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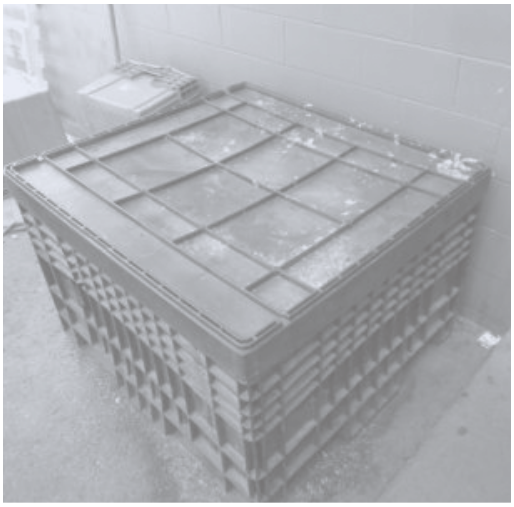
Used Oil and Hazardous Waste Management

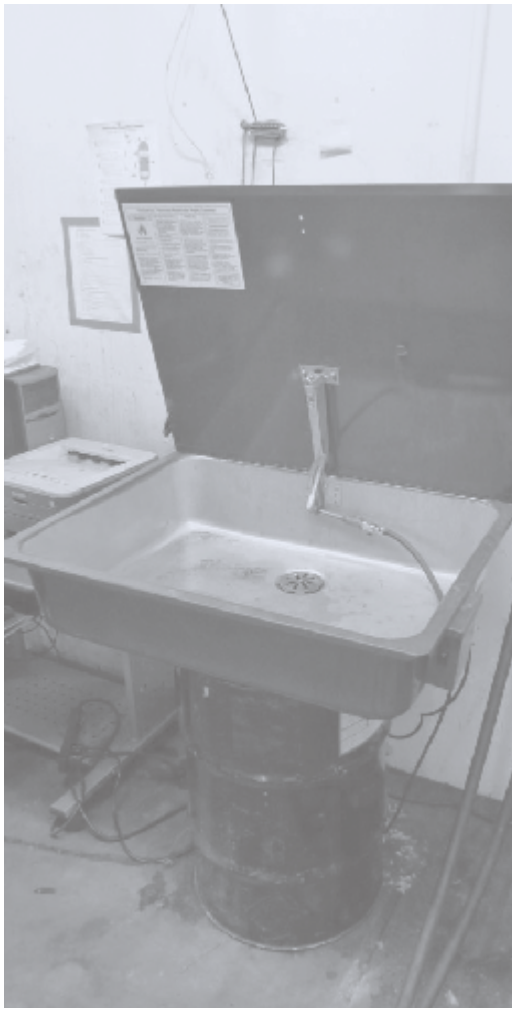
For Auto and Aircraft Repair Shops in Alaska

BEST PRACTICES

U.S. Environmental Protection Agency
Region 10




UNIVERSAL WASTE
UNIVERSAL WASTE
UNIVERSAL WASTE
Fluorescent
BROKEN LAMPS ONLY




USED OIL
USED OIL

Used Oil and Hazardous Waste Management

For Auto and Aircraft Repair Shops in Alaska

Used oil can contain toxic chemicals and heavy metals and is insoluble in water. It's slow to degrade and sticks to everything from beach sand to bird feathers, polluting drinking water sources and harming humans, wildlife, and aquatic life. Hazardous waste can be even more toxic, even in small volumes. Toxic chemicals in hazardous wastes can accumulate in the tissues of animals that consume contaminated water and ultimately end up in the food we eat. To reduce the risks of pollution to our water and land, the US Environmental Protection Agency (EPA) has established rules for managing used oil and hazardous waste.

Proper waste management will reduce risks to human health and the environment and your risk of being fined for not following EPA regulations. This guide will help you avoid some of the more common waste management problems. Unfortunately, it does not cover all the information you will need to ensure you are in compliance with applicable regulations.

Questions?

