



Managing Used Oil and Related Wastes

Hazardous Waste #4.30, January 2004

This fact sheet describes used oil management requirements for businesses, such as:

- vehicle repair shops
- service stations
- highway maintenance garages
- railroad and marine terminals
- manufacturing and industrial plants with engines or compressors
- utilities and
- machine shops.

What Is “Used Oil”?

Used oil includes petroleum or synthetic oil used as a lubricant, heat transfer fluid, hydraulic fluid or any similar uses. Some examples are:

- engine oil,
- transmission fluid,
- lubricating oil,
- hydraulic oil,
- gear oil,
- transformer fluid,
- cutting oil,
- tempering or quenching oils,
- grease and
- brake fluid.

NOTE: Antifreeze, fuels such as fuel oil, and solvents are **not** used oil.

What are “Used Oil-Related Wastes”?

Used oil filters and materials used to soak up oil (sorbents) are common used oil-related wastes.

Used oil filters are filters having a metal exterior and paper, packed bed, wound or similar interiors that are used in vehicles or machines to filter lubricating oil.

Examples of sorbents often used to clean up used oil include:

- polypropylene or other plastic resin pads, tubes, sheets or granules;
- peat;
- corn cobs;
- cellulose fiber;
- sawdust;

- wood chips;
- paper wipes;
- cloth towels or other reusable materials;
- rice and cotton-seed hulls;
- granular clay;
- diatomaceous earth;
- amorphous silica;
- cork; and
- pumice.

Environmental Concerns

Used oil, filters and used oil-contaminated sorbent materials often contain hazardous contaminants, such as flammable fuels and their additives, lead and other toxic metals. Used oil that is disposed of improperly can kill vegetation and wildlife and pollute surface water and ground water. For this reason, it is illegal to:

- pour used oil on the ground,
- pour used oil down a drain or sewer,
- put used oil in the trash, or
- apply used oil to roads for dust suppression (*Minn. Rules 7045.0845*).

Waste Prevention

To decrease the amount of used oil generated, encourage and practice alternative transportation, such as carpooling, biking, or walking. Here are ways to decrease used oil-related wastes:

- Use drain systems designed for used oil.
- Use drip pans to capture used oil drips and spills.
- Pick up used-oil spilled outside of drip pans in liquid form by using a dustpan



and squeegee (rather than using sorbents and generating another waste).

- If sorbents must be used, choose those that can be recycled, that is, wrung and reused, laundered or cleaned, or burned for energy.
- When possible, purchase product in bulk to eliminate multiple small plastic containers.
- If using plastic quart containers, design a drain system to empty them sufficiently to allow the plastic to be recycled.

Containment, Storage and Labeling

Before storing filters, drain them well or process them to remove all free-flowing oil. Processing includes crushing or dismantling the filters to separate the metal from the paper portion. (Before crushing, check with the filter hauler you intend to use to make sure crushed filters will be accepted.) Place collected oil in the used oil-storage container destined for recycling.

Before storing sorbents, remove all free liquid. Place collected oil in the used oil-storage container destined for recycling.

Store used oil, used-oil filters, paper removed from used-oil filters and used oil-contaminated sorbents in closed, leak-proof tanks or containers. (Containers receiving used oil directly from filter crushing equipment or oil-water separation equipment may have an opening sufficient to receive that oil.) Paper filter media and combustible sorbents may be combined in the same container provided they will be disposed of in the same way.

Mark containers (including used-oil tanks and tank fill pipes) to appropriately identify the contents: *Used Oil [Filters, Filter-Paper Media, or Sorbents]*. Do not mark containers of used oil destined for recycling with the words “Hazardous Waste.”

Place containers on a surface that is reasonably impervious to used oil (*Minn. Rules 7045.0855 Subp. 2*). Asphalt that is in good condition may qualify as “reasonably impervious” for awhile; however, oil will break down the asphalt, allowing it to filter through. If solvents, fuels or gasoline are present in the used oil, the rate of breakdown increases. Sealing an asphalt and concrete surface or using a secondary containment system designed for used oil provides better protection and may reduce the possibility of releases and their related liability.

TIP: When possible, store used-oil containers indoors to prevent releases caused by rain seeping into closed containers and displacing the oil.

