

Salvage Yard Owners

Protecting the Environment is Everyone's Business

Secondary Containment

Used Oil

Used Oil Filters

Used Antifreeze

Storage Tanks

Used Tires

Old Batteries

Chlorofluorocarbons

Mercury

Storm Water Permits

Does your yard often take in antifreeze, oil, tires, or batteries along with other scrap and salvage material? You can avoid disposal costs and might earn a profit by recycling these items. For example, antifreeze can be filtered and resold, oil can be burned and used to heat on-site garages or other buildings, gasoline can be drained from salvaged cars and reused for on-site machinery, and recycling facilities may pay for old lead acid batteries. The Department of Environmental Quality (DEQ), the state agency responsible for regulating the environmental laws in Michigan, encourages recycling and other uses and methods of disposal of these items to improve your business and help the environment.

In the past, recycling was thought of as taking too much time and not worth the effort. Today, technology and a changing marketplace have made recycling easier and profitable. Proper disposal of recyclable materials can protect you and your business from expensive future cleanup costs. Protecting the environment is good for business. What can you do? This publication explains many ways in which you can improve your business and keep the environment clean. Here are some examples of what can be done with recyclable materials at your facility:

Antifreeze can be drained from radiators, filtered, and resold as pre-diluted antifreeze; or with an antifreeze recycling system, additives can be mixed with the antifreeze to produce a mixture that, if done properly, will mix well with new antifreeze in radiator protection. **Oil** can be recycled and turned into other petroleum products or burned for heating purposes. **Tires** can be recycled into usable products. **Batteries** and **oil filters** can be recycled at a recycling facility. **Freon** must be collected by a trained professional, and if properly managed, can be reused in vehicle air conditioners.

About This Guidebook

This brochure was originally prepared by the DEQ Southeast Michigan District Office, the University of Michigan-Dearborn Student Internship Program, and the Southeast Michigan Council of Government. Material for this brochure was obtained from DEQ files and DRACO Systems. This version of the brochure was revised and reprinted in June, 1999 by the DEQ, Environmental Assistance Division (EAD).

The EAD can provide free assistance with waste reduction practices for your business through the Retired Engineer Technical Assistance Program (RETAP). RETAP provides confidential, nonregulatory, voluntary waste reduction assessments for Michigan businesses that request services. Call the EAD at 800-662-9278 for more information on the RETAP program.

To obtain market directories which list recycling companies or to provide information on the subjects discussed in this brochure, contact the EAD at 800-662-9278 or by e-mail at deq-ead-env-assist@state.mi.us for more information.

A listing of liquid industrial waste and hazardous waste transporters can be obtained by calling the DEQ Waste Management Division at 517-373-0263.

Additional information and regulations are available on the DEQ Internet site at www.deq.state.mi.us.

Information about licensing of salvage yards can be obtained by calling the Secretary of State, Dealer Division, at 517-373-9081.

Contact local units of government for any local zoning or permit requirements.



Sponsors:



SEMCOG

DEQ

Table of Contents



Secondary Containment	1
Used Oil	3
Used Oil Filters	4
Used Antifreeze	4
Storage Tanks	5
Used Tires	6
Old Batteries	7
Chlorofluorocarbons	7
Mercury	8
Storm Water Permits	8
DEQ District Office Map	9



Secondary Containment

Secondary containment is a program involving structures and operational methods that block or trap hazardous substances and polluting material. The containment prevents substances from escaping by gravity through sewers, drains, or otherwise directly or indirectly into a sewer system, the soil, groundwater, lakes, and streams. Examples of secondary containment include: a metal shed with a sealed concrete floor, barrier structures around an outdoor tank (a walled enclosure capable of holding a minimum of one and one-half times the amount of liquid in the largest tank within the enclosure), double-walled tanks, and indoor storage rooms without floor drains. Other examples of secondary containment include a blind trench drain or a drip pan underneath a spigot.

Your facility should use secondary containment for any stored liquids, such as oil, gas, and antifreeze. Secondary containment should also be used when storing lead acid batteries or when removing automotive parts such as engines, transmissions, and pumps that may contain polluting materials. Existing facilities with floor drains that lead to the surface waters, groundwater, or onto the ground must have their drains sealed shut. A special nonshrink grout or nonshrink concrete could be used. Floor drains can also be surrounded with a riser to block the flow of polluting materials into the drain. The separated liquids can then be recycled or hauled away by a licensed liquid industrial waste transporter. An inside containment area should be on sealed concrete floors without floor drains or on a sealed concrete floor with sealed floor drains. An outside containment area should consist of a sealed concrete slab with raised sides capable of retaining any spills and either roofed to keep rain, snow, and stormwater out, or large enough to hold any precipitation plus the required containment volume for stored materials. Proper secondary containment must be designed to prevent material from squirting over the containment wall if a container leaks or ruptures. In general, the distance between the storage container and the secondary containment wall should be the same as the difference between their heights. For ex-

