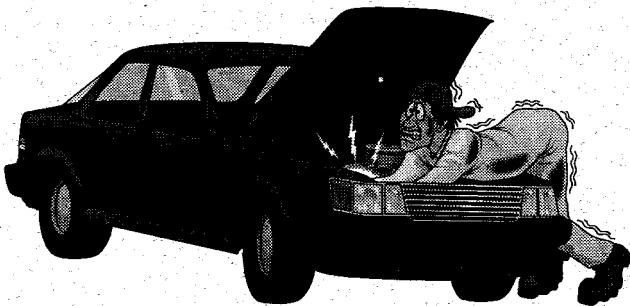


Pollution Prevention



for Auto Repair Shops



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This document is published to help educate businesses on some of the environmental issues affecting them. It suggests options that may help businesses to operate in an environmentally appropriate manner. They are based on experience and simple common sense ideas. Many of the options go beyond what is required to remain in compliance with the regulations. Please refer to Chapter 24 of the Metropolitan Dade County Code ("Metropolitan Dade County Environmental Protection Ordinance") for the exact regulations.

What is pollution prevention?

It is the *reduction or elimination* of pollutants or wastes *at the source*. The idea behind pollution prevention is to avoid producing the waste in the first place. Having less waste to deal with means a better environment for all of us.

What you can do

Auto mechanic shops deal with many hazardous chemicals. Hey, it's part of the business! But, you can reduce the amount of waste your shop produces by using pollution prevention tips. This means you have fewer disposal fees, which means you save money! But best of all you pollute less! Look at the benefits.

- Save money!



- Protect public health and environment!



- Improve your company image!



- Reduce the risk of liability!



Get Hooked on Pollution Prevention

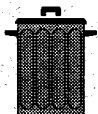
Dade County D.E.R.M. (Department of Environmental Resources Management) is urging every business in Dade to reduce waste by starting a pollution prevention program. Here are some things to consider when setting up your program.

- **Make a commitment to pollution prevention.** This commitment should start at the top, with the owner or manager of your shop, and should extend to every employee.

- **Employee participation.** Your employees must be aware of the importance of waste reduction through pollution prevention practices. Their participation and suggestions in your waste reduction program will determine if it is a success.
- **Evaluate your shop's waste.** Look around your shop to see how much and what kind of waste is being produced. This will make it easier for you to spot areas where pollution prevention tips can be applied.

Many pollution prevention practices are low-cost and low-risk alternatives to hazardous waste disposal. Most of the approaches do not require sophisticated technology, and your shop may already be using pollution prevention practices without realizing it!

Keep It Clean!

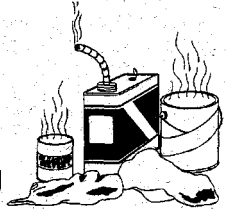


Poor housekeeping results in spills and overflows. This may double your expense by making you pay for lost material and also its treatment and disposal. Many source reduction options are simple housekeeping changes. This is the easiest and least expensive way to reduce waste. Here are some tips.

- Keep your shop clean and your floors dry.
- Keep good records of the materials you use. Mark the purchase date on each container and adopt a "first in, first out" policy so older materials are used before new ones are opened.
- Keep all containers covered to prevent evaporation and spillage (very important).
- Keep storage and work areas clean and well organized. Keep all containers properly labeled.
- Do not mix hazardous chemicals with non-hazardous chemicals. This will mean all of the waste will have to be treated as a hazardous waste.

There are many different chemicals, substances, and processes used at an auto mechanic shop. They can be potentially dangerous if mishandled or mismanaged. Below are tips to help your shop. Remember, "an ounce of [pollution] prevention is better than a pound of cure."

Solvents



- Find a multi-purpose solvent that can serve a variety of uses, rather than having a different one for each operation. This will reduce the number of waste streams and also increase the recycling potential of the spent solvent.
- Better yet find a safer solvent (e.g. water based, terpene)
- Avoid spillage as much as possible. Install drip racks over the bath to allow cleaned parts to drain.
- Extend the life of the solvent baths. Parts cleaning can be done in 3 steps. 1) Pre-clean parts with rags or brushes (then have the rags cleaned for reuse), 2) use old solvent as a pre-soak to remove most of the dirt and grease, and 3) use a fresh bath for a final cleaning. After using this fresh bath a few times it will become the old solvent to be used in step 2.
- Use on site recovery techniques to make solvents reusable. Some examples are below:

Decanting-- pouring off liquids from a sludge that has settled. (see Hazardous Waste p.9)

Filtration-- passing solvents through a filter to remove the solids. (see Hazardous Waste p.9)

Distillation-- separating liquids by boiling one of them off. (see Hazardous Waste p.9)

For smaller businesses, it may be better to have a permitted company that handles parts washers come in and remove the dirty solution and refill the parts cleaner. For a list of permitted haulers call D.E.R.M.'s Liquid Waste Transporter's Program (372-6789).