If you have questions about used oil and hazardous waste management that are not addressed in this guide, a useful reference is EPA's Consolidated Screening Checklist for Automotive Repair Facilities Guidebook (EPA 305-B-03-004): www.epa.gov/Compliance/resources/publications/assistance/sectors/autoguide1297.pdf

If you still have questions, contact:

- EPA Region 10 office: www.epa.gov/region10/engine_repair_waste.html
- CCAR*Green*Link ® Compliance Assistance Center: www.ccar-greenlink.org

Disclaimer

This guide was developed to provide automotive and aircraft repair shops in Alaska with a summary of how to avoid the issues and problems EPA inspectors see most often during inspections. It is not intended to create rights for any party, nor does it replace any federal regulations or statutory requirements. It does not identify all of the requirements in the waste management regulations. Automotive and aircraft repair shops should not rely on this document to determine full compliance with the regulations. This guide presents a "best management practices" approach to waste management with the intent to simplify complex rules. There may be exclusions or regulatory relief that applies to you that is not covered in this guide. To learn more, see 40 CFR 260-262, 266, 268, 273 and 279 and www.epa.gov/lawsregs/laws/rcra.html. You are responsible for complying with all applicable federal used oil and hazardous waste regulations. In addition, your shop is responsible for knowing and complying with any state, local, and tribal requirements that may apply. If you run a shop outside of Alaska, check with the hazardous waste agency in your state to learn about the regulations that apply to you. Hazardous waste and used oil management rules may be amended in the future. The contents of this guide are current as of December 2012.

Test your Knowledge

Do you know what to do with shop rags, aerosol cans, used oil, and other wastes that come from your shop? Test your knowledge. The answers are on the next page.

1. I can label containers of used oil with the words:
   a. Waste
   b. Waste Oil
   c. Used Oil
   d. Any of the above
2. Used oil that I generate at my shop can be burned in a space heater in my shop.
   a. true
   b. false
3. The maximum number of gallons of used oil I can transport to a collection center in my car or truck is:
   a. 20
   b. 35
   c. 55
4. Used shop rags should be:
   a. Burned
   b. Recycled
   c. Laundered
   d. Thrown in the garbage
5. I can recycle empty, depressurized aerosol cans.
   a. true
   b. false
6. My hazardous waste generator class is determined by the amount of hazardous waste my shop generates:
   a. per day
   b. per month
   c. per year
7. It is okay to burn used shop rags if they have used oil on them.
   a. true
   b. false

Answers:

1. C. Used oil containers should only contain used oil and need to be labeled as "used oil." It is important not to label containers with other words such as "waste oil" because the regulations require it to be labeled as "used oil" and the company that receives your waste may assume that the oil is contaminated with other waste. Used oil that is not contaminated with other waste can be recycled.
2. True. Used oil can be burned in your shop if you generated the used oil and if the heater has a maximum capacity of 500,000 Btu per hour and combustion gases from the heater are vented to the outside air. Check the rating on the heater. Used oil that someone else generated can be burned in your shop without a permit only if it is from a household do-it-yourself used oil generator or if the oil meets used oil specifications found in Table 3 of this guide. See the section of this guide related to burning used oil.
3. C. You can transport 55 gallons in your car or truck to a collection center. If you transport more than 55 gallons at a time then you become a used oil transporter and are required to notify EPA that you are a transporter of used oil, obtain an EPA RCRA ID number, and comply with rules for used oil transporters.
4. It depends on what is on them and whether they are dripping[1] wet. See Table 2 and the Shop Rag section of this guide.
5. True. Pressurized aerosol cans cannot be thrown in the trash. Aerosol cans should be punctured safely with a puncturing device and drained into a container. EPA recommends that empty, depressurized cans be recycled as scrap metal.
6. B. Generator class is determined by amount of waste generated per month. Your class can also change if you exceed the maximum amount of waste accumulated at your shop for your generator class. For more information see Table 1 in the Determine Your Hazardous Waste Generator Class section of this guide.
7. It depends on whether or not the rags have also been used to soak up hazardous waste solvents or other hazardous waste. If the rag has only been used to clean up used oil, then yes, you can burn the rag in a space heater in your shop. If the rag also has hazardous waste on it, then the rag cannot be burned in your shop. You can launder your used rags instead of burning them (see the What to Do With Shop Waste section of this guide).

1 Any time the word "dripping" is used in this document, it means "visible signs of free flowing" as specified in the RCRA used oil regulations.