Storing in Tanks

All tanks (including fill pipes) must be labeled as outlined above. If you are using above-ground storage tanks (ASTs) with a capacity of 500 gallons or more or underground storage tanks (USTs) larger than 110 gallons to store used oil, they must be registered with the MPCA. A tank facility that does not have a person on site 24 hours a day must have a sign with the name, address, and telephone number of the facility owner, operator, or local emergency response. The sign must be posted in a conspicuous place and legible from outside any secondary containment area. For additional requirements, refer to Table 1.

For more information, call the Customer Assistance Center or access the MPCA Web site at <http://www.pca.state.mn.us>. At the site, click on **Programs**, then **Aboveground Storage Tank Systems** or **Storage Tank Compliance and Assistance Program** for more information.

The Minnesota Uniform Fire Code (MUFC) Article 79 and Article 80 contain provisions relating to the storage and containment of combustible liquids. Contact your local fire marshal for requirements specific to your operation.

Mixing

Do not mix antifreeze, chlorinated solvents (such as many carburetor or brake cleaners), **gasoline, engine degreasers, paint thinners or anything else with used oil**. Used oil that has other waste mixed with it must be evaluated (tested). The mixture may be a hazardous waste.

TIP: To prevent inadvertent mixing and the increased disposal costs that often result, separate used-oil containers from solvent and other waste containers in your storage area. Mark the containers!

One exception regarding mixing — Very Small Quantity Generators (those producing less than 220 pounds — about 22 gallons liquid — of hazardous waste per month) may mix petroleum-based parts washer waste that is hazardous only because it is ignitable with



their used oil and manage the mixture as used oil *provided*:

- the solvent does not contain metal-bearing paint;
- the solvent is not an F-listed hazardous waste, such

as some carburetor and brake cleaners;

- the solvent is not gasoline;
- the solvent does not exceed 10 percent of the total volume of the final mixture; and
- the flash point of the solvent is above 100° Fahrenheit (*Minn. Rules 7045.0800 Subp. 4(C)*).

Table 1: Tank Requirements for Storing Used Oil

If your used oil tank is:	Then:
Above ground <u>and</u> Indoors <u>and</u> Situated on an impermeable surface	These tanks are exempt from tank rules provided contents of the tank are contained indoors (i.e., cannot escape through walls, doors, floor drains, etc.).
Above ground <u>and</u> Outdoors <u>and</u> Holds 1,100 gallons or less <u>and</u> Is more than 500 feet from surface water	The tank is exempt from regulations. The MPCA strongly recommends using the regulations outlined below as best management guidelines.
Above ground <u>and</u> Outdoors <u>and</u> Holds more than 500 gallons but 1,100 gallons or less <u>and</u> Is within 500 feet of surface water	The tank must: <ol style="list-style-type: none"> 1. be registered 2. have secondary containment for capacity of largest AST in containment area and, if exposed to precipitation, have an additional 10 percent containment; 3. be marked with the words "Used Oil" (including lines and fill pipes).
Above ground <u>and</u> Outdoors <u>and</u> Holds more than 1,100 gallons	Follow all requirements above <i>plus</i> the tank must: <ol style="list-style-type: none"> 4. have corrosion protection; 5. have overfill protection; and 6. have substance-transfer area safeguards; and 7. have immediate leak-detection and monitoring.
Underground <u>and</u> Holds 110 gallons or less or Is a UST of 1,100 gallon or less capacity used on site to store heating oil or residential or farm motor fuel for noncommercial use.	These tanks are not regulated. The MPCA strongly recommends using the regulations below as best management guidelines.
Underground <u>and</u> Holds more than 110 gallons	<p>The tank must:</p> <ol style="list-style-type: none"> 1. be registered; 2. have corrosion protection; 3. have leak detection; 4. have spill and overfill protection unless it receives less than 25 gallons at a time; and 5. have fill pipes marked "Used Oil". <p>The tank owner must:</p> <ol style="list-style-type: none"> 6. use certified contractors to install, upgrade or remove the tank; 7. notify the MPCA 10 days before any actions outlined in #6; and 8. notify the MPCA within 30 days of completion of actions (#6).

TIP: To simplify leak-detection requirements for the piping on underground storage tanks, use a 1,000-gallon or smaller tank for collecting used oil.



Recycling/ Disposal Options

Used oil is prohibited from land disposal by state law. Recycling options include:

- re-refining and
- burning for energy on or off site.

Used oil filters and the paper media, if separated, are prohibited from land disposal; they must be recycled. Recycling means sending the complete filter to a scrap metal-recycling facility. If the paper media has been removed from the filter, it should be sent to a burner that is permitted to accept filter media **or** managed as a hazardous waste. Contact the burner to which you intend to send waste for additional requirements.

