

Vehicle Maintenance and Repair

Guidance on Hazardous Waste Requirements



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Introduction

Vehicle maintenance and repair activities generate hazardous and solid wastes that must be handled, stored and disposed of in accordance with state and federal requirements. This guidance provides general instructions for the management of wastes commonly generated by these businesses.

Hazardous waste regulations are found in chapters [NR 600-679](#) of the Wisconsin Administrative Code.

A typical vehicle maintenance shop generates absorbents from spill cleanup, aerosol cans, used antifreeze, used oil, cleaning solvents, solvent-contaminated wipes (shop rags), lead-acid batteries and tires. Auto body repair shops can generate spent sand blasting materials, cleaning solvents, paint booth filters, paint dust, and waste paint. Additional guidance on managing these waste streams can be found in Department of Natural Resources publication *Spray Painting and Coating Operations* (WA-299). This document provides state and federal Resource Conservation and Recovery Act information and requirements for these common waste streams.

Identifying Hazardous Waste

The amount of hazardous waste you generate determines your generator status, and in turn will impact your regulatory requirements. For example, vehicle maintenance and repair shops are often categorized as very small quantity generators based on the amount of hazardous waste they generate. Some reduced regulations may apply to a VSQG; however, if you exceed either the monthly generation limit or the accumulation (storage) limit, or if you are not in compliance with the VSQG regulations, more stringent hazardous waste management requirements will apply. [s. NR 662.014(1)(c) and (d), Wis. Adm. Code]

Because of this, it is important to keep track of both how much hazardous waste you generate per month and the total amount accumulated on-site. This guidance focuses on identifying specific waste streams associated with vehicle maintenance and repair businesses and the container requirements associated with these wastes. For more information on generator status and accumulation requirements, go to dnr.wi.gov and search “hazardous waste” or see *Quick Reference Guide: Hazardous Waste Generator Regulatory Requirements* (WA-1821).

The DNR Small Business Environmental Assistance Program provides industry-specific resources along with waste management and recycling guidance. Go to dnr.wi.gov and search “small business” to learn more.

Avoid mixing hazardous waste with non-hazardous waste. The resulting mixture could exhibit a hazardous waste characteristic and the increased volume could change your generator status, increase your hazardous waste regulatory requirements, and potentially increase your waste disposal costs [s. NR 662.013(6)(a)]. Note that a non-hazardous product may pick up contaminants during use and may be classified as a hazardous waste once it is a waste.

Common Wastes

The following waste materials are commonly used, replaced or collected in vehicle maintenance and repair shops and require proper management to protect workers, public health and the environment. Additional information is available on the DNR website or in publications referenced below for specific common wastes.

Aerosol cans

Any aerosol container (e.g., carburetor cleaner, spray paint, WD-40) that will no longer be used for its intended purpose is considered a waste aerosol can. It does not include defective or recalled products that are returned to the retailer or manufacturer for refund or replacement. The handling of waste aerosol cans may pose risks to workers as the contents may still be under pressure, and the content may also be ignitable and/or toxic.

For details and the definition of “RCRA Empty” see *Aerosol Cans: Guide to Handling and Disposal for Businesses* (WA-1784).

Waste aerosol cans likely need to be sent off-site to a licensed treatment, storage or disposal facility as the remaining contents of the aerosol cans may be characteristic hazardous waste due to ignitability (D001). Hazardous waste management practices and disposal costs can usually be avoided by using all of the material in the aerosol can. Aerosol cans that are “RCRA empty” must be recycled, as steel and aluminum containers are banned from landfills in Wisconsin. [s. 287.07(4), Wis. Stats.]

Airbags

Unused airbags contain reactive and toxic materials and may be a hazard to worker health as well as to public health and safety. Sodium azide or other propellants that are water reactive, shock sensitive or explosive are a characteristic hazardous waste due to reactivity (D003). Potassium nitrate and other boosters are characteristic hazardous waste because they are oxidizers (D001). While airbag manufacturers are phasing out the use of sodium azide in favor of more stable and less toxic chemicals, these alternative propellants are still a D001 and/or D003 characteristic hazardous waste.

Most airbag inflators use oxidizers, and therefore, when discarded, would meet the definition of ignitable hazardous waste. Due to the propellant components, discarded airbag modules and airbag inflators meet the definition of reactive hazardous wastes. Discarded, undeployed airbags that are a hazardous waste may either be managed under the full hazardous waste requirements or under the airbag waste exclusion of s. NR 661.0004(10), Wis. Adm. Code. The airbag waste exclusion requirements are modeled after current industry practices and are designed to ensure that the exempted airbag waste is managed safely and is appropriately destroyed and not diverted back into vehicles. For details, see *Automotive Airbag Exemptions* (WA-1530).

