Vehicle Maintenance and Repair

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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 guide provides general instructions for the management of wastes commonly generated by vehicle maintenance and repair shops.

It is your responsibility to determine if the wastes from your service shop are hazardous. 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. This document provides information for identifying, handling and disposing of these wastes.

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 the publication WA 299.

Identifying Hazardous Wastes

Waste considered hazardous waste if it is "**characteristic**" (ignitable, corrosive, reactive, or toxic), or "**listed**" (listed hazardous wastes can be found in Subchapter D of NR 661, Wis. Adm. Code). A non-hazardous product may pick up contaminants during use and may be classified as hazardous once it is a waste. **For every waste generated, you must determine if the waste is a hazardous waste in order to properly manage it.**

To make a waste determination the generator can use either laboratory analysis results and/or apply knowledge of the waste based on the materials and processes used to generate the waste. While sampling and analysis might not be considered as convenient as relying solely on applying knowledge, it provides advantages. An accurate waste determination is a critical factor in demonstrating compliance with hazardous waste regulations and can help your business avoid costly over-classification of wastes.

Guidance on making waste determinations can be found in the publication WA 1152.

Very Small Quantity Generator Requirements

Many vehicle maintenance and repair shops are very small quantity generators of hazardous waste (VSQGs). If you generate **less than 220 pounds** on a monthly basis and accumulate less than 2,205 pounds of hazardous waste on-site at any time (roughly equal to five 55-gallon drums), your business is considered a VSQG. However, if you exceed either the monthly limit or the accumulation limit, or if you are not in compliance with the VSQG regulations, more stringent hazardous waste management requirements will apply. 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.

To qualify for the reduced VSQG requirements in Wisconsin you must make accurate waste determinations, use leak-tight containers, close hazardous waste containers except when adding or removing waste, label the containers with the words “hazardous waste,” and ensure disposal of your hazardous waste at a licensed or approved facility.

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 the waste disposal costs.

A VSQG can transport their own waste, without a transportation license, to a treatment, storage or disposal (TSD) facility or a household hazardous waste collection facility that accepts hazardous waste from VSQGs. It is recommended that receipts, or shipment records showing where the hazardous waste was disposed or accepted, be retained for at least three years.

If the VSQG does not self-transport they must use a licensed hazardous waste transporter. These wastes can be transferred through a bill of lading or a hazardous waste manifest. If using a manifest additional requirements apply and the manifest records must be maintained for at least three years. For details on hazardous waste manifest requirements see WA 1176.

Contact your local clean sweep program for information on the location, dates, and times of operation, and to verify that they accept VSQG wastes. The Department of Agriculture Trade and Consumer Protection (DATCP) has a list of state-supported clean sweeps. Go to www.datcp.wi.gov and search “Clean Sweep.”

Container Requirements

The regulatory requirements for container management include:

- Use a container compatible with the waste;
- Keep container closed unless waste is being added or removed;
- Maintain the container in good condition – if leaking transfer waste to a new container;
- Label containers with the words “Hazardous Waste”; and
- Store incompatible wastes in separate individual containers, apart from each other or with berms or dikes between constructed between the containers.

Never mix incompatible waste streams!

To allow for recycling, certain waste types should be collected separately to avoid contamination and the containers should labeled appropriately. Examples include “used antifreeze,” “used oil,” and spent “waste solvents.”

Cleanup of Spills

Be prepared to clean up incidental spills with absorbent materials such as Oil-Dri and 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 Department of Natural Resources (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 visit http://dnr.wi.gov/topic/Spills/.

Transport, Treatment and Disposal

Cradle-to-Grave under the Resource Conservation and Recovery Act (RCRA)
As the generator, you are responsible for your hazardous wastes from the point of generation (cradle) through proper transportation, storage, treatment and finally disposal (grave). Unless you are a VSQG, a hazardous waste manifest must be used when offering hazardous waste for transport. For details on hazardous waste manifesting requirements see WA 1176.

