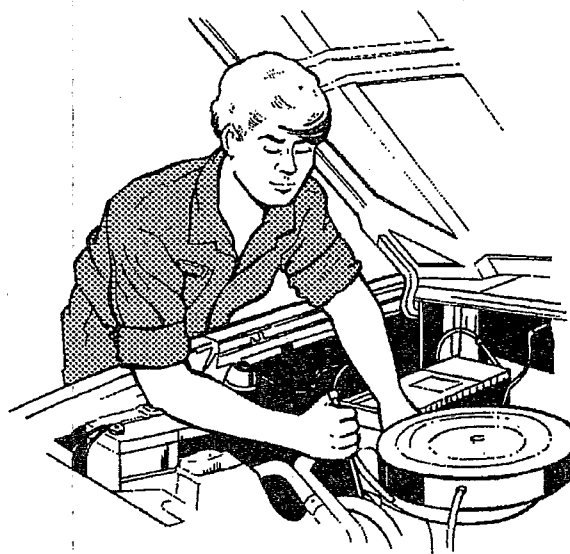


## **Fuel for Thought...**

# How to Reduce Wastes at Your Shop



Vehicle maintenance involves handling and managing a wide variety of materials and wastes. Some of these wastes can be toxic to fish, wildlife, and humans when improperly managed. No matter the amount of waste produced, it is to the shop's legal and financial advantage to manage the wastes properly and, even more importantly, to prevent pollution.

This brochure identifies some waste reduction and pollution prevention (P2) options that may be followed to ensure that wastes do not end up in the wrong place where they can cause harm. In addition, a list of important contacts and useful waste reduction and P2 tips is provided.

## HANDLING SHOP WASTES

### *Oil*



Recycle used oil. Set up equipment, such as a drip table or screen table with a used oil collection bucket, to collect oils dripping off parts. Place drip pans underneath vehicles that are leaking fluids onto the storage area.



Do not mix other wastes with used oil, except as allowed by your recycler.



Used oil generated by a shop (and/or oil received from household "do-it-yourself" generators) may be burned on site in a commercial space heater. Also, used oil (on and off-specification, and hazardous waste fuel) may be burned for energy recovery. Contact State and local authorities to determine requirements and to obtain necessary permits.

### *Oil Filters*



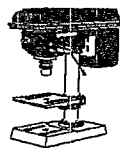
Drain (for at least 24 hours), crush, and recycle used oil filters whenever possible.

### *Batteries*



Recycle batteries by sending them to a reclaimer or back to the distributor. Keeping shipping receipts can demonstrate that you have recycled. Store batteries in a water-tight, acid-resistant container. Inspect batteries for cracks and leaks when they come in. Treat a dropped battery as if it were cracked. Acid residue is hazardous because it is corrosive and may contain lead and other toxics. Neutralize spilled acid (e.g., by using baking soda or lime) and dispose of as hazardous waste.

### *Metal Residue from Machining*



Collect metal filings when machining metal parts. Keep separate and recycle if possible. Prevent metal filings from falling into a storm drain.

## REFRIGERANTS



Recover and/or recycle refrigerants during the service and disposal of motor vehicle air conditioners and refrigeration equipment. It is not allowable to knowingly vent refrigerants to the atmosphere. Recovery and/or recycling during servicing must be performed by an EPA-certified technician using certified equipment and following specified procedures.

## SOLVENTS



Replace hazardous chemicals with less toxic alternatives that have equal performance. For example, substitute water-based cleaning solvents for petroleum-based solvent degreasers.



To reduce the amount of solvent used when cleaning parts, use a two stage process; dirty solvent followed by fresh solvent.



Hire a hazardous waste management service to clean and recycle solvents. (Some spent solvents *must* be disposed of as hazardous waste, unless recycled properly.)

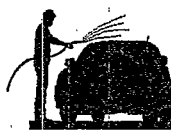


Store solvents in closed containers to prevent evaporation. Evaporation of solvents contribute to ozone depletion and smog formation. In addition, the residue from evaporation must be treated as a hazardous waste.