Antifreeze

Used antifreeze, also called used engine coolant, is typically ethylene or propylene glycol and can contain heavy metals such as lead, cadmium and chromium in high enough levels that they are regulated hazardous wastes. Used antifreeze can be managed as if it were a universal waste when recycled. Recycling options include removing contaminants through filtration, distillation, reverse osmosis, or ion exchange and by restoring critical antifreeze properties using additives.

Used antifreeze can be recycled:

- with an on-site recycling unit;
- by hiring a mobile service; or
- when sent to an off-site recycler.

The filters used during a filtration process may be hazardous waste when disposed of due to the concentration of heavy metals and/or benzene. To facilitate recycling, do not mix used antifreeze with other substances such as used oil or waste solvents. For details, see *Managing Used Antifreeze* (WA-356) and *How to Handle Universal Waste Antifreeze* (WA-1808).

Cleaning solvents and thinners, on-site reclamation and solvent-contaminated wipes

Cleaning solvents and thinners (e.g., naphtha, mineral spirits, paint thinner, Stoddard solvent, chlorinated and unchlorinated solvents) are commonly used in parts washers and may be ignitable and/or toxic.

Best management practices include:

- Posting the solvent use procedures near the work area.
- Keeping solvent containers closed when not in use to prevent the volatilization of solvents to the air.
- Avoiding mixing different types of solvents into the same container as this may limit recycling options, increase disposal costs or cause adverse reactions.
- Using a two-stage cleaning process to extend the life and effectiveness of the cleaning solvent.
- Recycling waste solvents with an on-site still.
- Treating solvents as hazardous waste and scheduling regular pick-ups of waste solvents by licensed, reputable recyclers or TSDs in order to prevent storing wastes for long periods of time.

Spraying excess listed solvents into filters as a means of disposal is a violation of state regulations.

On-site distillation units can be used to reclaim used solvents for reuse and reduce the amount of hazardous waste sent off-site. These distillation units can be purchased or leased from solvent management companies. Still bottoms from the distillation process may be a characteristic and/or listed hazardous waste. For details, see *On-Site Solvent Reclamation: A Guide for Hazardous Waste Generators* (WA-1523).

Solvent-contaminated wipes may be excluded from hazardous waste and solid waste regulations. Management must be consistent with all of the conditions of exclusion in ss. NR 661.0004(1)(z) and (2)(r), Wis. Adm. Code. A wipe is a woven or non-woven shop towel, rag, pad or swab made of wood pulp, fabric, cotton, polyester blends or other materials.

To qualify for the exclusion, the wipes must have been used with a specific group of solvents (F001-F005). Collection, labeling, handling and recordkeeping requirements must be met in order to qualify for the exclusion. For details, see *Management of Solvent-Contaminated Wipes* (WA-1207).

Grit and wastewater from sumps and trench drains

When removed from a sump or trench drain, grit and wastewater may contain heavy metals above the RCRA regulatory limit and would need to be managed as a hazardous waste. For example, if you sandblast equipment or vehicles to remove old paint, there is a reasonable expectation that metals such as chromium, cadmium, and lead could be present in the sump waste. To determine if heavy metals are present in the waste material, you will need to have a representative sample tested using the Toxicity Characteristic Leaching Procedure. Testing of the sump waste should be coordinated with the disposal facility as they may require additional testing (e.g., oil/grease, polychlorinated biphenyls, volatile organic compounds).

If a wastewater is a hazardous waste, check with your local sewage treatment plant to determine if discharge is allowable. **Do not discharge wastewater containing solvents, paints, oils, or antifreeze to private septic fields.** Hazardous waste grits and solids must go to a licensed hazardous waste facility for management or disposal. Best management and waste minimization practices include sweeping the floor before washing the dust and debris into the sump, having absorbents on hand to quickly absorb spills before they reach the sump, and using products with no or low VOCs and metals.

Lead-acid batteries

Used lead-acid batteries are considered hazardous waste when disposed of because they contain sulfuric acid (D002) and lead (D008). Store used lead-acid batteries in an area that would prevent releases to the environment. Place cracked and leaking batteries in sturdy, acid-resistant, leak-proof sealable containers and keep the containers closed within the storage area. [s. NR 673.13(1)(a)]

Sulfuric acid leaks can be neutralized using cement, lime or other caustic material. Cover the battery terminals to reduce the risk of fires and explosions occurring from electrical shorts. Litmus paper can be used to determine if the acid is neutralized. Neutralized solutions can be cleaned up with absorbent and put in the trash only if they do not exhibit the D008 characteristic for lead.

