



# Managing Aqueous Parts Washers

Hazardous Waste #4.44, March 2000

*This fact sheet discusses aqueous (water-based) parts washer wastes from units used for washing oily materials. For wastes from petroleum- and plant-based units, see fact sheet #4.43.*

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## Environmental Concerns

Most aqueous (water-based) systems use soaps or detergents, a corrosive ingredient, agitation and/or heat to remove oil and dirt. Aqueous systems will be hazardous if they:

- have a flash point lower than 140°F (are “ignitable”);
- have become contaminated above regulatory limits with Table 1 chemicals (are “toxic”);
- are contaminated with Table 2 solvents (are “listed”); or, they
- have a pH of 2.0 or lower or 12.5 or greater (are “corrosive”).

## Minimizing Parts Washer Waste

Fresh, clean water is scarce and getting more so; it is not an inexhaustible resource. If you are using an aqueous cleaning unit, use a size and type appropriate to your needs, follow recommended operating and maintenance procedures and change solution only if necessary.

- Use the washer only when necessary.
- Don’t use chlorinated aerosols (like brake or carburetor cleaners) or other cleaners over the sink.
- If you are using a contract service, schedule pickups when the solution no longer cleans.
- Units with filtration systems that remove particles may extend the life of solutions.
- Keep units closed and turned off when not in use to eliminate solution loss through evaporation and to keep utility costs down.

- Look for units with filters that can be easily changed, thus prolonging the life of the solution.
- Make sure filters are changed and other maintenance instructions are followed to maximize cleaner life and to cut waste and disposal costs.

## Determining Whether the Spent Solution Is Hazardous

Aqueous (water-based) cleaners are often advertised as nonhazardous — and they often are. But, in the process of washing dirty parts, the cleaning solution may become contaminated with solvents or metal-bearing oils and greases at levels that may make the waste solution hazardous.

Based on current information, spent aqueous cleaning solutions should be managed as a hazardous waste unless the generator has site-specific Toxicity Characteristic Leaching Procedure (TCLP) results that show otherwise. If no solvent-based cleaners, such as brake or carburetor cleaners, have been used over the aqueous parts washer, TCLP analysis for Resource Conservation and Recovery Act (RCRA) metals should suffice. If any of the solvents on the F list (see Table 2) have been used over the aqueous parts washer, the resulting contamination will make the waste a “listed” hazardous waste.

To show that the spent solution is not hazardous waste, you will need to:

- through testing or knowledge\*, show that the flash point is 140° F or greater.
- through testing, using the Toxicity Characteristic Leaching Procedure (TCLP), show that Table 1



contaminants are below regulated levels. The testing company can help you determine which contaminants to test for based on the type of cleaning you do.

- through testing or knowledge\*, show that the solution is not contaminated with Table 2 solvents.
- through testing or knowledge\*, show that the pH of the solution is higher than 2.0 but lower than 12.5.

\*If using knowledge, you must keep a record of how you made this determination.

If you intend to show through testing that the solution from your unit is nonhazardous and you want the test results to apply to subsequent solutions, you will need to document that your operation has remained the same — for example:

- the unit of time the solution was in service (e.g., 18 months) or
- the number of parts washed (e.g., 35 transmissions) or
- other criteria showing use is the same and
- the same cleaner and cleaning process is being used and
- the same kinds of parts are being cleaned (i.e., the contaminants are the same).

If you propose to discharge the waste solution to a sanitary-sewer system, make sure that tests and results meet both hazardous waste and discharge requirements. (Filtering before testing and discharge may be beneficial.) Prior to sampling or disposal, contact your local wastewater treatment plant *and* your hazardous waste regulatory authority for more information on the types of testing each may require.

### Marking and Storing Hazardous Solution

Store spent solutions before shipping in the following way:

1. Store the waste in a closed, sturdy container that is compatible with the waste. If you intend to ship the waste off site, use a container that meets the U.S. Department of Transportation shipping requirements.
2. Mark the container with the words “*Hazardous Waste*,” a clear description of the waste and the accumulation start date (the date the solution in the container was first declared a waste or the date the waste was first placed in the container).
3. Store the container on an impermeable surface. Or, if you store the container outdoors, place the container on a curbed, impermeable surface to contain leaks, protect the container from precipitation, ensure that access to it is restricted.