All generators who manifest their hazardous wastes must obtain an U.S. Environmental Protection Agency (EPA) identification number and properly route manifest copies. Contact your local DNR office for information on obtaining an identification number and properly manifesting shipments of hazardous waste. If you are a small or large hazardous waste generator, your wastes must be transported by a licensed hazardous waste transporter. The hazardous waste must be transported to:

- Licensed hazardous waste treatment, storage, or disposal (TSD) facilities;
- Hazardous waste landfills permitted or licensed to accept hazardous waste;
- Facilities that beneficially use or reuse, legitimately recycle or reclaim the hazardous waste; or
- Facilities that treat the waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

Common Wastes

The following ten 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. All hazardous waste determinations must be documented and retained by the generator. Additional information is available on the DNR website or in publications referenced below for specific common wastes.

1. Aerosol Cans

A waste aerosol can is any aerosol container (e.g., carburetor cleaner, spray paint, WD-40) that will no longer be used for its intended purpose. 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. Waste aerosol cans, unless RCRA empty, would likely need to be sent off-site to a TSD facility as the remaining contents of the aerosol cans may be characteristic hazardous waste for 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. For details see WA 1784.

2. 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. Airbag units that are equipped with compressed gas inflator systems may contain explosive substances to release the compressed gas and should be treated as a D003 characteristic hazardous waste. If discarded, un-deployed airbags must be managed as hazardous waste. Residuals from deployed airbags are not classified as hazardous. For details see WA 1530.

3. 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 to make it a regulated hazardous waste. Used antifreeze can be managed as a Wisconsin-specific 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. It can be recycled with an on-site recycling unit, by hiring a mobile service, or being sent to an off-site recycler. The filters used during a filtration process may be hazardous waste 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 WA 356 and WA 1808.

4. Cleaning Solvents and Thinners, On-site Reclamation and Solvent-Contaminated Wipes

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

Spraying excess listed solvents into filters as a means of disposal is a violation of the DNR air management regulations.

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 it 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.
- Scheduling regular pick-ups of waste solvents by licensed, reputable recyclers or TSDs in order to prevent storing wastes for long periods of time.

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 WA1523.

Solvent-contaminated wipes may be excluded from hazardous waste and solid waste regulations. Management must be consistent with EPA's conditional exclusions effective Jan. 31, 2014. 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 WA 1207.

5. 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 (TCLP). Testing of the sump waste should be coordinated with the disposal facility as they may require additional testing [e.g., oil/grease, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs)].

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 TSD. Best management and waste minimization practices include, but are not limited to, 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.

6. Lead acid batteries

Used lead-acid batteries are considered hazardous waste 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. 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 regulations of "universal waste" in NR 673. Each universal waste battery, or the pallet/grouping of the batteries, shall be labeled or marked clearly with the phrase “Universal Waste—Batteries,” “Waste Batteries” or “Used Batteries” and the accumulation start date. 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.

You may also choose to manage your used lead acid batteries as hazardous waste. However, additional requirements apply to reclaiming lead acid batteries as outlined in Subch. G of s. NR 666.

7. Lamps

Shop lighting usually includes fluorescent lamps which contain mercury (D009). Used lamps should be handled carefully and stored in a closed sturdy cardboard box or fiber barrel. You can choose to recycle your used lamps under the reduced regulations of "universal waste" rather than managing them as hazardous waste. 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” along with the accumulation start date. 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 WA 195.

8. 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).

9. Tires

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. Do not allow water to pool in stockpiled tires as it provide a breeding ground for nuisance insects. Burning tires or other types of waste is **illegal** and causes air, land, and water pollution.

10. Used oil recycling, absorbents, space heaters and filters

Containers must be labeled "Used Oil" NOT "waste oil"

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 department 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.

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 and the satisfying the rebuttable presumption, see WA 233 and WA 1677, respectively.

