

Managing Used Antifreeze

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This guidance describes the reduced hazardous waste requirements for the collection and transportation of used antifreeze if it is recycled. The guidance also describes the solid and hazardous waste requirements that apply to businesses that recycle the used antifreeze.

Note: If your company chooses not to recycle the used antifreeze, you are subject to all applicable solid and hazardous waste regulations in chs. NR 500 to 538 and 660 to 670, Wis. Adm. Code.

Did you know...?

Waste antifreeze, also called used engine coolant or used ethylene or propylene glycol, often contains heavy metals such as lead, cadmium and chromium in high enough levels to make it a regulated hazardous waste. A study performed by the American Society of Testing and Materials (ASTM) determined that approximately 40% of used antifreeze would be considered a hazardous waste due to elevated levels of lead (ASTM document STP 1192 "Engine Coolant Testing," 1993).

Recycling is best!

Used antifreeze recycling methods involve two steps:

- Removing contaminants either by filtration, distillation, reverse osmosis or ion exchange, and
- Restoring critical antifreeze properties with additives. Additives typically contain chemicals that raise and stabilize pH, inhibit rust and corrosion, reduce water scaling and slow the breakdown of ethylene or propylene glycol.

Antifreeze can be recycled by any of the following:

- An on-site recycling unit – a unit purchased or leased by the facility, located on-site and operated by facility employees;
- A mobile service unit – a van or truck equipped with a recycling unit capable of recycling used antifreeze at the generator location; and
- An off-site processor – recycles the used antifreeze at an off-site location. The recycled antifreeze may be returned to the generator for re-use.

There are economic, environmental and legal reasons to recycle used antifreeze.

- If the antifreeze is a hazardous waste, it may be expensive to dispose of.
- You must have permission from the wastewater treatment plant before discharging used antifreeze to the sanitary sewer. If the used antifreeze is a hazardous waste, you may be subject to the wastewater discharge reporting requirements in ch. NR 211.
- Dumping used antifreeze into a storm sewer or on the ground is illegal and may be harmful to lakes and streams, people, pets and wildlife.
- Discharging used antifreeze into a septic tank and soil absorption field is illegal. It may cause the septic system to fail and result in groundwater pollution.
- Recycling used antifreeze can reduce environmental liability associated with disposal.

- Recycling conserves natural resources. Ethylene glycol is produced from petrochemicals, a non-renewable resource.

To facilitate recycling, do not mix used antifreeze with solid or hazardous waste. Mixing used antifreeze with other substances such as oil or solvent may prevent its ability to be recycled and may cause it to become hazardous waste.

The Wisconsin Department of Natural Resources considers used antifreeze a Wisconsin specific universal waste if it is recycled. Universal wastes include other commonly generated wastes, such as fluorescent lamps, hazardous waste batteries, mercury containing devices and some pesticides. The universal waste rules allow reduced hazardous waste requirements for the collection and transportation of used antifreeze.

The following reduced hazardous waste requirements apply only to used antifreeze that is recycled.

Used Antifreeze Handlers

A used antifreeze handler is a business or institution that generates used antifreeze, or an owner or operator of a facility that receives and accumulates used antifreeze from other handlers, but does not recycle it. Handlers may send used antifreeze to another handler or to a recycling facility.

A "Small Quantity Handler" accumulates less than a combined total of 5,000 kilograms (approximately 1,250 gallons) of universal wastes on-site at any one time.

A "Large Quantity Handler" accumulates a combined total of 5,000 kilograms or more of universal wastes on-site at any time.

Small Quantity Handler Requirements

Containers and tanks storing used antifreeze should be:

- Structurally sound and chemically compatible with the waste;
- Closed and sealed at all times except when used antifreeze is added or removed;
- In good condition, with no evidence of leakage, spillage or damage; and,
- Clearly labeled or marked to identify the contents: "Used Antifreeze".

Handlers may accumulate used antifreeze for up to one year from the date it is generated or received from another handler. Handlers may only accumulate used antifreeze for longer than one year if it is solely for the purpose of accumulating sufficient quantities necessary to facilitate proper recycling methods.

Handlers may demonstrate the length of time used antifreeze has accumulated on-site by marking or labeling containers with the accumulation start date or by maintaining an inventory system that identifies the earliest date the used antifreeze was added to a container or was received from off-site.

Before sending a shipment of used antifreeze to another handler or recycling facility, the originating handler should ensure that the receiving handler has agreed to receive the shipment. If the used antifreeze shipment is rejected by a handler or recycling facility, arrangements should be made by the originating handler to take back the used antifreeze or send the used antifreeze shipment to an alternate facility.

If a handler receives a shipment containing hazardous waste that is not considered universal waste, the handler must manage the waste in compliance with all applicable state and federal regulations.

Handlers should ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures.