You can choose to manage your used lead-acid batteries under the reduced "universal waste" regulations. Each universal waste battery, or pallet/grouping of the batteries, must be labeled or marked clearly with the phrase "Universal Waste—Batteries," "Waste Batteries" or "Used Batteries" and the accumulation start date and removed within a year of that date. [ss. NR 673.14(1) and 673.15]

Used lead-acid batteries managed as universal waste do not require a hazardous waste determination and do not count toward the annual hazardous waste reporting totals for businesses and institutions that generate other hazardous wastes. Alternatively, you may choose to manage your used lead acid batteries as hazardous waste.

Lamps (shop lighting and headlights)

Shop lighting usually includes fluorescent lamps which contain mercury (D009). You can choose to manage your used lamps under the reduced "universal waste" regulations rather than managing them as hazardous waste.

- Used lamps should be handled carefully and stored in a closed sturdy cardboard box or fiber barrel. [s. NR 673.14(4)(a)]
- Each container in which the lamps are stored must be labeled or marked clearly with the phrase "Universal Waste—Lamps," "Waste Lamps" or "Used Lamps." [s. NR 673.14(5)]
- Each container in which the lamps are stored must be labeled or marked clearly with the accumulation start date and removed within a year of that date. [s. NR 673.15]

Used lamps managed as universal waste do not require a hazardous waste determination and do not count toward the annual hazardous waste reporting totals for businesses and institutions that generate other hazardous wastes. For details, see *Lamp and Bulb Management* (WA-195).

Oil/water separator sludge

Sludge removed from an oil/water separator may contain hazardous constituents above the RCRA regulatory limit and therefore would need to be managed as a hazardous waste. To determine if hazardous constituents are present in the sludge above the regulatory level, you will need to test a representative sample of the sludge using the TCLP test method. Testing of the sludge should be coordinated with the disposal facility, as they may require additional testing (e.g., oil/grease, PCBs, VOCs).

Tires

Per s. 287.07(3), Wis. Stats., used tires are banned from landfills in Wisconsin. Tire distributors and manufacturers may accept tires for recycling, or tires may be transported to, or picked up by, a tire recycler. Avoid allowing water to pool in stockpiled tires as it provides a breeding ground for nuisance insects. Burning tires or other types of waste is **illegal** and causes air, land and water pollution. [s. NR 429.04 and s. 289.51, Wis. Stats.]

Used oil recycling, absorbents & filters and burning used oil in a space heater

Refined crude oil and synthetic oil products can become **contaminated with physical or chemical impurities through use**. Products that are considered used oil include: used motor oils, greases, emulsions, machine shop coolants, heating media, brake fluids, transmission fluids, hydraulic fluids, electrical insulating fluids, metal working fluids and refrigeration oils. Keep used oil separate from other wastes to facilitate recycling. The DNR assumes that used oil is being recycled unless it is being managed as hazardous waste and sent for disposal. Used oil and filters are banned from Wisconsin landfills and must be recycled. [s. 287.07(1m)(b), Wis. Stats.]

To ensure that your used oil can be managed under the less-stringent used oil criteria, rather than as a hazardous waste, utilize best management practices, educate employees, store used oil in closed and labeled containers, and engage in good housekeeping. For information on used oil management requirements see *Used Oil Management (WA-233)* and *Used Oil Management – Satisfying the Rebuttable Presumption (WA-1677)*.

Containers must be labeled "Used Oil" NOT "Waste Oil."

Oil absorbents, filters and burning used oil in space heaters have specific regulatory requirements.

- a. **Absorbents:** Common types of absorbents include granular kitty litter, Oil-Dri, cloths, rags, wipes, paper toweling and absorbent pillows, pads and socks. Absorbents containing used oil can be collected and sent to specific industrial furnaces, boilers or incinerators to be burned for energy recovery. **These absorbents should not be burned in any other type of unit.** Absorbents containing used oil can only be taken to a landfill if there are no free liquids and the material is not a hazardous waste. For details, see *Used Oil Filters and Absorbents (WA-1503)*.
- b. **Burning used oil in a space heater:** Businesses with used oil space heaters can burn used oil they generate from their business activities and household do-it-yourselfers. Businesses **cannot** burn used oil from other businesses unless the used oil has been determined to be 'on-specification' and therefore a fuel. Analytical testing must be done to make an 'on-specification' determination. [s. NR 679.11]
- c. **Filters:** Per s. 287.07(4), Wis. Stats. used oil filters from all motorized vehicles are banned from landfills in Wisconsin. These used filters should be hot drained, crushed, and sent for scrap metal recycling. The oil collected may be handled as used oil if recycled. For details, see *Managing Automotive Engine Used Oil Filters (WA-1522)*.