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

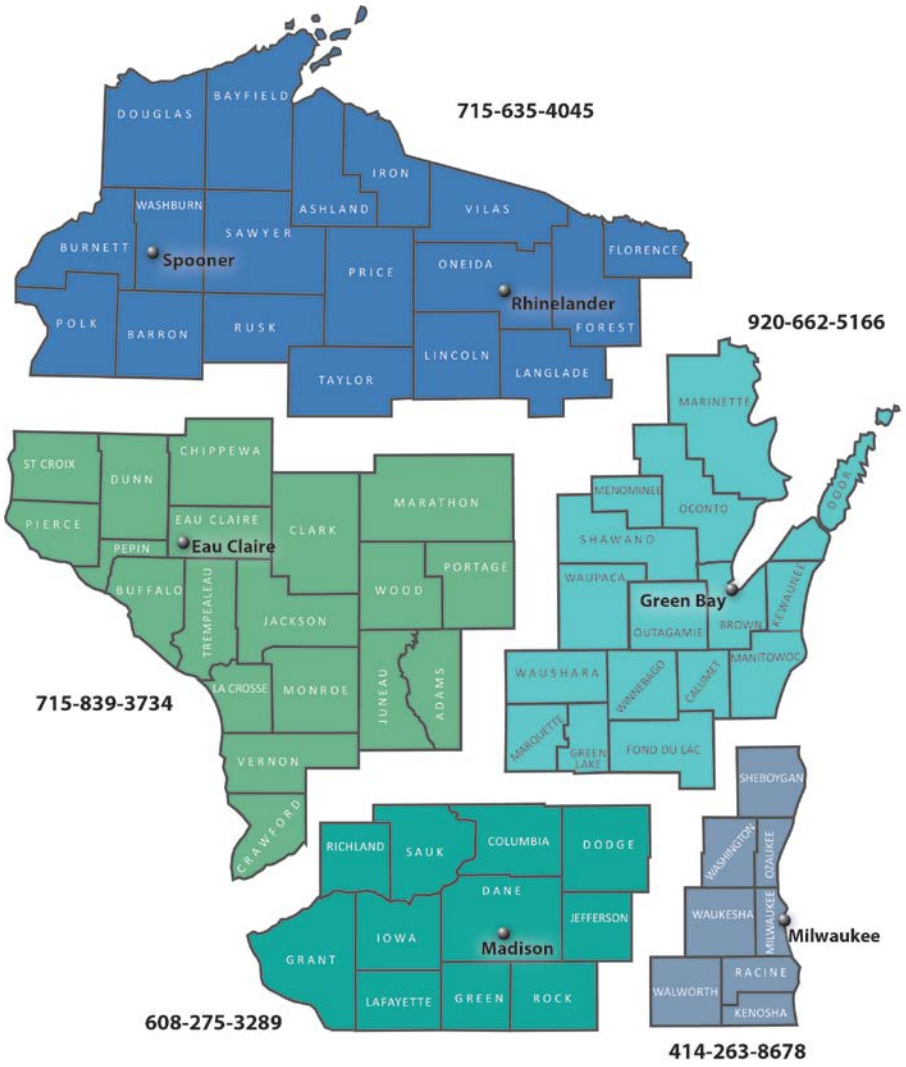
a. **Absorbents:** Common types of absorbents include granular kitty litter, Oil-Dri, cloths, rags, wipes, paper toweling and absorbent pillows, pads and socks. Absorbents containing used oil can be collected and sent to specific industrial furnaces, boilers or incinerators to be burned for energy recovery. **These absorbents should not be burned in any other types units**. 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 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 **can not** 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. For details, see WA 1003.

c. **Filters**: Used oil filters from all motorized vehicles are banned from landfills in Wisconsin. These used filters must be hot drained, crushed, and sent for scrap metal recycling. The oil collected must be handled as used oil. For details, see WA 1522.

DNR Contact Information

For more information on this subject, including other publications, staff contacts and administrative codes and statutes, search by topic or WA publication number at **dnr.wi.gov**, or contact Waste & Materials Management staff by searching Hazardous Waste Staff or see map below:



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