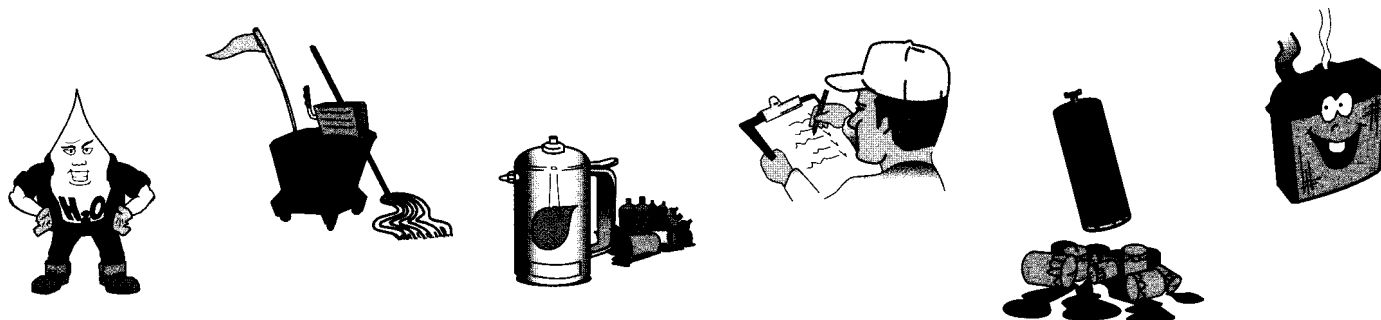




# PROFIT THROUGH PREVENTION

## Best Environmental Practices for Auto Repair and Fleet Maintenance



### Getting Started

The step-by-step instructions in this fact sheet can help you reduce waste, avoid regulatory problems, and save money! This fact sheet is the first in the "Pollution Prevention Tool Kit," a series of fact sheets highlighting the Best Environmental Practices for auto repair shops and fleet maintenance facilities. This fact sheet contains the following information:

- Step-by-step instructions for reducing your waste generation
- Tables to help you assess your waste stream volumes and costs before and after implementing the recommended practices
- References to other fact sheets in the series that contain detailed information on recommended practices
- Specific guidance on how common auto repair and fleet maintenance shop wastes are regulated.

### How to Minimize Your Waste Generation Now

Use the table on page 2 to inventory your current practices and waste streams. Then refer to the recommended Best Environmental Practices described in the fact sheets cited on page 3. Test and implement as many recommended practices as possible, and then re-inventory your waste streams on page 3.

If you reduce your total monthly volume of hazardous waste to less than 220 pounds or 27 gallons, you will have significantly fewer hazardous waste regulations to comply with.

**Remember that a hazardous waste may never be discharged into a sanitary sewer, storm drain, ditch, dry well, or septic system!**

### Is your waste hazardous?

You are ultimately responsible for determining whether the wastes generated in your shop are regulated as hazardous wastes. You can apply your knowledge of shop operations and of the materials you use to determine whether a waste is regulated as a hazardous waste. If you suspect that a waste may be hazardous but are not sure, either assume that it is hazardous and pay for proper waste disposal or recycling, or have the waste tested to get a definitive determination.

Local laboratories and hazardous waste disposal companies can sample and test a waste for you using approved methods. The test results will tell you whether the waste is hazardous or not. If it is not hazardous, and if both the chemicals and process you use to generate that waste do not change, you can rely on the test results for that one sample as proof that the waste is not hazardous in the future. That is, the waste generated by the process in the future will be assumed to have characteristics similar to the current waste. Make sure to keep a copy of each test result in your files in case a hazardous waste inspector ever questions your waste determination.

Your air emissions and sanitary sewer discharges are regulated by your local air district and sewer agency, respectively. You should consult them about air and sewer discharge requirements.