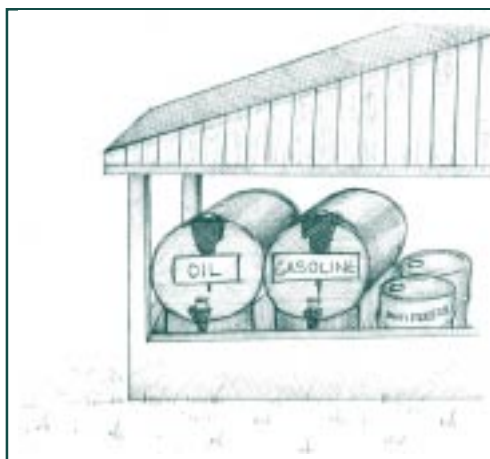
ample, a four-foot high drum should be placed three feet away from a one-foot high containment wall. Splash guards or baffles may also be attached to the walls to extend the height of the wall to prevent squirting outside of the system. These measures will prevent any spills or leaks from reaching the soil or waters. For more information on secondary containment in Michigan, call the DEQ Environmental Assistance Division (EAD) at 800-662-9278 or the Waste Management Division (WMD) at the nearest district office.

Your facility will be required to have a Spill Prevention Control and Countermeasure Plan (SPCC Plan) if your facility could potentially discharge oil into or upon the surface water and has a total aboveground oil storage capacity of more than 1,320 gallons or an



Metal Shed

- Metal sheds are available at discount stores. They shelter drums from rain and snow.
- Sheds should be anchored to withstand wind.
- Shed construction should allow air flow to avoid buildup of fumes.
- Concrete base and curb inside provides secondary containment.
- Ramp provides easy access for loading dolly and drums.



Pole Shed

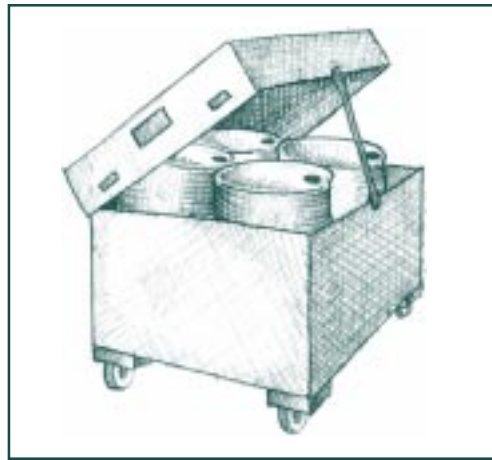
- A pole shed with dike provides secondary containment. It should be set back from buildings to meet fire safety requirements.
- Place drums or tanks away from the edge of the dike.
- Roof provides some shelter from rain and snow.
- The shed should be constructed with nonflammable material.
- Use a water vacuum or pump to remove rainwater.
- The concrete base and dike should be able to trap 150 percent of the contents.

aboveground oil storage capacity of more than 660 gallons in a single tank. An SPCC is a prevention plan that is designed to prevent oil from reaching surface waters. These are guidelines set by the United States Environmental Protection Agency (EPA). You may also be required to file a Pollution Incident Prevention Plan (PIPP) with the WMD if the DEQ determines that the storage facility may be a hazard to the waters of the state. "Waters of the state" include groundwater, lakes, rivers and streams, and all other watercourses and waters within the jurisdiction of the state and also the Great Lakes bordering the state. It may be possible to prepare a combined plan as long as the plan contains the information required under both state and federal regulations.

The SPCC must be reviewed by the DEQ Surface Water Quality Division (SWQD) if there is a spill of 1,000 gallons or more, or two spills of any amount in a 12-month period. Otherwise, the plan is reviewed by you every three years, or six months after any change in operation or facility design. To find out if your facility is required to have an SPCC, or for more information on SPCCs in Michigan, contact Dr. Barbara Carr, SPCC Coordinator for the EPA Region V at 312- 886-7187, the DEQ Environmental Assistance Division at 800-662-9278, or the SWQD at the nearest district office. The completed PIPP is to be submitted to the WMD. For more information on the PIPP, call the EAD at 800-662-9278 or the WMD at the nearest district office.

