raw materials and insurance premiums
- reduces costs of complying with environmental regulations
- increases efficiency and competitiveness
- improves product quality and workplace conditions
- reduces regulatory burdens such as record keeping and reporting
- decreases long-term liability

Solvent degreasing pollution prevention alternatives:

- control emissions from solvent parts cleaning
- use less toxic or less volatile cleaning solvents
- switch to citrus-based, water-based or semi-water-based cleaning solvents
- change to a blast-cleaning or absorbent-cleaning method

Wastewater regulations

Facilities that substitute water-based cleaners for degreasing solvents must properly dispose of the spent cleaning baths and rinses. If a facility discharges to a municipal sewer system, the discharge must comply with the wastewater pretreatment requirements found in s. NR 211, Wis. Adm. Code, local sewer use ordinances and any applicable categorical standards. Contact a DNR pretreatment coordinator or the local sewage treatment plant for specific requirements.

If a facility is not connected to a municipal sewer system, another disposal method is required. Wastewater may not be discharged to a septic system, storm sewer, drainage ditch or surface water unless it has obtained a Wisconsin Pollutant Discharge Elimination System (WPDES) permit. It may not be practical to obtain a permit for small volumes of water, so contact a DNR wastewater engineer for further information.

For more information on wastewater regulations, contact DNR wastewater permit staff:

<http://dnr.wi.gov/topic/wastewater/PermitsStaff.html>.

Hazardous waste management and minimization

If parts are cleaned with solvent material at a facility, it may be creating hazardous waste that is regulated by DNR and US EPA. Examples of hazardous wastes can include contaminated or spent (used- up) solvents from process applications, industrial refuse such as rags or filter cartridges and diluted wastewater containing low concentrations of solvent and residues.

To determine if a business generates hazardous waste, become familiar with the terms “listed” hazardous waste and “characteristic” hazardous waste. Many materials used in solvent degreasing operations are considered “listed” hazardous wastes, because they are listed in the state regulations, chs. NR 661-679, Wis. Adm. Code. Other wastes may be “characteristic” hazardous waste, because the material exhibits characteristics of ignitability, corrosivity, reactivity or toxicity. See chapter NR 661 for more information on different types of wastes.

To determine if a waste is hazardous, check information from suppliers, look at container labels, read the Safety Data Sheets (SDS) or have a sample of the waste analyzed.

Once it has been determined whether a waste is hazardous, the facility must determine its hazardous waste “generator” status. Wisconsin has three generator classifications:

- Very Small Quantity Generators (VSQG)
- Small Quantity Generators (SQG)
- Large Quantity Generators (LQG)

Under federal and state laws, all hazardous waste generators must comply with some regulations, depending on their classification. For help making a hazardous waste determination or generator classification, contact the DNR or refer to the fact sheet *Is Your Waste Hazardous?* <http://dnr.wi.gov/files/PDF/pubs/wa/wa1152.pdf>.

For hazardous waste management information, contact the DNR’s Waste and Materials Management Program at 608-266-2111 or DNRWasteMaterials@wisconsin.gov.

Ozone depleting substances

Chlorinated compounds found in some degreasing solvents, such as methyl chloroform, carbon tetrachloride and chlorofluorocarbon-113, deplete the stratospheric ozone layer (which filters out harmful ultraviolet rays). Under an international agreement, these substances have not been produced since December 31, 1995. This agreement affects other ozone-depleting substances, such as those used in refrigerants, fire suppressants, foam-blowing agents and propellants. Commonly used solvents that do not deplete the ozone layer are still available, including perchloroethylene, methylene chloride and trichloroethylene.

The EPA evaluates and approves alternative solvents and degreasing equipment that can be substituted for the ozone-depleting solvents. Lists of these approved chemicals and methods are available through the EPA’s Significant New Alternative Policy. Visit <https://www.epa.gov/ozone-layer-protection> for details.

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