### REDUCING YOUR WASTE = FEWER HAZARDOUS WASTE REGULATIONS

Large Quantity Generator (LQG)	→	Small Quantity Generator (SQG)	→	Conditionally Exempt Small Quantity Generator (CESQG)
2,200 lbs or 275 gallons or more per month		220 to 2,200 lbs or 27 to 275 gallons per month		220 lbs or 27 gallons or less per month
5 drums or more per mo.		1/2 drum to 5 drums		Less than 1/2 drum
At least 78 regulations		At least 67 regulations		Just 3 regulations! (see back page for details)

**STEP 1: Calculate your *current* generator status**

Complete the worksheet below to identify and quantify hazardous wastes now leaving your shop.

Process	Traditional Practice	Waste Stream	Is Waste Hazardous? (use notes below)	Amount per Month Quantity of Hazardous Waste	Disposal cost
Parts Washing	Solvent Service	Waste Solvent <sup>A</sup>			
Coolant Changing	Off-site Recycling or Disposal	Waste Antifreeze <sup>B</sup>			
Brake Washing	Aerosol Spray Cans	Waste Cans <sup>C</sup>			
	Solvent Service	Waste Solvent <sup>D</sup>			
Lubricating and Spot Cleaning	Aerosol Spray Cans	Waste Cans <sup>C</sup>			
		Used Rags or Paper Towels <sup>E</sup>			
Floor Cleaning	Disposable Rags or Paper Towels	Used Rags or Paper Towels <sup>E</sup>			
	Dry Absorbents	Used Absorbent <sup>F</sup>			
	Hosing With Water	Trap or Separator Sludges <sup>G</sup>			
	Cleaning Service	Wash or Mop Water <sup>H</sup>			
Other Processes		Waste Gasoline, etc.			
Determine your generator status by adding up the quantity of all hazardous wastes (Multiply gallons by 8 to convert to pounds)					
Determine your monthly waste management costs for all waste streams					

**Waste Stream Regulatory Guidance for “Traditional” Practices**

<sup>A</sup> Waste solvents and solvent sludges are generally hazardous unless testing demonstrates otherwise.

<sup>B</sup> Waste antifreeze may be hazardous depending on its metal concentration. In a 1999 federal survey of sampling studies, about half the waste antifreeze samples proved to be hazardous wastes. If waste antifreeze is hazardous, you may not discharge it into a sanitary sewer, storm drain, ditch, dry well, or septic system. Some states exempt recycled waste antifreeze from hazardous waste regulations. If you recycle waste antifreeze in such a state, do not count it as a hazardous waste. Otherwise, test your waste antifreeze or count it as a hazardous waste.

<sup>C</sup> Used aerosol cans should be disposed of in trash or recycled as scrap metal if they are completely empty. Dispose of used aerosol cans as hazardous waste if they are not empty and their contents are hazardous. Do not count empties as hazardous waste.

<sup>D</sup> Spent brake washing solvent is very likely to be a hazardous waste.

<sup>E</sup> Used rags and paper towels are very likely to be a hazardous waste if they are contaminated with gasoline or solvent. If the solvent product used contained an F-listed chemical at a 10% or greater concentration, the contaminated rags or towels will be a hazardous waste (see “What is an F-listed Chemical” on page 4). If solvent on rags or towels is not an F-listed chemical, use your knowledge or test the rags or towels to determine whether they are hazardous. If they are hazardous, it is illegal to dispose of them in trash. Have used rags laundered (recycled) by an industrial laundry, or dispose of them as a hazardous waste.

<sup>F</sup> Used absorbents soaked with waste oil are not federally regulated, unless they are also contaminated with hazardous wastes. Some states regulate oily wastes and may count oil-soaked absorbents as hazardous waste, unless recycled in accordance with state law.

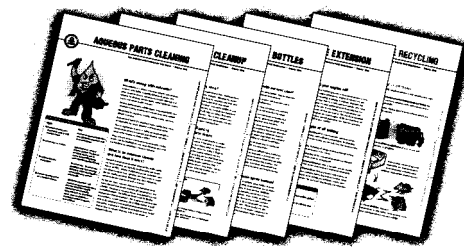
<sup>G</sup> Sludges from traps and oil/water separators may contain heavy metals or solvents. Test sludges at least once to determine whether they contain heavy metals or solvents.