Oil, filters, and oil spills



- Handle oil very carefully to avoid spillage. Use drip pans and keep absorbent material nearby to quickly clean up any spills. Used absorbent material must be disposed of by a D.E.R.M. approved hauler.
- Reusable absorbent pads are available that allow oil to be "squeezed out" into a waste oil drum.
- Automobile oil is recyclable. Make sure you dispose of your oil using a D.E.R.M. approved hauler.
- Oil filters might be contaminated with toxic metals. Drain and send them to an approved recycler.

Batteries

- Always store batteries on an impermeable (sealed) surface under cover until shipment.
- Used lead-acid batteries should be returned to a supplier or reclaimer promptly because lead and sulfuric acid can contaminate soil and water. Lead exposure has been shown to cause mental retardation. Children are more susceptible to effects of lead than adults.

Tires

- Tires can be recapped for reuse. This is especially economical for larger tires used by trucks or buses.
- No more than 1000 waste tires can be stored at a repair facility without a permit from D.E.R.M. Since tires pose a fire hazard, check with your local Fire Department for storage requirements.
- The Resource Recovery Facility (6990 N.W. 97 Ave. 591-3534) accepts all kinds of automobile tires. You must set up a date to dump your tires. Permit letters for

a single dump can be obtained for \$75/ton. For more information contact D.S.W.M. (594-1670).

- Frequent haulers of over 25 tires must obtain a permit from the Florida Department of Environmental Protection (F.D.E.P.) (904)488-0300. Coupons are available from Metro-Dade Solid Waste Management (D.S.W.M.) at 592-3295.

Breaks

Brake fluid must be collected and handled properly (see fluids p.6).

- Older brake pads and shoes may contain asbestos
 - To prevent the release of asbestos dust into the air it is suggested that a High Efficiency Particulate Air (HEPA) filter vacuum be used on the braking systems prior to servicing whether dust is visible or not. Once the filter bag has been filled, double bag it, label it as an asbestos waste and ship to a Class 1 landfill (South Dade Landfill- 24000 S.W. 97 Ave (258-2830) or Medely Landfill- 9350 N.W. 89 Ave (883-7670)) The South Dade Landfill accepts waste from the general public. The Medely Landfill accepts only from its customers (Waste Management of Dade County).
 - If you use a "wet" system when servicing brakes, filter the solution with a HEPA filter, dispose as above and, if it meets the sewer standards, discharge the solution to the sanitary sewers.
- Asbestos causes lung cancer!* To avoid any risk, workers are urged to use at least a half-face respirator with a HEPA filter cartridge.

New and Used Fluids

(The term "fluids" can include coolant, transmission, brake, power steering, wiper, and battery fluids)

- If you store large amounts of fluids, you should provide secondary containment and follow required procedures. For more guidelines call D.E.R.M.'s Hazardous Facilities Section (372-6600).
- Waste fluids should be isolated and stored in clearly labeled containers. Fluid collection and storage areas should be
 - under cover (preferably indoors)
 - have an impermeable (sealed) surface
 - be able to catch any leaks or spills
 - and be able to contain at least 110% of the volume of the largest vessel.
- Check with Fire Dept. for their requirements
- Pouring waste fluid(s) on open ground, in storm drains, or in septic tanks can contaminate ground water.
- Recycling used fluids is recommended. This can be done on-site or by an approved recycler. (e.g. Units for filtering, adding the necessary additives, and restoring coolant are available.)

A/C Repair

The refrigerant used in most automobiles is CFC-12 (CFC is chlorofluorocarbon), commonly known as "Freon."™ CFCs have been proven to deplete the "ozone layer" from the Earth's upper atmosphere. The "ozone layer" protects Earth from powerful ultraviolet radiation. CFCs are often released into the air when car A/Cs are serviced. Following these tips can help reduce the risk of more ozone destruction.

- All A/C repair facilities must be permitted by D.E.R.M.
- All shops that service A/Cs are required to recover and recycle CFCs. You must use "recover/recycle" or

"recover- only" equipment approved by the EPA. A sticker on the equipment must indicate that the unit meets either **SAEJ 1991** or **SAEJ 2209** standards. The equipment must be approved by Underwriters Laboratory (UL), or ET Testing Laboratories, Inc.

- Release of CFCs to the air is against the law! Fines for releasing can be \$500 each.
- Before adding any refrigerant to a car check the system for any leaks.
- The technicians using the equipment must be properly trained and certified by at least one of the EPA approved Technician Certification Programs below.
 - MACS** - Mobile Air Conditioning Society (215)541-4500
 - IMACA** - International Mobile Air Conditioning Association (817)338-1100
 - ASE** - National Institute for Automotive Service Excellence (703)713-3800
- For more info call D.E.R.M.'s Air Section 372-6925.