Used oil-contaminated sorbents are prohibited from land disposal unless they have been tested and shown to be nonhazardous. There is no need to test oil-contaminated sorbents if they are:

- wrung and reused;
- laundered or cleaned (Sorbents sent to a commercial laundry cannot contain free liquids.); or
- burned for energy (Sorbents destined for burning must have a heating value of at least 5,000 BTUs per pound.).

Used oil-contaminated sorbents that have been shown to be nonhazardous can be burned at a facility that does not burn for energy recovery; disposal at a landfill is not recommended.

Burning for Energy

Currently, most used oil collected in Minnesota is shipped to asphalt plants to be burned for energy recovery. Businesses also have the option of burning used oil and sorbents on site for heat provided:

- the used oil is generated on site, brought in by the general public (do-it-yourselfers) or by farmers generating less than 25 gallons per month on average, or from another location owned or operated by the same business. (You may accept used oil from other businesses **only if** it

has been tested at least once per source and shown to be on-specification. “On-specification” means the used oil meets the conditions listed in Table 2. The party claiming the used oil is on-specification is called a “used-oil marketer” and has additional requirements. For more information, see MPCA Hazardous Waste fact sheet #4.34, *Marketing Used Oil*.)

- the unit burns for energy recovery.
- the used oil and sorbents are burned in a furnace designed for that purpose **and** the furnace is rated at less than 500,000 BTUs per hour **and** is vented to the outdoors.

If you burn used oil on site, contact local building code personnel to determine requirements for installation and use of the burner. Contact your local fire department to determine whether there are additional local requirements.

The Minnesota Uniform Fire Code (MUFC), Uniform Mechanical Code (UMC) and State Statute 299F.015 contain provisions relating to used-oil burners. Contact your local fire marshal for requirements specific to your operation.

Spills

When developing guidelines for managing oil, start at the beginning — avoid spills! Here are some tips:

- Develop and practice proper handling procedures and careful work habits.
- Use appropriate tools, such as funnels and spigots.
- Perform regular preventive maintenance, such as tightening or replacing leaky seals, gaskets and dispensers.

Next, be prepared. Keep spill-containment and clean-up materials in a convenient, nearby area. Train employees when and how to use them. For help preparing for spills, contact the MPCA Emergency Response Team.

Some shops have oil-water separators on the drain connected to the sewer to collect small drips, spills and grit. To ensure oil does not enter the

Table 2: Conditions for On-Specification Used Oil

Item	Conditions
Flash point	100° Fahrenheit minimum
Arsenic	5.0 ppm* maximum
Cadmium	2.0 ppm* maximum
Chromium	10.0 ppm* maximum
Lead	100.0 ppm* maximum
Total Halogens	1000.0 ppm** maximum

*parts per million

**A level of halogens up to 4,000 ppm is allowed if it can be proven that hazardous waste has not been mixed with the used oil.



sanitary sewer, service the separator regularly: skim off the oil and place it in the used-oil container and remove and evaluate the collected grit. How often this must be done depends upon how much oil and grit is allowed to enter the drain and the size of your grit chamber.

Contain and clean up liquid spills on impermeable surfaces by using squeegees and dustpans or mops or vacuums designed for liquids. Combine and recycle with other liquid used oil. If sorbents are required, use sparingly and only after all liquid oil that can be recovered is recovered.

Control spills on land by using soil, sand, sorbent socks or granules to build a barrier to contain flowing oil. Recover liquid oil using appropriate pumps or vacuum trucks (a contractor may be needed to assist) and place in a container for recycling. Contaminated soil, sand and clay sorbent must be excavated or recovered and treated at a permitted facility. If the quantity is less than 10 yards and if approved by the MPCA Emergency Response Team, treatment on site may be an option.

Report all used oil or other petroleum spills of five gallons or more to the Minnesota Duty Officer at the 24-hour emergency number given on the last page. For additional information about reporting spills, see MPCA Emergency Response fact sheets *Reporting Spills and Leaks*, and *Reporting Hazardous Material Spills* at <http://www.pca.state.mn.us/cleanup/pubs/ertpubs.html>.

Regardless of amount, if your spill enters a sewer, ditch or surface waterway of any kind, report the spill to the National Response Center.