<sup>H</sup> Wash water or mop water is generally not counted as a hazardous waste. However, if wash or mop water meets the criteria for a hazardous waste, it may not be placed in a sanitary sewer. For example, washing gasoline into the drain would be illegal disposal of a hazardous waste (waste gasoline is hazardous because of its ignitability and benzene content). Even if it is not hazardous waste, wash or mop water must meet sewer discharge requirements limiting its oil and grease content, etc. Check with your sewerage agency for requirements.

*Note: Used oil; brake, transmission, and hydraulic fluids; oil filters; refrigerant from air conditioning systems; and batteries are not addressed here because if they are recycled in accordance with state and federal laws, they are not counted as hazardous wastes when determining generator status. If your shop does not recycle these materials, follow state laws.*

**STEP 2: Implement as many best practices as you can**

Refer to the enclosed fact sheets.

**STEP 3: Calculate your *new* generator status**

After implementing as many Best Practices as possible, recalculate your waste volumes and costs.

Process	Best Practice	Waste Stream	Is Waste Hazardous? (use notes below)	Amount per Month Quantity of Hazardous Waste	Disposal cost
Parts Washing	Aqueous Spray Cabinet, Ultrasonic unit, Microbial Sink-top, or Immersion unit	Waste Filters <sup>I</sup> Waste Aqueous Solution <sup>J</sup>			
Coolant Changing	On-site or Off-site Recycling	Sludges or Resins <sup>K</sup> Waste Filters <sup>L</sup>			
Brake Washing	Aqueous Brake Washing	Waste Solution <sup>J</sup>			
Lubricating and Spot Cleaning	Refillable Spray Bottles	Used Rags or Paper Towels <sup>E</sup>			
Floor Cleaning	Spill Prevention and Dry,Cleanup Methods	Used Rags or Paper Towels <sup>E</sup> Mop Water <sup>M</sup> Used Absorbent <sup>N</sup>			
Other Processes		Waste Gasoline, etc.			
Determine your new generator status by adding the monthly quantities of all hazardous wastes. (Multiply gallons by 8 to convert to pounds) Compare the total quantity to the Step 1 total.					
Estimate your new monthly waste disposal costs for all waste streams. Compare the total cost to Step 1 total.					

**Waste Stream Regulatory Guidance for Best Practices**

<sup>I</sup> Waste metal filters should be recycled with oil filters as a “hazardous waste-exempt scrap metal waste”; other waste filters should be disposed of as a hazardous waste or tested. In one study, one out of two filters tested positive as a hazardous waste because of the presence of lead.

<sup>J</sup> Waste aqueous solution should be shipped off site as a hazardous waste or tested. In two studies, 75 percent of waste aqueous solutions tested positive as hazardous wastes because of their lead and cadmium concentrations. Microbial solutions may last for years. Extend solution life by pre-cleaning parts with a rag, filtering, and removing oil.

<sup>K</sup> Antifreeze recycling sludges or resins should be shipped off site as a hazardous waste or tested. In a 1999 federal survey of sampling studies, about half the waste antifreeze samples proved to be hazardous wastes due to metals content. Antifreeze recycling sludges and resins are likely to contain even higher concentrations of metals than waste antifreeze.

<sup>L</sup> Antifreeze recycling filters made of metal should be recycled with oil filters as a “hazardous waste-exempt scrap metal waste”; for nonmetal filters, make your own determination based on your process knowledge or testing.

<sup>M</sup> Mop water should be nonhazardous and can be disposed of in a sanitary sewer, provided that all floor spills are first cleaned up using dry cleanup methods. If the floor drain is capped, pour the mop water into a sink or flush it down a toilet (local sewer agency approval is required). Mop water and other waste material should never be discharged to a storm drain, ditch, dry well, or septic system.