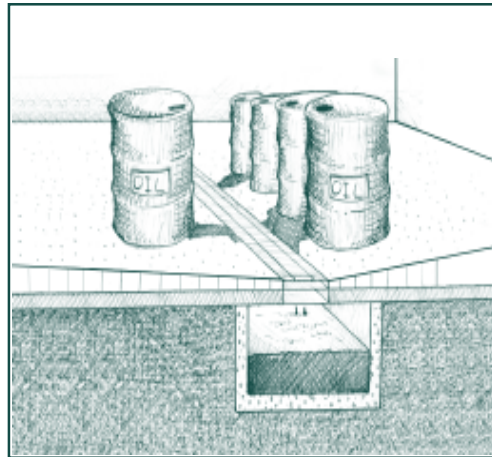
The following secondary containment preventative devices and actions can be implemented and/or constructed:

- Leak-proof dikes or barriers surrounding tanks and drums.
- Curbing capable of retaining any spill.
- Sump and collection systems to retain any spill.
- Periodic inspections.
- Preventative maintenance.



Portable Secondary Containment

- It consists of welded metal with sealed joints.
- The lid closes for safety when not in use.
- Wheels allow for easy mobility.
- It can be purchased or fabricated to meet special needs.



Blind Trench Drain

- Trench drain is closed to prevent hazardous substances from reaching sewer, septic system, dry well, or the environment.
- It should be periodically pumped out by a licensed industrial or hazardous waste hauler.



Indoor Storage Room

- A storage room with curb provides secondary containment.
- Floor drains should be blocked to prevent spills from reaching the environment.
- Storage racks and cabinets have sills to trap leaks.
- Drums and containers are properly labeled with safety precautions.
- Drums on pallets allow managers to easily check for leaks.



Drip Pan Under Spigot

- A drip pan under a tank spigot catches drips in high-use areas.
- Extra care should be used in areas where portable containers are filled with oil or chemicals.
- Cleanup responsibility should be assigned to one person.

Automotive fluids are a liquid industrial waste in Michigan and can be a hazardous waste. It is the generator's responsibility to characterize his or her waste. Large quantities of automotive oil, including motor oil, transmission fluid, power steering fluid, and brake fluid, are dumped annually, contaminating soil, surface water, and groundwater. Federal and state laws prohibit the dumping of oil onto the ground, into sewers, drainage systems, or any waters in the state.

The DEQ recommends recycling oil. It should be collected following proper secondary containment practices. All containers or tanks storing used oil must be labeled with the words "Used Oil." The owner or operator of a used oil collection center or aggregation point must provide written notification of used oil management activities to the DEQ Waste Management Division Chief. A licensed liquid industrial waste or hazardous waste transporter should be used if the oil is transported by a contractor and a manifest must be used for each shipment of used oil. A used oil generator must obtain and utilize either a Michigan generator number or a U.S. EPA identification number assigned by the WMD.

Used oil can be taken to an oil reclamation facility where it can be recycled and reclaimed into a variety of products. The benefits of recycling oil include a reduction on petroleum imports, lower costs for fuel users, and a cleaner environment. For more information on the rules and regulations regarding used oil management, contact the EAD at 800-662-9278 or the WMD at the nearest district office. A list of licensed liquid industrial waste haulers may be obtained by calling the WMD in Lansing at 517-373-2730.

Waste oil can also be burned in a waste oil heater in order to provide heat in the winter. When converted to heat energy, waste oil has a heat value of about \$1.25 per gallon. This is the dollar amount heating bills will be reduced for every gallon of waste oil converted to heat energy. A DEQ Air Quality Division (AQD) permit to burn

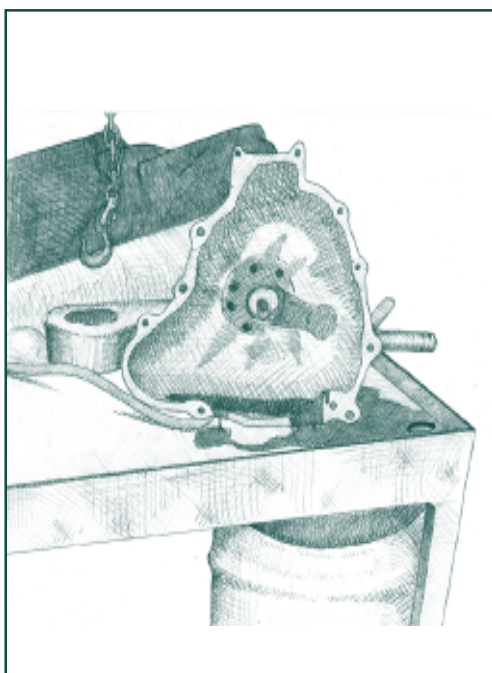
used oil is not required, provided that the space heater meets **all** of these state requirements:

- The fuel burning equipment must have a rated heat input capacity of not more than 500,000 BTU/hour.
- The unit is vented to the outdoors so you do not breathe the fumes.
- The fuel burning equipment is used only for space heating, service water heating, or indirect heating.
- Only waste oil products generated "**on-site**" may be converted to heat energy.
- Only waste oil can be used in the burner, never toxic wastes like solvents, paints, or antifreeze.
- Clean and maintain the burner according to the manufacturer's directions.
- Make sure you have all the required permits from the local and state fire marshal.