For details, see *Burning Used Oil in a Space Heater (WA-1003)*.

Container Requirements

A facility's hazardous waste generator status determines the container requirements. For details, see the *Quick Reference Guide: Hazardous Waste Generator Regulatory Requirements (WA-1821)*.

For VSQG facilities, the container must be labeled "Hazardous Waste" and containers:

- Must be compatible with the waste.
- Must be kept in good condition.
- Must be kept closed except when it is necessary to add or remove waste.

Never mix
incompatible
waste streams.

Containers must be marked with an indication of the hazard when a VSQG sends waste to a large quantity generator under the same ownership as the VSQG, or when the waste is generated during a notified episodic event. [ss. NR 662.014(e) and (f) and s. NR 662.232(1)(d)1b]

Cleanup of Spills

Be prepared to clean up incidental spills with absorbent materials such as Oil-Dri kitty litter or absorbent pads. Designate a specific container for the absorbent wastes. Oil-containing absorbents may go to a licensed landfill if there is no free-flowing liquid coming from the absorbent and the absorbent is not a hazardous waste. Used oil absorbents may also be collected by a recycler for oil recovery. Absorbents used to clean up other wastes may need to be managed as hazardous waste.

Certain spills may need to be reported to the DNR and should be cleaned up by a professional contractor, particularly if the spill has drained into a floor drain, storm drain or outside the building on the ground or parking lot. **The DNR Spills Hotline number is 1-800-943-0003.** For information on what type of spills must be reported, go to dnr.wi.gov and search "spills."

Transport, Treatment and Disposal

Cradle-to-Grave under the Resource Conservation and Recovery Act

Generators are responsible for their hazardous wastes from the point of generation (cradle) through proper transportation, storage, treatment and finally disposal (grave). A uniform hazardous waste manifest must be used unless the generating facility is a VSQG. VSQGs may choose to use a manifest or a bill of lading. For details on hazardous waste manifesting requirements, see *Hazardous Waste Manifests (WA-1176)*.

All generators (including those VSQGs that choose to manifest) who manifest their hazardous wastes must obtain an U.S. Environmental Protection Agency (EPA) identification number (ID) by complying with notification requirements in s. NR 660.07, Wis. Adm. Code. Contact your local DNR office for information on obtaining an EPA ID number.

- Small quality generators and large quality generators must ensure that their hazardous waste transporter has obtained an EPA ID number. The hazardous waste transporter is also required to have a hazardous waste transportation license. VSQGs can self-transport or hire a transporter to transport their hazardous waste without either of them having to obtain an EPA ID number or having a hazardous waste transportation license. For details on transportation and disposal, see *Quick Reference Guide: Hazardous Waste Generator Regulatory Requirements (WA-1821)*. VSQGs are allowed to send hazardous waste without a manifest to an offsite LQG that is under the "control" of the same "person" as the VSQG. [s. NR 662.018(3), s. NR 663.13(1)(b), s. NR 662.14(1)(e)8]

- VSQGs are allowed to send hazardous waste to a VSQG/household hazardous waste collection program regulated under subchapter HH of chapter NR 666, Wis. Adm. Code. Contact your local clean sweep program for information on location, dates and times of operation, and to verify they accept VSQG wastes. The Department of Agriculture, Trade and Consumer Protection has a list of state-supported clean sweeps. Go to datcp.wi.gov and search “Clean Sweep.”
- VSQGs are allowed to send hazardous waste to facilities listed under ss. NR 662.014(10)(e) and (f), Wis. Adm. Code.
- SQGs and LQGs are required to maintain manifest records for at least three years. It is recommended that VSQGs retain copies off all off-site shipments of hazardous waste for a minimum of three years. [s. NR 662.040(1)]

Resources and Contact Information

For more information, including [publications, inspection forms, and administrative codes and statutes](#), go to dnr.wi.gov and search “hazardous waste resources.” Use the *Additional Resources* menu to navigate to specific topics. For staff contact information, go to the [staff directory](#) and enter “hazardous waste requirements” in the subject field and choose the appropriate county contact.

Mailing address: DNR Waste & Materials Management Program, PO Box 7921, Madison, WI 53707

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