Key Steps in Used Oil and Hazardous Waste Management

Whether you are new to the business or if you have run an engine repair shop for years, it is useful to review these steps to ensure you have a good system for managing used oil and hazardous waste:

1. Identify all of the wastes in your shop and determine if they are hazardous waste, universal waste, used oil, or waste that can be disposed of in the garbage
2. Count by weight all the hazardous waste that your shop generates each month and keep a record of your calculation
3. Set up a good container system with labels for your different types of waste and train everyone in your shop on the system
4. Determine what your options are for recycling or disposing of each of your wastes
5. Look at ways to reduce your waste and to reduce the hazards of your waste

Don't stop at these steps alone. The rest of this guide will tell you more about how to properly manage your different types of waste.

Different Types of Waste

There are three main categories of waste that are discussed in this guide:

1. Hazardous waste
2. Used oil
3. Universal waste

Identify All of the Hazardous Waste in Your Shop

To safely manage the wastes in your shop and to ensure you are in compliance, it is important to determine if a waste you have is a hazardous waste. Wastes that exhibit one or more of the following **TRIC** characteristics are hazardous waste:

Toxic: Waste that is toxic is harmful when taken into the body. It may leach toxic chemicals into the soil or groundwater when disposed of on the land. Examples include wastes that contain benzene, trichloroethylene, perchlorethylene or metals, such as chromium, cadmium, lead, or mercury. These may be found in used cleaning solvents. The metals may also be found in used antifreeze. To determine if your waste exhibits the toxicity characteristic, have it tested by an environmental laboratory that uses the Toxicity Characteristic Leaching Procedure (TCLP) if you can't otherwise reliably make a determination based on existing information about the waste. For a complete list of toxic characteristic wastes, see the appendix of this guide.

Reactive: Waste that is reactive is unstable or undergoes a rapid, violent chemical reaction when in contact with water or other materials. Examples of wastes that may be reactive include fireworks, explosives, and sodium metal.

Ignitable: Waste that is ignitable includes most liquid waste that has a flash point[2] of less than 140 degrees Fahrenheit, non-liquid waste that can create fire under certain conditions (e.g., temperature, pressure), and waste that is spontaneously combustible. Degreasers and solvents may be ignitable.

Corrosive: Water-based liquid waste is corrosive if it has a pH less than or equal to 2 or greater than or equal to 12.5. This includes liquid waste that corrodes steel at a specified rate. Shop wastes that may be corrosive include acid cleaning fluids, alkaline cleaning fluids, and battery acid.

2 The flash point for any hazardous material is listed on the Material Safety Data Sheet (MSDS) that is provided from your product vendor. However, depending on how it was used and what it might have been mixed or contaminated with, the waste material may have a different flash point. Flash point is determined in the lab using a specially designed instrument to measure ignition temperature.

Tools for Hazardous Waste Identification

Examine all of the waste in your shop to determine which ones exhibit one or more of the TRIC characteristics. To help you determine if your waste qualifies as hazardous waste, use the following three sources of information:

Know which of your wastes are hazardous waste, used oil, or universal waste so you can manage them properly

1. Reference the Environmental Management section of the Material Safety Data Sheet (MSDS) for the product to see if, when wasted, the unused product is a hazardous waste. The MSDS may contain actual waste codes or information about the characteristics of the waste that will help you determine if it is hazardous. If you don't have an MSDS, they are available online on the manufacturer's website. Since the format for MSDSs are different, the MSDS may not give you the information that you need. Also, be aware that it is possible that your waste may become hazardous through its use. Some products become hazardous as wastes because they have become more concentrated or pick up chemicals through use. For example, antifreeze may pick up lead from the solder in the radiator and cooling system. So, the MSDS may not give you all the information you need.
2. Look at the product label to determine if the waste contains chemicals that are on the Toxic Characteristic Leaching Procedure (TCLP) list (see the appendix of this guide). Be aware that product labels do not necessarily list all of the ingredients and the ingredients may have different names than what is on the TCLP list.
3. Review EPA's lists of hazardous waste, at www.epa.gov/osw/hazard/wastetypes/listed.htm. These lists are organized by use or by industry and contain common materials that exhibit the TRIC characteristics. Some used solvents are on the F list and some unused products may be on the U or P lists when disposed of. The lists will not include all of the hazardous waste that may be in your shop. There may be wastes in your shop that exhibit the TRIC characteristics that are not on these lists.

If you still are not able to determine if the waste you have qualifies as hazardous waste, you can send a sample of your waste to an environmental laboratory. The lab will tell you how to properly obtain a sample to send to the lab.