Salvage yards burning any amount of waste oil from **off-site** sources need a permit from the AQD to install a furnace and use the oil for heating purposes. Additionally, hazardous waste and



liquid industrial waste regulations are required to be met for waste generated off-site which would be burned at the facility. For information on used oil management in Michigan, call the EAD at 800-662-9278 or the WMD at the nearest district office. For permit requirements for the burning of waste oil outside of Wayne County, call the EAD at 800-662-9278 or the AQD at the nearest district office. For questions regarding used oil burning if located in Wayne County, contact the Wayne County Department of Environment, Air Quality Management Division at 313-833-7030.



Parts such as engines and transmissions can be disassembled on a table with raised sides and a drain leading to storage containers with secondary containment. The captured oil can be recycled and turned into other petroleum products or burned for heating purposes.

Used Oil Filters

Used oil filters containing terne-plated material (an alloy of lead and tin) are classified as hazardous waste when disposed. The manufacturing of these filters was banned in January 1993. The test to determine if oil filters are hazardous is difficult and costly; a better method of disposal is recycling. Recycling used oil filters as scrap metal also makes them exempt from hazardous waste regulations and characterization tests. To recycle oil filters, oil must be drained from the filter. One of the following methods is suggested:

- Puncturing the filter anti-drain back valve or the filter dome end and hot-draining;
- Hot-draining and crushing;
- Dismantling and hot-draining; or
- Any other equivalent hot-draining method that will remove used oil.

By using a filter crusher, an additional seven to nine ounces of oil will be removed from the filter. The collected oil can then be recycled. The filter itself can be taken to a recycling or scrap metal facility to be recycled into useable products.

Another option is to put the drained filter in a burn-off oven that burns away the oil residue and paper in the filter and cleans the metal for recycling.

Nonterne used oil filters are not subject to hazardous waste regulation when hot-drained and managed by one of the above methods. If the metal part of the filter is recycled and the filter medium is disposed, then the filter portion would need to be characterized to determine how it must be managed. For further information on the management requirements of used oil filters, call the EAD at 800-662-9278 or the WMD at the nearest district office. For information about filter recycling, call the Filter Manufacturer's Hotline at 800-993-4583 or check your local phone directory yellow pages under *scrap metal* for a list of scrap metal recyclers. To discuss permit requirements for the use of a burn-off oven in Michigan, call the AQD at the nearest district office. In Wayne County, call the Wayne County Department of Environment, Air Quality Management Division at 313-833-7030.



Used Antifreeze

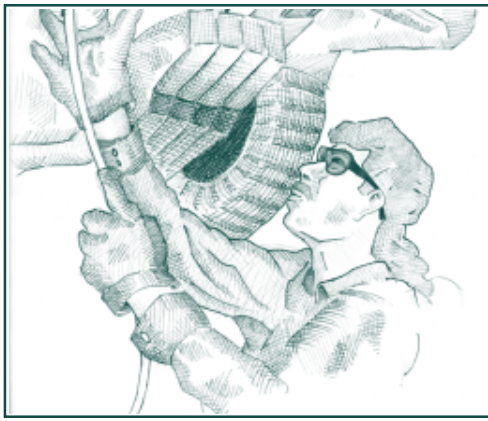
Antifreeze should be properly collected, labeled and stored in such a way as to prevent spills from reaching the ground or groundwater, lakes, and streams. This will be accomplished by following proper secondary containment practices.

Once collected, the antifreeze can be managed in many different ways. One way to recycle the antifreeze is to filter and add additives with an antifreeze recycling system in preparation for resale. Trace amounts of oil can also be removed during this recycling process. An antifreeze recycling system can be purchased from an environmental service company. Static settling is another way to remove particulate matter and oil that are mixed with antifreeze. Static settling can be accomplished by leaving the

mixture undisturbed for a period of time in a tank or drum allowing particulate matter to settle to the bottom while lighter oil rises to the top of the antifreeze. The oil can then be skimmed off the top, and managed as noted in the Oil Section of this guide, while the antifreeze is recovered and then can be recycled. Another way to recycle antifreeze is to pump the antifreeze through a filter and sell it as prediluted antifreeze, or have the antifreeze hauled away for recycling by an appropriate facility. Antifreeze which is to be disposed of or is to be stored prior to recycling must be characterized to determine if it is a hazardous waste and then



must be managed accordingly. This characterization also applies to waste filters or particulate generated from recycling antifreeze. A licensed transporter who can assist in the hazardous waste characterization and transportation of the waste may be found in your local telephone directory yellow pages under *waste reduction, disposal, and recycling service*. For more information about managing used antifreeze call the EAD at 800-662-9278 or the WMD at the nearest district office.