<sup>N</sup> Used absorbent should be used only to clean up gasoline or solvent spills; in emergency situations; or for cleanup of old, pitted shop floors. Test the used absorbent or use your knowledge of what was spilled to determine whether the used absorbent is hazardous. Absorbent saturated with gasoline or solvents will very likely be a hazardous waste.

*Note: Used oil; brake, transmission, and hydraulic fluids; oil filters; refrigerants from air conditioning systems; and batteries are not addressed here because if they are recycled in accordance with state and federal laws, they are not counted as hazardous wastes when determining generator status. If your shop does not recycle these materials, follow state laws.*

## What “CESQG” Means to Your Shop

If you generate less than 220 pounds per month of hazardous wastes (about 27 gallons of a liquid with the same weight as water), you officially become a CESQG. CESQGs have significantly fewer hazardous waste requirements to comply with and many more waste management options. In addition to local air pollution regulations and wastewater discharge rules, a CESQG need comply with only three basic hazardous waste management requirements:

- 1) Identify all hazardous waste you generate;
- 2) Do not store more than 2,200 pounds (275 gallons) of hazardous waste on site at any one time;
- 3) Legitimately use, reuse, or recycle your waste on site, or ensure delivery of your hazardous waste to one of the following:
  - A state or federally regulated hazardous waste treatment, storage, or disposal facility (TSDF)
  - A facility permitted, licensed, or registered by the state to manage municipal or industrial solid waste
  - A facility that legitimately uses, reuses, or recycles the waste or treats the waste prior to its use, reuse, or recycling
  - A household hazardous waste collection center run by your state or local government, if available.

*Note: Some states require CESQGs to meet other requirements, such as obtaining an EPA identification number or further restricting disposal options. Call your state hazardous waste agency for CESQG information.*

### What is an F-Listed Chemical?

An F-Listed chemical is a chemical that makes each waste it contaminates a hazardous waste no matter what its concentration in the waste is.

Even one drop of an F-listed chemical on a shop rag, in absorbent, or in used oil or antifreeze is enough to make a regulated hazardous waste.

Find out which products in your shop contain F-listed chemicals, and be very careful not to contaminate your wastes with them. Check the Material Safety Data Sheet (MSDS) for each product you use. If the product is an aerosol or liquid solvent (parts cleaner, brake cleaner, etc.) and has any of the following chemicals in it at a concentration of 10 percent or more, all waste streams contaminated by the product must be properly managed as hazardous wastes: acetone; methanol; 1,1,1-trichloroethane; methyl ethyl ketone; methyl isobutyl ketone; xylenes; benzene; ethyl benzene; toluene; perchloroethylene; trichloroethylene; and dichloromethane (methylene chloride).

*“The Pollution Prevention Tool Kit is a great resource for our industry Repair shops can realize significant compliance benefits and cost savings by following the sound recommendations provided.”*

-Larry Moore, Past President, Automotive Service Councils of California

Your state or local government environmental agency has more information about compliance and pollution prevention for auto repair shops and fleet maintenance operations in your state or area. Additional fact sheets and information can be found at [www.epa.gov/region09/p2/autofleet](http://www.epa.gov/region09/p2/autofleet).

This fact sheet is part of a package of fact sheets entitled either “The Pollution prevention Tool Kit, Best Environmental practices for Auto Repair” (publication number EPA-909-E-99-001) or “The Pollution Prevention Tool Kit, Best Environmental Practices for Fleet Maintenance” (publication number EPA-909-E-99-002). To obtain copies of either package, call (800) 490-9198. Accompanying videos, “profit Through Prevention”, are available at the same phone number for either auto repair (number EPA-909-V-99-001) or fleet maintenance (number EPA-909-V-99-002).



These fact sheets were produced by the Environmental Protection Agency (EPA) Region 9 pollution prevention program.