**Table 1: Toxicity Contaminants and Maximum Regulatory Levels**

Hazardous Waste Number	Contaminant	Concentration (milligrams per liter)
D004	Arsenic	5.0
D005	Barium	100.0
D018	Benzene	0.5
D006	Cadmium	1.0
D019	Carbon tetrachloride	0.5
D021	Chlorobenzene	100.0
D022	Chloroform	6.0
D007	Chromium	5.0
D023	o-Cresol	*200.0
D024	m-Cresol	*200.0
D025	p-Cresol	*200.0
D026	Cresol	*200.0
D027	1,4-Dichlorobenzene	7.5
D028	1,2-Dichloroethane	0.5
D029	1,1-Dichloroethylene	0.7
D030	2,4-Dinitrotoluene	0.13
D032	Hexachlorobenzene	0.13
D033	Hexachlorobutadiene	0.5
D034	Hexachloroethane	3.0
D008	Lead	5.0
D009	Mercury	0.2
D035	Methyl ethyl ketone	200.0
D036	Nitrobenzene	2.0
D037	Pentachlorophenol	100.0
D038	Pyridine	5.0
D010	Selenium	1.0
D011	Silver	5.0
D039	Tetrachloroethylene	0.7
D040	Trichloroethylene	0.5
D041	2,4,5-Trichlorophenol	400.0
D042	2,4,6-Trichlorophenol	2.0
D043	Vinyl chloride	0.2

*\*If 0-, m-, and p-cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 milligrams per liter.*

4. Inspect the container weekly to ensure that it is not leaking. Keep records of the inspection. (MPCA Waste fact sheet #2.41, *Documenting Container Inspections*, available on the Internet at [http://www.pca.state.mn.us/waste/pubs/2\\_41.pdf](http://www.pca.state.mn.us/waste/pubs/2_41.pdf) may help you.)

For more information on hazardous waste storage requirements, see MPCA Waste fact sheet #1.04, *Mark and Store Waste Correctly*, available on the Internet at [http://www.pca.state.mn.us/waste/pubs/1\\_041\\_05.pdf](http://www.pca.state.mn.us/waste/pubs/1_041_05.pdf).



## Disposal/Recycling Options

There are presently no recycling options for this waste. Dispose of the spent cleaning solution as follows:

- Send the spent solution off site as hazardous waste.
- Solutions (with solids/sludge removed) can sometimes be discharged to a sanitary sewer system — but *never* to a septic tank/drainfield system or a holding tank that will be pumped out and land applied by a septage hauler. Contact your hazardous waste regulatory authority *and* your local sewer authority for testing requirements and approval prior to discharging.

Prior to off-site shipment, you may reduce the amount of water in the solution through evaporation, provided both these conditions are met:

1. No volatile hazardous constituents are present. (Volatile hazardous constituents are introduced into the solution through solvent contamination.)
2. Notify and receive permission from your hazardous waste regulatory authority. Notification must include:
  - how you propose to evaporate the solution (*e.g.*, simple evaporation in open container; use of heat or hood; etc.),
  - the volume of solution that will be evaporated,
  - how often you propose to evaporate solution,

**Table 2: Solvents on the F List**

**F001** Carbon tetrachloride, chlorinated fluorocarbons, methylene chloride, tetrachloroethylene, 1,1,1-trichloroethane, and trichloroethylene.

**F002** Chlorobenzene, methylene chloride, orthodichlorobenzene, tetrachloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, trichlorofluoromethane, and 1,1,2-trifluoroethane.

**F003** Acetone, cyclohexanone, ethyl acetate, ethyl benzene, ethyl ether, methanol, methyl isobutyl ketone, n-butyl alcohol and xylene.

**F004** Cresols, cresylic acid and nitrobenzene.

**F005** Benzene, carbon disulfide, 2-ethoxyethanol, isobutanol, methyl ethyl ketone, 2-nitropropane, pyridine, toluene.

Mixtures and blends of the above solvents and distillation bottoms are also listed. For detailed information, request MPCA fact sheet #2.00, *F List of Hazardous Waste*.

- the potential health risk to employees and how you will prevent or minimize it, and
- the potential for a release to the environment and how you will prevent or minimize it.

## Shipping Procedures

Ship the waste according to Minnesota Department of Transportation requirements. Apply appropriate shipping labels to the container and complete a hazardous waste manifest (special multicopy shipping paper) to accompany the shipment. The haulers often do this as a part of their service, but **it is the generator's responsibility to ensure that the correct shipping labels are applied and the manifest is filled out completely and correctly before the waste leaves the site.** Often the generator's U.S. Environmental Protection Agency number or name and address is filled out incorrectly on the manifest, resulting in a violation. So, check to make sure it's correct.

For more information on use of a manifest, see MPCA fact sheet #1.07, *Manifest Shipments of Hazardous Waste*, available on the Internet at [http://www.pca.state.mn.us/waste/pubs/1\\_07.pdf](http://www.pca.state.mn.us/waste/pubs/1_07.pdf).