Used antifreeze must be properly collected to prevent spills from reaching the ground or groundwater, lakes, and streams.



Once it is collected, antifreeze can be separated from oil and particulate matter by static settling or an antifreeze recycling system, and can be sold for reuse.

Storage Tanks

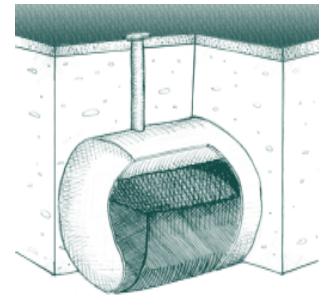
Aboveground storage tanks (ASTs) and underground storage tanks (USTs) containing petroleum products and other chemicals can be hazards to health, safety, and the environment. Most ASTs and USTs are regulated by the DEQ Storage Tank Division (STD). Common to salvage yards, underground waste oil tanks are regulated under the Michigan Underground Storage Tank Rules; aboveground waste oil tanks may be regulated under the Storage and Handling of Flammable and Combustible Liquids Rules.

Most USTs containing petroleum products and certain chemicals with a capacity greater than 110 gallons are regulated under the Michigan Underground Storage Tank Rules. New USTs and piping (installed after December 22, 1988) must have corrosion protection and overfill protection when they are installed. Older systems (installed prior to December 22, 1988) were required to have these same measures installed by December 22, 1998. A method of release detection is required on almost all regulated USTs regardless of age. USTs that are no longer used shall be removed from the ground.

ASTs containing waste oil are regulated directly by the STD if the flash point of the oil is below 200 degrees Fahrenheit. If the tank is 1,100 gallons or greater, a plan review and field certification are required. Precautions to control fire hazards and prevent leakage include either single-walled tanks with secondary containment or two-hour fire rated tanks and heat-actuated quick-closing valves on below liquid level lines. ASTs containing combustible liquids with a flash point above 200 degrees Fahrenheit are not regulated by the STD (check with the local fire department for possible regulations).

Leaks and spills of petroleum or chemicals need to be reported to the department immediately.

For more information on storage tank regulations and requirements in Michigan, call the STD at 517-373-8168, the nearest STD district office, or the EAD at 800-662-9278. For the removal of tanks, check your local telephone directory yellow pages under *tank removals and tank recycling facilities*.