For more information about spill prevention and cleanup requirements, see the following MPCA Emergency Response fact sheets and others available on the MPCA Web site at

<http://www.pca.state.mn.us/cleanup/pubs/ertpubs.html> :

- *Prevention and Preparedness for Oil Delivery Companies*
- *Spill Prevention and Planning*
- *Minnesota Spill Bill*
- *Small Petroleum Spill Cleanup*
- *Spill Debris Disposal Options*
- *Thin Spreading Small Quantities of Petroleum Contaminated Soils*

Shipping Requirements (*Minn. Rules 7045.0855 Subp. 4*)

Used oil generators may transport up to 55 gallons of used oil *or* sorbents in their own vehicle or any amount of used-oil filters without being subject to the used oil/filter transporter requirements. If hauling your own oil wastes, you must:

- take the oil, filters and/or sorbents to a collection site or to an aggregation point owned by the generator.
- ensure that filters and sorbents do not contain free-flowing oil.
- ensure that used oil does not leak during transport.

If not hauled by the generator, used oil must be hauled by an oil hauler having a U.S. Environmental Protection Agency (EPA) identification number. MPCA Hazardous Waste fact sheet #6.00, *Used Oil Hauler Services*, includes a list of oil service providers.

NOTE: Neither a hazardous-waste manifest nor a hazardous-waste transporter is required when transporting used oil destined for recycling. (However, both must be used for oil that is too contaminated to be recycled and must be disposed of as a hazardous waste.)

Records

Generators must keep records at their businesses of all shipments of used oil, used-oil filters and sorbents, including those records they make themselves. Used oil and used oil-filter haulers are required to give receipts whenever they pick up oil or filters; generators may use these receipts as their records or they may use a log. Records for used oil, used-oil filters and used-oil-contaminated sorbents should include:

- the date of the shipment;
- the amount shipped (gallons of used oil, weight, number or volume of filters/sorbents);
- the name and identification number of the transporter (if applicable); and
- where the waste was taken.

Very Small Quantity Generators who mix parts washer solvent with used oil must also:

- keep records of the amount of solvent mixed;
- report it annually; and
- if generating more than 10 gallons of hazardous



waste per year, obtain a Hazardous Waste Generator's License. (Some metropolitan counties may require businesses generating less than 10 gallons to get a license.)

Reporting

Businesses located outside the Twin Cities metropolitan area that generate and recycle only used oil, used-oil filters and/or used oil-contaminated sorbents are not required to report annually or to obtain a license from the MPCA, but they must still manage the wastes as outlined in this fact sheet.

Businesses located in the seven-county metropolitan area may still have reporting and licensing requirements. Contact your county hazardous waste office for details.

Retiring Equipment, Closing or Selling Your Business

When taking equipment out of service or when ceasing operations, generators must either remove or clean up used oil-storage equipment and any site contamination.

For More Information

Oil rules are available at

<http://www.revisor.leg.state.mn.us/arule/7045/>

(See particularly

<http://www.revisor.leg.state.mn.us/arule/7045/0845.html>

<http://www.revisor.leg.state.mn.us/arule/7045/0855.html>)

Oil filter rules are available at

<http://www.revisor.leg.state.mn.us/arule/7045/0990.html>

Your metropolitan county and the Minnesota Pollution Control Agency have staff available to answer oil-management questions. For general information, contact your metropolitan county hazardous waste office or the MPCA office closest to your county.

Metro County Hazardous Waste Offices

Anoka County	(763) 422-7093
Carver County	(952) 361-1800
Dakota County	(952) 891-7557
Hennepin County	(612) 348-3777
Ramsey County	(651) 266-1199
Scott County	(952) 496-8177
Washington County	(651) 430-6655

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) 296-6300
Customer Assistance Center	(651) 297-2274
.....	(800) 646-6247
Web Site:	http://www.pca.state.mn.us

Signs

Weights and Measures	(651) 639-4010
----------------------------	----------------

Spills, Planning for

Emergency Response Team ..	(651) 296-6300
----------------------------	----------------

Spills, Reporting

Minn. Duty Officer (Metro) ..	(651) 649-5451
Duty Officer (Greater Minn) ..	(800) 422-0798
National Response Center	(800) 424-8802

Storage Tanks

Above-ground	(651) 296-6300
Underground	(651) 296-6300

Transportation Requirements (Department of Transportation)

.....	(651) 215-6330
-------	----------------

Used-Oil Burners

Building Codes (Department of Administration)	(651) 296-5639
Air Permit Requirements	(651) 296-6300