Used Rags

- Rags covered with oil or solvents may be considered a hazardous waste. They can be handled by a permitted industrial laundry service or disposed of as a hazardous waste. Contact D.E.R.M.'s Liquid Waste Transporter's Program (372-6789).

Used Parts Storage and Disposal

- Scrap parts can be sold or given to recyclers.
- Used parts should be stored on an impermeable surface under cover.
- All fluids and refrigerants must be properly recovered from scrap parts prior to disposal or storage (see Fluids and A/C repair p.6)



Engine, Vehicle, and Floor Cleaning

Wastewater from these cleaning practices may contain oil, solvents, and other pollutants. Regulations limit the levels of pollutants that you can discharge to the **sanitary sewer**. There should be no industrial discharges to storm sewers, septic tanks, or open ground. Here are some tips.



- Systems can be used to collect, treat, and/or recycle wastewater.
- For D.E.R.M. approved existing facilities served by a septic tank and/or potable water well, the effluent can be collected, recycled, and/or treated. It must then be hauled to a sewage treatment plant by a permitted septic tank hauler after prior written approval from D.E.R.M.'s Hazardous Facilities Section (372-6600).
- For new facilities served by the same system(s) as above, only car wash facilities equipped with a self-contained water recycling system may be approved. These facilities should not "back wash" their filters but instead have them disposed of properly (potentially as hazardous waste).
- The detergents or solvents used to clean may emulsify the oils, waxes, and greases, making the oil/water separator useless. In some cases, treatment or recycling systems can be used, followed by discharge to sanitary sewer, if it meets sewer standards.

Radiator Repair

- Remove as much oil as possible from the oil cooler before the radiator is put into the boil-out tank. Use compressed air if necessary. Collect and segregate the oil from the other process wastes. Depending on the quantities, sell it or give it to a waste oil hauler.
- Seal or increase the height of any floor drains to reduce the possibility of leaks or spills entering the sanitary

sewer. Making a dike or berm around the process baths is another way to contain process leaks/spills.

- Don't do your welding above the boil-out tank.
- Use compressed air to blow out any residual alkaline solution left in the radiator after it is taken out of the boil-out tank. This should be done over the tank so that the material can be collected and returned.
- Monitor the boil-out tank and add only the minimum required types and quantities of chemicals.
- When the bath has to be removed, hopefully no more than once a year, first remove the liquid and trap the solids using filtration (e.g. bag filter) or settling. Then return the liquid portion to the process tank.
- Use the minimum amount of water to rinse the radiators after the boil out tank. Use high pressure with a low water flow rate.
- Use dry or damp cleanup techniques for spills or leaks.

What to do with Hazardous Waste?



Here are some tips on hazardous waste disposal:

- Keep all records of Hazardous Waste handled on site including amounts stored, reused, and hauled away for at least three (3) years.
- Hazardous waste should be shipped out by an EPA/DOT permitted hauler to an EPA approved treatment, storage, and disposal facility.
- The facility generating the waste should obtain an EPA identification number from the address below, unless classified as a "Conditionally Exempt Small Quantity Generator."

Bureau of Waste Planning and Regulation
Twin Towers Office Bldg
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ph: (904)487-3299

Phone Numbers



METRO-DADE COUNTY

Dept. of Environmental Resources Management

- Main Switchboard (305) 372-6789
- Hazardous Facilities Section... (305) 372-6600
- Air Section (305) 372-6925
- Liquid Waste Transporters (305) 372-6804
- Storage Tank Permitting (305) 372-6716

Department of Solid Waste Management

- Main Switchboard (305) 592-1776

FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION

- Southeast Region Office (407) 433-2650
- Tallahassee Office (904) 488-0300

Sources of Additional Help for Pollution Prevention

Metro-Dade County Department of Environmental Resources Management- Pollution Prevention (P2) Program (305)372-6789. The P2 program publishes a quarterly newsletter, has a library of information, holds workshops and training periodically, and provides on-site consultation to select facilities.

Florida Department of Environmental Protection- Waste Reduction Assistance Program (904)488-0300. This program provides technical assistance in the form of informational resources, research for waste reduction options, telephone consultation, experts and speakers for workshops, and on-site waste reduction assessments to business, industry, and governmental agencies in Florida.

The Florida Clean Air Act Small Business Assistance Program 1-800-722-7457 This office assists small businesses with compliance under the new Clean Air Act.

Waste Reduction Resource Center 1-800-476-8686 The center provides information to persons in EPA's Region IV (Florida included). Their library contains over 3000 journal articles, case studies, technical assistance reports and books.



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Pollution Prevention Program
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