## Keeping Records

Keep the following records for a minimum of three years:

1. test results or other documentation showing a waste is nonhazardous (Test results should be kept for 3 years from the time you last generated the waste. They are not needed if the waste is managed as a hazardous waste.);
2. weekly storage container inspection documentation for hazardous wastes; and
3. initial and final copies of manifests (and Land Disposal Restriction forms, if needed) for shipping hazardous waste.

## Filters, Sorbents, Sludges and Skimmed Oil

Filters or sorbent materials, such as pads, may be used to capture contaminants from the unit, or oil may be skimmed off the surface; sludges may accumulate in the unit. **The following management guidance applies to units that are not contaminated with Table 2 solvents. If contaminated with Table 2 solvents, all of these materials must be managed as hazardous waste.**

Oil that is skimmed off the cleaning solution can be managed as used oil; no testing is required.



Launderable sorbents containing no free liquid can be sent to a commercial laundry. They need not be accompanied by a manifest.

Filters, sorbents and sludges:

1. Drain all free liquids.
2. Store in a closed, marked container.
3. Then:
  - **Recycle or burn for energy.** If you already have used oil filters or have oil-contaminated materials that are recycled or burned for energy, your waste-management company may allow you to add parts washer filters, sorbents and/or sludges to the existing waste stream. Or, you may be able to start a new waste stream that can be managed in this manner. Check with your waste-management company.
  - **Dispose of in solid waste** — including burning at a permitted solid waste incinerator. Before you can do this, you need to evaluate to show these are not hazardous wastes. If you change your process, you must re-evaluate the waste. (Your supplier may be able to help you obtain the test data. Confirm acceptability of the vendor’s data with your regulatory agency.) Prior approval is required to dispose of nonhazardous wastes in a solid-waste landfill — not all landfills can accept these types of waste.
  - **Manage as a hazardous waste.** If your waste-management company will not accept your filters, sorbents or sludges and you cannot show they are nonhazardous, they must be managed as a hazardous waste.

**If the parts washer is *not* used for cleaning oil-contaminated parts, handle the filters, sorbents and sludges as hazardous waste unless you have data showing they are not hazardous.** Examples of parts cleaning where evaluation data are needed include:

- cleaning parts from equipment used with hazardous chemicals and
- cleaning parts in printing, painting and adhesive applications.

### For More Information

Your metropolitan county, local wastewater treatment plant operator, MnTAP and the MPCA have staff available to answer questions. For more information, contact your metropolitan county hazardous waste office, MnTAP, the MPCA office closest to your county or your local wastewater treatment plant operator.

#### Metro County Hazardous Waste Offices

Anoka County .....	(612) 422-7093
Carver County .....	(612) 361-1800
Dakota County .....	(612) 891-7011
Hennepin County .....	(612) 348-8100
Ramsey County .....	(651) 773-4466
Scott County .....	(612) 496-8177
Washington County .....	(651) 430-6655

#### Minnesota Technical Assistance Program

Toll free .....	(800) 247-0015
.....	(612) 624-1300

**Web Site** ..... <http://www.mntap.umn.edu>

#### Metropolitan Council Environmental Services

*(metro wastewater treatment plant)*  
Industrial Waste Section .... (651) 602-4703

**Web Site** ..... <http://www.metrocouncil.org>

#### Minnesota Pollution Control Agency

Toll free .....	(800) 657-3864
Brainerd .....	(218) 828-2492
Detroit Lakes .....	(218) 847-1519
Duluth .....	(218) 723-4660
Marshall .....	(507) 537-7146
Rochester .....	(507) 285-7343
St. Paul .....	(651) 297-2274
Willmar .....	(320) 214-3786

**Web Site** ..... <http://www.pca.state.mn.us>



# Application to Evaporate Aqueous Parts Washer Solution

Print or type information. One application is required for each site. Return to your hazardous waste regulatory authority.

Company Name \_\_\_\_\_ EPA ID# \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Contact \_\_\_\_\_ Telephone (\_\_\_\_\_) \_\_\_\_\_

1. How many aqueous parts washers will you evaporate? \_\_\_\_\_

2. What is the volume of **each** solution that will be evaporated?

3. How have you ensured there are no volatile hazardous constituents present?

- Test results (Attach a copy.)
- Other (Explain fully.)

Reviewed by _____
Date _____
<input type="checkbox"/> Approved
<input type="checkbox"/> Not Approved because

4. How do you propose to evaporate the solution(s)? (Explain fully.)

5. What is the potential health risk to your employees? How will you prevent or minimize it?

6. What is the potential for a release of hazardous contaminants? How will you prevent or minimize it?

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including possibility of fine and imprisonment.

Name (print) \_\_\_\_\_ Title \_\_\_\_\_

Name (signed) \_\_\_\_\_ Date \_\_\_\_\_