Handlers should immediately contain and clean up all antifreeze releases. Any residues resulting from cleanup of antifreeze spills or leaks that exhibit a

characteristic of hazardous waste should be managed in accordance with applicable requirements of chs. NR 660 to 670.

Handlers are required to report spills of hazardous substances to the DNR using the 24-hour toll free hotline number: 1-800-943-0003.

Additional Requirements for Large Quantity Handlers

Notify the DNR prior to accumulating 5,000 kg of universal waste. If you previously notified the Department, submit an updated notification form. The notification form can be found at:

<http://www.epa.gov/epawaste/inforesources/data/form8700/forms.htm>

Keep records for at least three years for each shipment of universal waste received or sent. The records should include the date of each shipment, the quantities of each shipment, and the name and address of the handler or facility from which used antifreeze was received or shipped to.

Before sending a shipment of used antifreeze to another handler or recycling facility, the originating handler should ensure that the receiving handler has agreed to receive the shipment. If the used antifreeze shipment is rejected by a handler or recycling facility, arrangements should be made by the originating handler to take back the used antifreeze or send the used antifreeze shipment to an alternate facility.

If a handler receives a shipment containing hazardous waste that is not considered universal waste, the handler must manage the waste in compliance with all applicable federal and state regulations.

Transportation Requirements

Handlers may self-transport used antifreeze provided the following transportation standards are met:

- Comply with all applicable US DOT requirements in 49 CFR parts 171 to 180.
- If a spill occurs, immediately contain all released material and properly dispose of the spill residue.
- Transport the waste to another used antifreeze handler or to a used antifreeze recycling facility.

Recycling Facility Requirements

Used antifreeze recycling facilities are subject to all applicable solid and hazardous waste requirements. These requirements are summarized in a table on page 5, titled “*Requirements for Used Antifreeze Recycling Facilities*”, and the following:

- If the used antifreeze must be rejected, notify the handler to determine if the antifreeze will be returned to the handler or forwarded to another used antifreeze recycling facility.
- Make a waste determination on any residues generated by the recycling activity and properly manage as a solid or hazardous waste.
- Used antifreeze that cannot be recycled is subject to all applicable solid and hazardous waste regulations found in chs. NR 500 to 538 and 660 to 670.

For more information

For a list of companies that can handle used antifreeze, see the Wisconsin Recycling Markets Directory at:

<http://wisconsinrecyclingdirectory.com>

The fact sheet “Is Your Waste Hazardous?” which discusses waste determination requirements, is at:

<http://dnr.wi.gov/org/aw/wm/publications/newpub/WA1152.pdf>

The hazardous waste rules, chs. NR 660 to 679, can be found at:

<http://legis.wisconsin.gov/rsb/code.htm>

DNR contacts

Waste and Materials Management Program –
Other Hazardous Waste Requirements Contacts by
County:

<http://dnr.wi.gov/staffdir/dynamic/hazwaste.asp>

General program phone: (608) 266-2111

General program e-mail:

DNRWasteMaterials@wisconsin.gov

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Requirements for Used Antifreeze Recycling Facilities

	On-Site Recycling Unit	Mobile Service Unit	Off-Site Processor
Description of the method	Unit is purchased or leased by the facility and operated by facility employees.	A van or truck equipped with a recycling unit comes to the facility to recycle used antifreeze.	Used antifreeze is transported to an off-site recycling facility.
How to manage residue	On-site recyclers are the generators of the process residues and are responsible for its proper management.	Operators of the mobile service units may either: <ul style="list-style-type: none"> • Leave residues on-site for the generator to properly manage, or • Take and properly manage the residues off-site. 	Off-site processors are the generators of the process residues and are responsible for its proper management.

	On-Site Recycling Unit	Mobile Service	Off-Site Processor
If the used antifreeze is NOT HAZARDOUS WASTE* *Determined by conducting representative sampling and laboratory analyses.	A solid waste processing license is not required if: <ul style="list-style-type: none"> • The conditions in s. NR 502.08(2)(h) are met. • Only used antifreeze generated at the facility or received from “do-it-yourselfers” is recycled. 	Obtain a solid waste processing facility license under s. NR 502.08 for each mobile recycling unit operated in Wisconsin, or apply for DNR approval of exemption from licensing under s. NR 502.08(2)(i).	Obtain a solid waste processing facility license under s. NR 502.08, or apply for DNR approval of exemption from licensing under s. NR 502.08(2)(i).

	On-Site Recycling Unit	Mobile Service	Off-Site Processor
If the used antifreeze is HAZARDOUS WASTE	Comply with applicable s. NR 661.06 requirements.	Comply with applicable s. NR 661.06 requirements.	Obtain a hazardous waste storage license if used antifreeze is stored for more than 24 hours prior to recycling. The recycling process is exempt from hazardous waste regulation (refer to s. NR 661.06(3)).