Properly label spent solvents and store on drip pads or in diked areas and only with compatible materials.

## VEHICLE WASHWATER



Wash vehicles in an area where the washwater can be collected, treated, and recycled. Eventually, the recycled wastewater will need to either be removed and disposed of by a licensed hauler or discharged to sewers or surface waters. State and local authorities need to be contacted prior to any discharge to obtain the necessary permits and to determine if treatment is necessary prior to discharge or disposal.

## FUELING OPERATIONS



Prevent fuel overflows during tank filling by regularly monitoring transfers.



Prevent spills resulting from "topping off" tanks by training employees on proper fueling techniques.



Prevent contamination of runoff by not cleaning the fueling area with running water. Consider using absorbent pads or a mop to clean fueling area.



To avoid liabilities associated with using high sulfur content diesel fuel (dyed fuels), use only undyed diesel fuel, suitable for highway vehicles. Air pollution is reduced by using undyed fuels because they contain less sulfur. Use the following precautions when purchasing fuels: know your supplier, observe pump labels, visually inspect the fuel, look for evidence of tampering and keep receipts.

## UNDERGROUND STORAGE TANKS (UST)



If your shop maintains an underground storage tank (UST) for used oil, motor oil, or fuel (gasoline, diesel, kerosene) you are probably subject to UST regulations. Leaking USTs can contaminate ground water. For the requirements that apply to your UST, call your State or local agency.

## RAINWATER OR SNOWMELT RUN OFF



Surround vehicle storage areas, with a dike to prevent leaking fluids from being carried by rainwater or snowmelt runoff. Diked run off can be directed to an oil/water separator and discharged to a wastewater treatment plant or surface waters, with proper permits. Check with local and state authorities to determine permit requirements.

## RESPONDING TO SPILLS



Construct dikes around material storage areas to contain spills.



Contain and control leaks and spills as quickly as possible. Clean leaks and spills immediately using dry methods, such as absorbent wipes. Portable absorbent booms should be readily available for a quick response. Use dry absorbent materials such as kitty litter or organic-based absorbents to absorb oil and grease. Dispose of used absorbent properly, in accordance with Federal and State regulations.



Keep a log book of Material Safety Data Sheets (MSDS) in a central location that is easily accessible. All employees should understand the properties and the adverse effects of the materials they use and be aware of this reference for use during an emergency.



An emergency response plan and spill kit should be accessible at all times.

## HANDLING WASTEWATER



Shop wastewater (water contaminated by antifreeze, oil, etc.) can either be directed to a wastewater treatment plant, surface waters, or to a holding tank for removal by a waste hauler.

If wastewater is discharged to a municipal wastewater treatment plant, treatment may be required and it may be necessary to obtain a permit from the municipality. If wastewater is discharged to surface waters, (ponds, rivers, lakes, etc.) via pipe or storm sewer a discharge permit **must** be obtained. Check with local and State authorities to determine requirements and the appropriate permitting authority. If a wastewater treatment plant is not available or will not accept your wastewater, or if you do not have an discharge permit, route your wastewater to a tank or container for proper collection and disposal by a licensed waste hauler.



Water used for cleaning often contains solvents, degreasers, and cleaning solutions, as well as contaminants from the cleaned areas. This process wastewater cannot be easily disposed of and may require treatment. Eliminating water from cleaning processes may enable a shop to reduce its wastewater volume. Keep wastewater from service bay clean-up out of storm drains.



If you have a septic system, do not discharge shop wastewater to the system. This wastewater interferes with the ability of the septic system to break down sanitary wastes. Use an oil/water separator to trap sediments and skim oils and contain your shop wastewater for removal by a licensed waste hauler.



Floor drains should be connected to an oil/water separator to treat wastewater prior to discharge to sewers, surface waters, or containment. It is preferable to equip the separator with an emergency shut-off to prevent spills from entering the sewer, or discharging directly to surface waters. It is important to inspect the separator periodically and arrange for waste removal by a licensed waste hauler when required.



