

TECH SHEET

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Parts Cleaners Managing Waste Solvents

When mechanical components are repaired or maintained, parts cleaners are often used to remove the soils, oils and grease. This helps ensure parts function properly, and it may even extend their life. To get the most out of your parts cleaners, you should be aware of the hazards of your chosen solvent and make sure it is used, stored and disposed of correctly.

Parts Cleaner Basics

Most parts cleaner units consist of a cleaning basin, a solvent reservoir and a solvent recirculation system. Many small units are manually operated; the operator rinses with a solvent while brushing the soil, oil and grease from the parts.

Hazards of Solvent Types

Several types of solvents can be used in the cleaning process. The ideal choice depends on the type of part being cleaned, environmental conditions and the type of contamination of the dirty parts. The most common types of solvents are petroleum-based, low flash point solutions (100°F); petroleum-based, high flash point solutions (>140°F); and detergents.

Petroleum-Based, Low Flash Point Solvents

Petroleum-based solvents can have low flash points, or the temperature at which the solvent evaporates to form a mixture with air that can be ignited by a spark. Lower flash points make a material more flammable because it takes less heat to produce an ignitable mixture; therefore, low flash point solvents are highly flammable. Common petroleum-based, low flash point solvents include mineral spirits, or Varsol . They are considered hazardous waste when disposed.

Petroleum-Based, High Flash Point Solvents

Several solvents are on the market with flash points above 140°F. They typically have lower evaporation rates, less odor and may dry at a slightly slower rate. They are not considered hazardous waste, but keep in mind that they may become hazardous waste if

contaminated with a hazardous material.

Aqueous Solvents

These water-based solvents typically contain detergents, mild caustics or citrus-based products.

One advantage of using these types of products is that they significantly reduce or eliminate the risk of fire. They generally are not considered to be hazardous waste, unless they are contaminated with a hazardous material.



Reducing Waste

No matter which solvent is used in the parts cleaner, organizations should try to extend the life of the cleaning solvent. This reduces waste, as well as the cost associated with disposal. These guidelines can help you reduce waste generation:

- Clean parts only when necessary.
- Use wire brushes, squeegees or scrapers to clean a dirty part before placing it in the cleaning unit.
- Use alternative methods to clean parts, if available.
- Use a filtering system to remove contaminants or cyclonic separators to remove soils from the solvent. This can extend the life of the solvent and reduce hazardous waste disposal costs.

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- For detergents, remove the oil from the solvent by periodically skimming the top.
- When the parts cleaner is not in use, keep the lid shut on all solvents to reduce the loss of solvent through evaporation, air emissions and contamination.
- Dispose of rags, brushes, squeegees and scrapers properly after use to prevent contaminating solvents.

Management of Waste Solvents

Disposal methods for waste solvents are determined by solvent type and the amount and type of contamination. To reduce the amount of material designated as hazardous waste, store different types of waste solvent separately, thereby avoiding contamination.

As noted above, low flash point solvents are considered hazardous waste under the Resource Conservation and Recovery Act (RCRA) because they have flash points of less than 140°F. When these types of solvents are no longer useful, they should be disposed of through a hazardous waste hauler.

High flash point solvents are not initially considered hazardous wastes under RCRA; however, they may become hazardous if contaminated with the following:

- Any amount of a RCRA F-listed solvent (F001-F005) such as any chlorinated solvent (methylene chloride, 1,1,1-trichloroethane, trichloroethylene, etc.) or a nonhalogenated solvent (methyl ethyl ketone, toluene, benzene, etc.)
- A RCRA D-listed heavy metal (chromium, cadmium, lead, etc.) in a concentration that would cause it to fail a Toxicity Characteristic Leaching Procedure (TCLP) toxicity test

- A substance with a low flash point (<140°F) such as Naptha, mineral spirits, gasoline or kerosene in sufficient quantities to lower the flash point of the entire batch of solvent below 140°F

All petroleum-based solvents should be handled through a solvent servicer for recycling, fuel blending or incineration.

Water-based detergent cleaners should be managed in the same manner as high flash point solvents to prevent contamination that could cause them to become hazardous waste. If the water-based solvent is nonhazardous, consult the local wastewater treatment plant before discharging to the local sewer system. Some vendors of water-based cleaners also offer off-site disposal services.

Hazardous solvents should always be disposed of according to all applicable federal, state and local hazardous waste removal standards.

For Additional Information

Iowa Waste Reduction Center: www.iwrc.org

- Resources—Pollution Prevention Implementation Plans for Vehicle Maintenance

Minnesota Pollution Control Agency:

www.pca.state.mn.us

- Managing Solvent-Based Parts Washers

New Hampshire Department of Environmental Services: <http://des.nh.gov>

- Best Management Practices for Motor Vehicle Recyclers—Solvents & Parts Washers