Used Tires

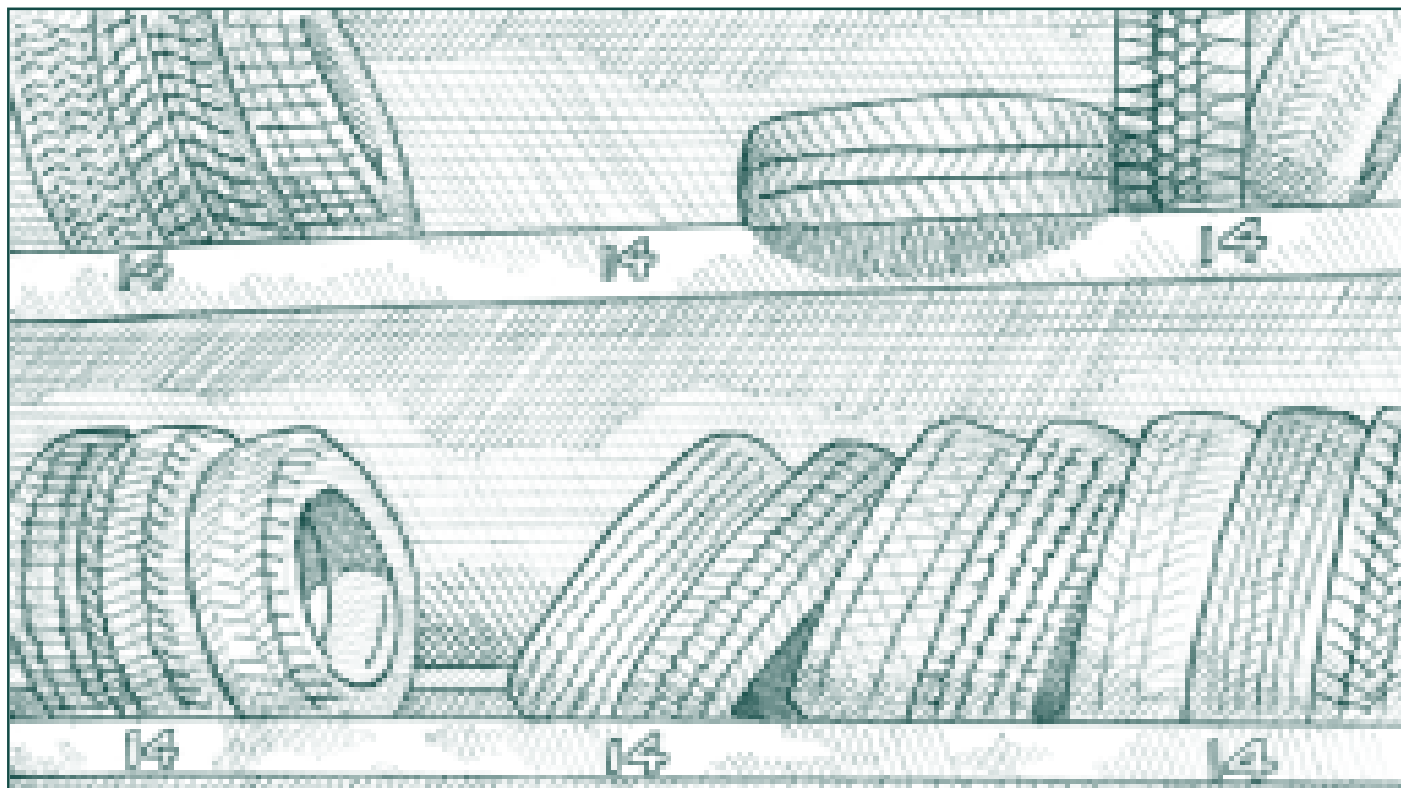
Stockpiled scrap tires are not only a fire hazard, but can be a breeding ground for mosquitoes and rodents which can transmit serious diseases. A scrap tire collection site is defined as a site that contains 500 or more scrap tires, or a tire retailer who sells new or retreaded tires whose site contains 1,500 or more scrap tires, or an automotive recycler who sells salvage vehicle parts, salvage vehicles or scrap metal whose site contains 2,500 or more scrap tires. These sites are regulated by the DEQ and regulations include registration, bonding, mosquito control, and pile size limitations. Tires used as vehicle support stands are exempt from this regulation.

Old tires can be recycled or disposed by contracting for removal with a registered scrap tire hauler or registering yourself as a hauler and taking them to a registered facility that will process the tires for use in making shoes, belts, floor mats, carpet padding, and road fill in asphalt paving, or tire-derived fuel. If the tire casing is in good shape, retreading is another option for used tires. Each tire contains two gallons of oil and can be burned for fuel at a tire-derived fuel plant. One pound of tires contains 12,000-16,000 BTUs of energy, which is slightly higher than coal.



For more information on tire recycling and scrap tire regulations, call the EAD at 800-662-9278 or the WMD at the nearest district office.

Stockpiled scrap tires are not only a fire hazard, but can be a breeding ground for mosquitoes and rodents. Indoor tire racks can assist in organizing your tires in a safe and efficient manner.



Old Batteries

Under state law, lead acid batteries can only be managed through delivery to a retailer, distributor, manufacturer or recycling facility. Owners and operators of salvage yards should store damaged, cracked, or leaking batteries in a closed container until they can be taken to or picked up by a recycling facility. Batteries should never be intentionally cracked open and drained of acid. If batteries are not damaged, they can be placed on wooden pallets on a

leak-proof surface until they can be taken away to be recycled. Some businesses will pay a few dollars for batteries in good condition. For companies that will take back batteries, check your local telephone directory yellow pages under *scrap metals*. For more information call the EAD at 800-662-9278 or the WMD at the nearest district office.

