

## Petroleum-Based Parts Cleaning

This fact sheet covers parts washers that use petroleum-based solvents such as mineral spirits and naphtha to clean oil and grease from metal and other non-porous parts. Petroleum-based solvents, like other petroleum products (e.g. gasoline, fuel oil), are derived from crude oil and have environmental, health and safety concerns associated with them. Solvent cleaning performed in vapor degreasing units is not addressed here, nor is aqueous parts cleaning, which is the subject of a separate fact sheet.

### How is petroleum-based parts cleaning regulated?

Petroleum-based parts cleaning solvents are subject to regulation under both the Vermont Hazardous Waste Management Regulations (VHWMR), which affect the proper management and disposition of spent solvent, and section 5-253.14 of Vermont's Air Pollution Control Regulations, which establishes operating standards for minimizing the release of volatile organic compounds (VOCs) during use.

### Why is spent petroleum-based solvent a hazardous waste?

Under the VHWMR, spent petroleum-based solvents are regulated as hazardous waste because they contain greater than 5% by weight of petroleum distillate, and are identified by the VT02 hazardous waste code. These solvents can further qualify as hazardous waste if they have either a flash point less than 140° F and thus exhibit the characteristic of ignitability (identified by the D001 waste code), or if they become contaminated with certain toxic constituents during use.

In most cases, if the solvent is not ignitable at the time of purchase, it is unlikely that it will become ignitable through use. Conversely, parts cleaning solvent can easily become contaminated through use with toxic metals like chromium or lead (from parts) or even very small amounts of other solvents such as trichloroethylene or methyl ethyl ketone. Since these contaminants can cause spent petroleum-based solvent to be more strictly regulated, it is important to use parts washers carefully. In particular, avoid using cleaning (and other spray) products that contain regulated solvents over parts washing sinks or in a way that allows them to mix with the parts washing solvent.

In all cases, it is up to the generator to make a "determination" whether spent parts cleaning solvent is a hazardous waste based on testing, generator knowledge or a combination of the two. For more information about making a hazardous waste determination (and other requirements), refer to the "Conditionally Exempt Generator Handbook" available by calling 802-241-3888 or 1-800-974-9559, or by visiting: <http://www.anr.state.vt.us/dec/wastediv/pubs.htm> .

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### What if a parts washer is serviced by an outside contractor?

Many businesses choose to lease parts washers from an outside contractor who periodically replaces spent solvent with fresh solvent. The extent to which the VHWMR apply to the spent solvent depends on how the contractor manages the spent solvent after pick-up. Solvent that is used directly as an ingredient in an industrial process to make a product (i.e. without first processing or reclaiming the solvent) is exempt from regulation as a hazardous waste under section 7-204(a) of the VHWMR. In this case, the solvent does not count towards the total quantity of hazardous waste generated on-site.

Alternatively, in cases where the contractor either sends the spent solvent for fuel-blending, or must first reclaim the solvent before reusing it, the spent solvent is regulated as hazardous waste and the business using the parts washer is considered the generator of that waste. As with any hazardous waste, the weight of spent solvent must be counted toward the total quantity of hazardous waste generated by the business for the purpose of determining generator status. Also, it is important to note that even if the contractor completes the required documentation for shipping and tracking the waste, the business using the parts washer is still considered the generator.

### What if my parts washer is equipped with a filter to extend solvent life?

Although the use of filters to extend solvent life in a parts washer is considered a best management practice, spent filters and sediment are likely to be hazardous waste for the same reasons as spent solvent. As such, unless a generator determines otherwise, spent filters (and sediments) are assumed to be hazardous waste and must be stored in properly labeled containers that are kept covered to prevent solvent from evaporating. Even in situations where spent solvent is being reused directly, (and is therefore exempt under section 7-204(a) as explained above), spent filters are assumed to be hazardous waste

### Can spent petroleum-based solvent be mixed with used oil and burned in approved equipment?

Spent petroleum-based solvent that is hazardous waste only because it is ignitable (and because it contains petroleum distillates) may be mixed with used oil provided the resulting mixture is not ignitable. Such mixtures may be burned in approved space heating equipment provided all standards applicable to on-site used oil fuel burning are satisfied. See the "Burning Used Oil Fuel" fact sheet for more information. It is important to realize, however, that even though spent petroleum-based parts cleaning solvent can be mixed with used oil, spent solvent by itself does not meet the definition of "used oil" and therefore cannot be managed under the Used Oil Management Standards of Subchapter 8 of the VHWMR.

### What are terpene solvents?

Terpenes are organic solvents derived from natural sources such as pine trees and citrus fruit that generally have strong characteristic odors. Although terpenes are considered less toxic to use than petroleum-based solvents, they are comprised of volatile organic compounds and consequently can exhibit the hazardous waste characteristic of ignitability. Spent terpene solvents may also be subject to further regulation as a result of contaminants introduced during use.

## Environmental Fact Sheet: Petroleum-Based Parts Cleaning

### What requirements govern parts washers during use?

Vermont's Air Pollution Control Regulations require that the following standards be met to minimize emissions of volatile organic compounds from parts cleaning operations:

- ✓ Parts cleaning units must have a cover and the cover must be kept closed except when parts are being cleaned.
- ✓ If the parts washer is designed to spray solvent, the pressure of the spray cannot exceed 10 psi.
- ✓ Only parts that are non-porous and non-absorbent can be washed.
- ✓ Any leaks from a parts washer must be repaired.
- ✓ Cleaned parts must be drained until dripping stops.

### Best Management Practices

- Wipe off parts with a rag or wire brush before washing with solvent.
- Drip racks or trays that route solvent back into the parts washer can help increase drainage from parts (and minimize solvent loss).
- Carefully review Material Safety Data Sheets to avoid using hazardous materials as much as possible – spent solvent with a flash point greater than 140° F is not an ignitable hazardous waste.
- Keep accurate records of solvent purchases and the disposal of spent solvent and filters.
- Never use aerosol spray cleaners over a parts washer as those cleaners can introduce new solvents that can cause the parts washing solvent to be more strictly regulated.
- Use filters to extend solvent life.
- Consider a safer alternative like a terpene or water-based (aqueous) cleaner. See fact sheet on "Aqueous Parts Cleaning".

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#### ***For more information contact:***

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