Determine Your Hazardous Waste Generator Size (or Generator Class)

If any of your wastes are hazardous waste, then you are a "hazardous waste generator," and you'll need to determine your "generator class" to know which EPA requirements apply to you. A generator class is an EPA designation that is based on the amount of hazardous waste your shop generates in one month. Your generator class could change from month to month. The three classifications are:

1. Conditionally-Exempt Small Quantity Generators (CESQG) = less than 220 lbs/month
2. Small Quantity Generators (SQG) = between 220 lbs/month and 2,200 lbs/month
3. Large Quantity Generators (LQG) = greater than 2,200 lbs/month

To accumulate hazardous waste without having to get an EPA permit, you have to:

- Identify all the hazardous wastes in your shop,
- Not exceed the maximum amount of hazardous waste that may be kept at your shop, and
- Meet standards for managing hazardous waste at your shop.

Table 1 shows the quantities, time limits allowed and some of the other requirements for each generator class that need to be met to accumulate hazardous waste without a permit . If you would like more information on generator classification or hazardous waste management rules, visit the EPA's Hazardous Waste Regulations webpage, at www.epa.gov/epawaste/hazard/refdocs.htm.

55 gal drum

Is your shop a CESQG?

CESQGs generate less than 220 lbs of hazardous waste per month.

Weigh the hazardous waste you generate each month to determine your generator class and follow the rules for your generator class.

55 gal drum

Table 1: Specific quantity limits and summary of management standards for each generator class

	Conditionally Exempt Small Quantity Generators (CESQGs)	Small Quantity Generators (SQGs)	Large Quantity Generators (LQGs)
How much hazardous waste can I generate per month?	< 220 lb/month < 2.2 lb/month of acute* hazardous waste < 220 lb/month of acute* spill residue or soil	220-2,200 lb/month < 2.2 lb/month of acute* hazardous waste < 220 lb/month of acute* spill residue or soil	> 2,200 lb/month > 2.2 lb/month of acute* hazardous waste > 220 lb/month of acute* spill residue or soil
Do I need an EPA ID number?	No	Yes	Yes
How much hazardous waste can I accumulate at my shop?	< 2,200 lb < 2.2 lb acute* < 220 lb of acute* spill residue or soil	< 13,227 lb < 2.2 lb acute* < 220 lb of acute* spill residue or soil	No Limit
How long can the hazardous waste stay at my shop?	No time limits if you don't exceed the quantity limits stated above	180 day or less or 270 days or less if greater than 200 miles from Treatment Storage and Disposal facility (this currently applies in all of Alaska)	90 days or less
Is a manifest required when I ship hazardous waste to a hazardous waste facility?	No	Yes	Yes
Do I need emergency response equipment and a contingency plan?	No, but it is a good idea to have these no matter what size generator you are	Yes, you need emergency equipment. Test and maintain your equipment, have a communication or alarm system, have adequate aisle space around containers, and make arrangements with local authorities. No, you do not need a contingency plan.	Yes, emergency equipment and a contingency plan are needed for responding to fires, spills and releases
Do I need to do weekly inspections of hazardous waste containers and tanks?	No	Yes (EPA recommends that you keep a log of inspections done)	Yes (EPA recommends that you keep a log of inspections done)
Do I need a hazardous waste training program for me and my staff?	No (EPA recommends that you train your staff on waste management)	Yes, training that ensures that employees are familiar with waste handling and the shop's emergency procedures	Yes, initial training upon employment and an annual refresher

* Acute hazardous wastes are discarded chemical products that can be fatal to humans or animals at low doses. EPA uses the P list to identify the chemicals that are acute hazardous waste. Generally in an auto or aircraft repair shop, P-listed chemicals are often found in pesticides used to control insects or rodents. For a list of acute hazardous waste see www.epa.gov/osw/hazard/wastetypes/listed.htm.