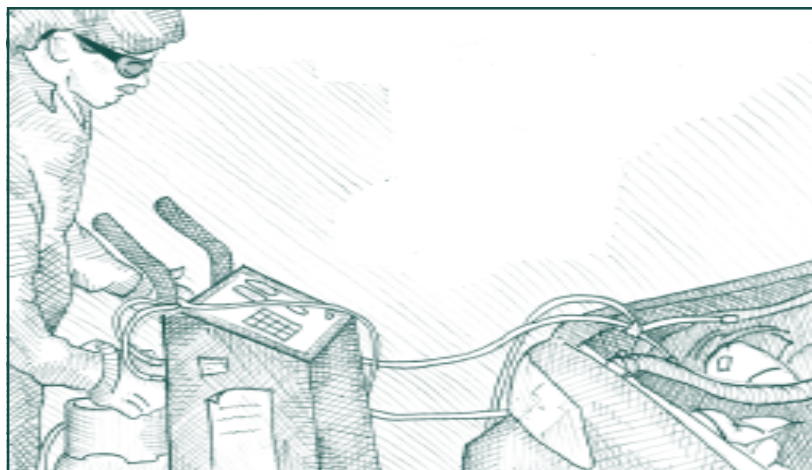
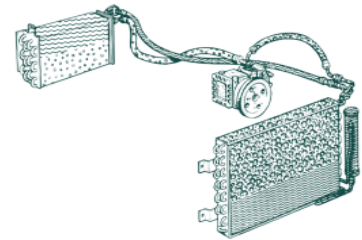


Chlorofluorocarbons

Freon and other refrigerants, collectively called chlorofluorocarbons (CFCs), are a serious threat to the earth's ozone layer. When these gases reach the upper atmosphere, they can stay there for over 120 years, depleting the ozone layer, and letting in harmful ultraviolet rays from the sun. Freon and other refrigerant substitutes are often found in the cooling systems of cars, boats, airplanes, farm vehicles, residential and industrial refrigeration and chilling systems, air conditioning units, water coolers, and some construction equipment. Because of their danger to the atmosphere, federal law

prohibits releasing CFCs into the air. CFCs must be carefully removed by a person who is trained, and in most circumstances, certified in an EPA-approved program that uses certain types of EPA-approved equipment.

The proper management of CFCs is complex. For more information, call the Stratospheric Ozone Information Hotline at 800-296-1996 or access the EPA's internet site on ozone protection regulations at www.epa.gov/ozone/title6/usregs.html.



CFC's deplete the ozone layer in the atmosphere. They must be carefully removed by a person trained and certified in an EPA-approved program.

Mercury

Mercury, a silvery colored liquid metal, is extremely toxic to the nervous system and may impair the way we see, hear, walk, and talk. When spilled, mercury can evaporate at room temperature and the vapors cannot be seen, smelled, or tasted. In the environment, mercury can be converted into a form that is especially toxic and can build up in fish tissue.

The automotive industry has used mercury in tilt switches for underhood and trunk lamp activation, relays to activate airbags, anti-lock brake systems (mainly in four-wheel drive vehicles), some seat belt systems, and some automatically adjusting suspension systems. Mercury may also be found in gas pilot-light ranges and ovens, chest freezers with lid lights, and a few models of clothes washers made prior to 1972.

Mercury-containing switches should be removed from scrapped vehicles and appliances prior to crushing or shredding in order to recover the mercury and eliminate potential release to the environment. Use extreme care to avoid breaking the mercury capsule during removal of the switch. Removal of the mercury capsule from the switch must be done over or in a containment device, that is, a tray or pan sufficient to collect and contain any mercury released from the capsule in case of breakage. Store mercury switches in a leak-proof, closed container in a way that prevents the capsules from breaking. Mercury-containing devices can be managed under Michigan's universal waste regulations instead of the more complex hazardous waste regula-

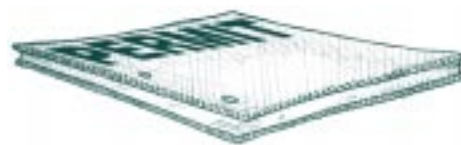
tions. The container in which the mercury-containing devices are stored must be properly labeled according to the waste management option chosen. It is recommended that mercury switches be sent for recycling to a metals recycler that reclaims mercury. The Society of Automotive Engineers (SAE) has the following document available covering automotive mercury switch removal protocol: *SAE J2456-May 98 - Mercury Switch Removal Process*. Publication cost is \$25 plus \$4.50 shipping and handling. A copy may be purchased from SAE Customer Service at 724-776-4970. For more information about managing mercury-containing devices, call the EAD at 800-662-9278 or the WMD at the nearest district office.

Storm Water Permits

Under federal law, salvage yards must have a permit for facilities that have a point source discharge of storm water to a river, lake, or stream. A point source discharge is a discharge to waters of the state by a specific confined conveyance such as a pipe, ditch, channel, county drain, or graded lot. If your storm water discharges to a sanitary or combined sewer, you should contact your local municipality for possible sewage pretreatment permit requirements. New applicants seeking first time storm water permit coverage must have a written storm water pollution prevention plan developed before obtaining a storm water permit. This plan must describe how the facility will minimize the amount of pollutants entering into storm water runoff. There must also be a DEQ-certified operator at the facility before

obtaining a permit. The permit has an annual fee of \$200. The certification exam and training materials are provided free of charge.