Do not discharge toxic or hazardous wastes to drain fields, dry wells, cesspools, pits, separate storm drains, sewers, surface waters, or septic tanks. Otherwise you may be in violation of Federal, State or local requirements and subject to monetary penalties.

## WASTE REDUCTION & P2 TIPS

✓ Recycle wastes such as:

- Refrigerants,
- Solvents,
- Oil,
- Batteries, and
- Antifreeze.

✓ Investigate using a laundry service for shop towels.

✓ Replace hazardous chemicals with less toxic ones.

✓ Wash parts in two stages to reduce solvent usage.

✓ Store solvents in closed containers to prevent evaporation.

✓ Wash vehicles in an area where wastewater can be collected and either recycled or retreated.

✓ Conduct fuel transfers in a manner that prevents overflows and spills.

✓ Use only undyed diesel fuel.

✓ Call State and local agencies to determine UST requirements.

✓ Prevent rain water from coming into contact with materials stored outside.

✓ Contact State or local authorities to determine if treatment of wastewater is necessary.

✓ Hire a reputable waste hauler.

## CENTERS & CLEARINGHOUSES

*National Automotive Repair Compliance Assistance  
Center-Coordinating Committee for Automotive Repair-  
CCAR-GreenLink, 888-GRN-LINK (888-476-5465),  
(ccarinfo@unicom.net), and  
(http://www.ccar-greenlink.org)*

*Pollution Prevention Clearinghouse (202-260-1023);*

*Recycling Hotline (800-947-3873);*

*Small Business Ombudsman (800-368-5888)*

*Solid & Hazardous Waste (RCRA), Superfund (CERCLA)  
(800-424-9346);*

*Solid Waste Information Clearinghouse (800-677-9424);*

*Storm Water: Office of Water Resource Center  
(202-260-7786);*

*Waste Water/Small Flows Clearinghouse  
(800-624-8301);*

## EMERGENCY RESPONSE & ASSISTANCE

*CHEMTREC operated by Chemical Manufacturers Association  
on Health and Safety (Emergency: 800-424-9300 and  
Non-Emergency: 800-262-8200);*

*Environmental Health Effects: (National Institute of Health)  
Information on chemicals in ground and surface water,  
hazardous wastes (800-643-4794).*

*National Response Center - U.S. Coast Guard Oil & Hazardous  
Material Spills (800-424-8802);*



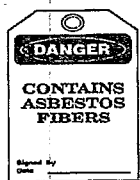
# HANDLING HAZARDOUS WASTE

## Waste Storage

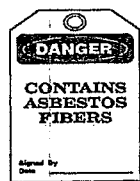


Always keep hazardous waste separate, properly label and sealed in the recommended containers. The storage area should be covered and may need to be fenced and locked if vandalism could be a problem. Select a licensed hazardous waste hauler after seeking recommendations and reviewing the firm's permits and authorization.

## Asbestos



Generally, EPA does not regulate the removal of asbestos brakes unless debonding or grinding of asbestos brake pads constitutes over 50% of the shop's work. At such facilities, the asbestos materials are regulated as a hazardous waste and handled accordingly and stored in an enclosed container, and sent to a hazardous waste hauler.



However, even when asbestos wastes are not regulated as hazardous wastes, EPA recommends that shops capture asbestos from brake shoes in a separate container. Use a low pressure/wet cleaning method, OSHA-preferred method of compliance. **DO NOT BLC BRAKE DUST** and never use an air hose for cleaning!

U.S. EPA Office of Compliance has additional environmental information available through Enviro\$en\$e (<http://es.inel.gov>)

## DISCLAIMER:

*This document is designed to increase one's general environmental knowledge and awareness. The contents are not intended to create rights and cannot be relied upon to replace Federal and State regulations. State and local requirements may differ from this document. The U.S. Environmental Protection Agency reserves the right to change the contents of this document without public notice.*

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