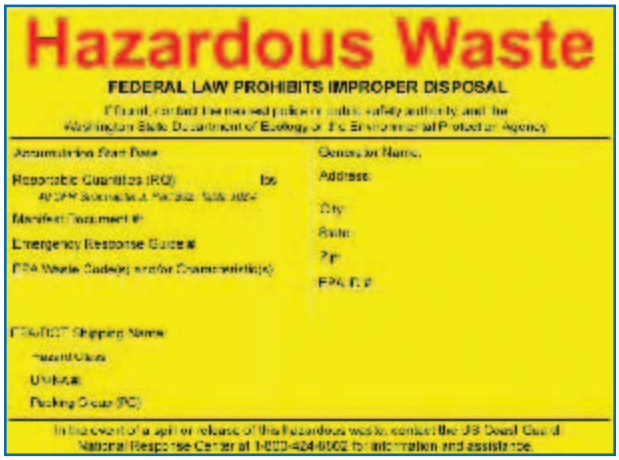
Hazardous Waste Containers and Tanks

It is very important that you label and store all the hazardous waste in your shop properly so that you don't endanger anyone who may come in contact with your waste or anyone who receives your waste after it leaves your shop. EPA could fine you if you do not properly label and store hazardous waste.

Label hazardous waste containers

It is a best practice for shops in any generator class to label your hazardous waste containers. If you are a SQG or LQG you need to place a label on your containers that includes:

- the words "hazardous waste," and
- the date the first waste was put into the container (the accumulation start date or ASD). If the container is in a satellite accumulation area, the accumulation start date is the date the container becomes full.



Place labels on your hazardous waste storage containers to identify the contents of the container and the date you started accumulating the waste.

Storage in a satellite accumulation area

Your shop may temporarily accumulate waste in a satellite accumulation area. This is an area close to where hazardous waste is generated that is supervised by whoever in your shop generates the hazardous wastes. A maximum of 55 gallons of hazardous waste, and one quart of acute hazardous waste, can be accumulated in the satellite area.

Label the containers in the satellite area. To accumulate your waste, use containers that are made of materials that are compatible with the waste, in good condition, and that remain closed unless you are adding waste to them. Once you have collected 55 gallons, mark the date the container became full on the container. You may then temporarily hold the waste in the satellite area for three days before moving it to your hazardous waste storage area, or shipping it to an offsite hazardous waste facility. Hazardous waste containers may rupture in severe weather conditions. It is best to store them indoors.

It is best to not mix your hazardous waste with non-hazardous waste. A drop of hazardous waste in a drum of non-hazardous waste can make the whole drum hazardous waste.

What to Do With Shop Waste

Table 2 and the following sections will give you information on how to manage common wastes that may be found in your shop. For more information on how to manage used oil and universal waste, see those sections of this guide.

Table 2: Waste categories and how to recycle or dispose of specific types of waste

Type of waste	Category of waste if not mixed with hazardous wastes	What you can do with it
Used oil	Used oil	Recycle or burn (see used oil section of this guide)
Shop rags used to only clean up used oil	Used oil if they are dripping[3] with used oil	Wring any dripping oil out of the rag into a used oil container. Either launder the rags at an industrial facility or burn them in your shop for heat.
Shop rags used to clean up solvents that are hazardous waste	Hazardous waste	Wring any dripping solvent out of the rag into a hazardous waste container. Launder the rags at an industrial laundry or ship them to a hazardous waste facility.
Shop rags used to clean up solvents that are not hazardous waste	Solid waste	Wring any dripping solvent out of the rag into a waste solvent container. Launder the rags at an industrial facility.
Used oil filters	Not categorized	Hot drain any used oil into a used oil container. Recycle or dispose in trash. If they are not drained, then they are classified as used oil and you should send the filters to a used oil recycler.
Terne-plated used oil filters. These are oil filters that contain lead that are most often found in large semi trucks.	Solid waste. They may be hazardous waste.	Hot drain the oil filter into a used oil container. If it is hazardous waste, then send the filter to a hazardous waste facility. If it is not hazardous waste, the filters can be disposed of in the trash.
Used fuel filters	Many are hazardous waste. Some may not be.	Drain the fuel filter into a container. Reuse the fuel if possible. Manage the filter as hazardous waste unless you can determine that the filter is not hazardous waste.
Oil spill absorbent material	Used oil or solid waste	If the absorbent material is dripping with used oil, then it can be recycled or burned as used oil. If it is not dripping with used oil and it is not hazardous waste, then it can be burned or disposed of in the trash.
Used transmission fluid	Used oil	Recycle or burn in your shop for heat
Used brake fluid	Used oil	Recycle or burn in your shop for heat
Used antifreeze	Nonhazardous waste if it is properly recycled at your shop	Recycle. Antifreeze is deadly to animals. Be careful that animals can't get to any antifreeze that is in your shop.
Used tires	Nonhazardous solid waste	Recycle, retread or resell
Alkaline batteries	Typically a nonhazardous waste	Recommend you manage as universal waste (see universal section of this guide). If the batteries are hazardous waste, then manage them as universal waste or as hazardous waste

3 Any time the word "dripping" is used in this document, it means "visible signs of free flowing" as specified in the RCRA used oil regulations.