To obtain a permit, exam dates, or to find out if your facility must have a permit, call the SWQD at the nearest district office.

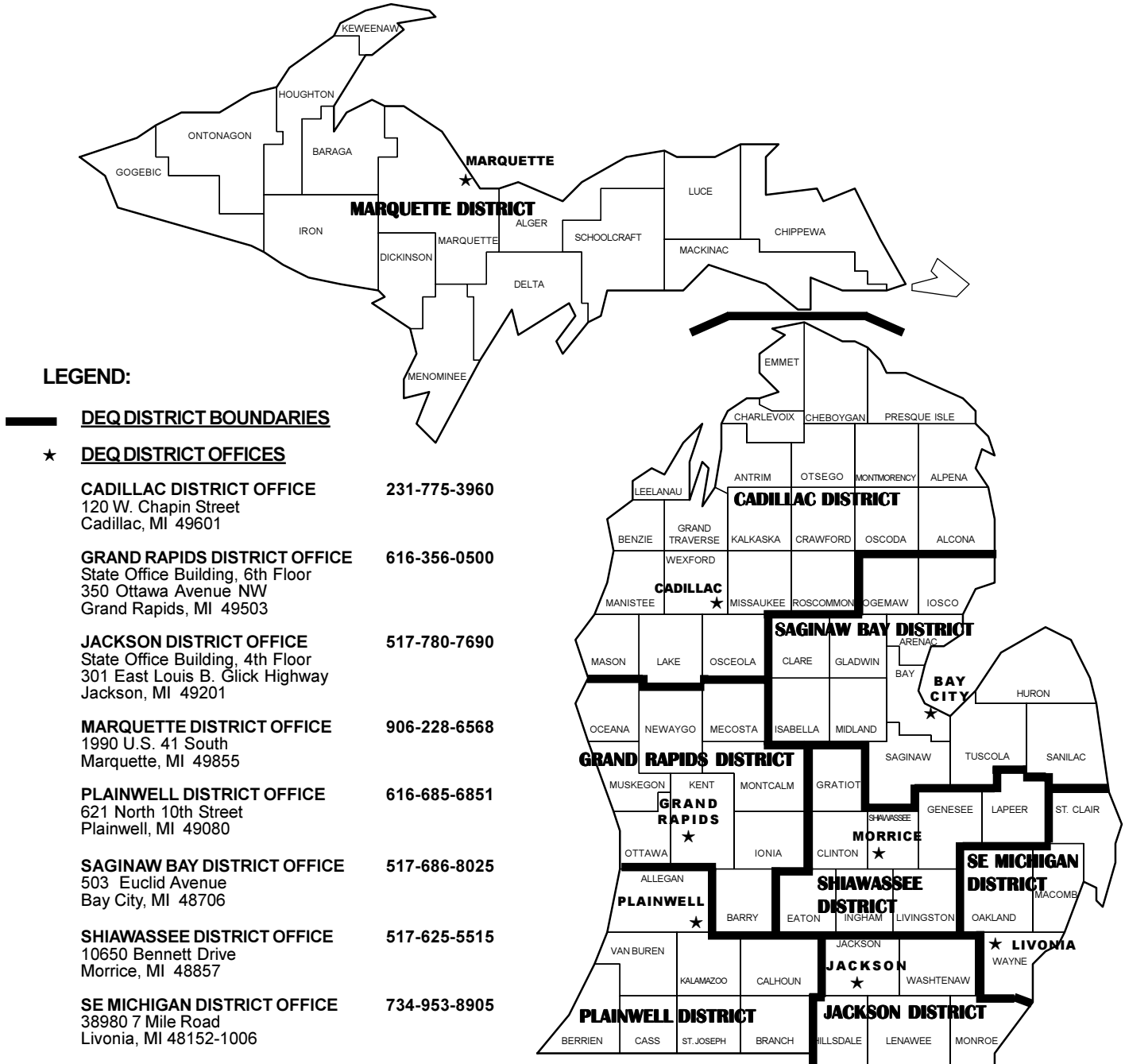




MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

District Boundaries and Offices

John Engler, Governor ♦ Russell J. Harding, Director



ENVIRONMENTAL ASSISTANCE CENTER
 (for general information):

Telephone: 1-800-662-9278
 Fax: 1-517-241-0673
 Email: deq-ead-env-assist@state.mi.us

Pollution Emergencies: 1-800-292-4706

DEQ Internet Home Page: www.deq.state.mi.us