Type of waste	Category of waste if not mixed with hazardous wastes	What you can do with it
Lead-acid batteries	Universal or hazardous waste	Reclaim the batteries through regeneration by taking them back to your vendor, manage them as universal waste, or manage them as hazardous waste.
Used brake pads	Hazardous waste or solid waste	Brake pads often contain copper which can be very harmful to fish. It is a best practice to manage the used brake pads the same as hazardous waste. Used brake pads may be disposed in the trash if they are not hazardous waste.
Used solvents and cleaning agents	Many are hazardous waste. Some may not be.	If hazardous waste, filter or distill the waste and reuse it onsite, or send the waste to a recycler or a hazardous waste facility. If it is not hazardous waste, recycle it onsite or offsite.
Solvent spill absorbent material	Solid waste. May be hazardous waste.	If hazardous waste, send the absorbent material to a recycler or hazardous waste facility. If it is not hazardous waste, and the absorbent material is soggy, then add more absorbent material until all the solvent is absorbed. Once absorbed, dispose in the trash.
Waste fuels and gasoline	Many are hazardous waste. Some may not be.	If the waste fuel is hazardous waste, send it to a hazardous waste facility. If it is not hazardous waste, recycle it.
Spilled or unusable paints and thinners	Many are hazardous waste. Some may not be.	Depends on the paint or thinner. If paint or thinner that is not hazardous waste is spilled, clean it up (or let the paint dry out) and put the waste in the trash. If the paint or thinner is hazardous waste, use absorbents to pick up the entire spill and send the absorbents to a hazardous waste facility.
Aerosol cans	Many are hazardous waste. Some may not be.	Depressurize the cans safely with an aerosol can puncturing device. If the contents are hazardous waste, empty them into a hazardous waste container. Once the can is empty, it can be recycled as scrap metal.

Used Shop Rags and Towels

EPA recommends that you keep rags that you use to clean up used oil separate from rags used to clean up other liquid wastes. If you have a used rag that only contains used oil, wring any dripping oil out of the rag into a used oil container and send it to an industrial laundry. You may also burn the rag for heat in a used oil burner in your shop.

If your used rag was used to clean up any hazardous waste, then put the rag in a properly labeled closed container and determine if it is hazardous waste. If it is hazardous waste, either send it to an industrial laundry or a hazardous waste facility. Make sure that hazardous waste is not dripping from the rag to prevent accidental spills.

Used Absorbents

Absorbents (such as sand or kitty litter) used to clean up oil spills can be placed in the trash if there is no free flowing oil in them and if the spilled oil is not hazardous waste. If they are used to clean up fuel or other spills, the absorbents may be hazardous waste depending on the nature of the fuel or material spilled. Determine the makeup of the materials in your shop to determine if the fuel or material exhibits the TRIC characteristics or would be a listed hazardous waste (see the section of this guide on how to identify all the hazardous waste in your shop). It is important to identify all of the hazardous wastes in your shop so, among other things, you know how to clean up a potential spill safely. If the spilled material contains hazardous waste then count the used absorbents in determining your generator class and manage the material as a hazardous waste.

Used Fuel Filters

Drain fuel filters just as you would drain used oil filters. Fuel filters should be drained into a waste fuel container. Reuse that fuel if possible.

Once drained, used fuel filters should be placed in a labeled, metal, closed container and sent offsite as a hazardous waste. Count the filter weight in the waste generated per month calculation that determines your generator class (see Table 1). Your generator class will determine how long you can accumulate used fuel filters without a permit.

If you don't want to manage fuel filters as hazardous waste, you will have to determine that they are not hazardous waste, which may require sending a sample to a lab to determine whether the residues are hazardous waste. If the filter proves to be non-hazardous you may dispose of it in the trash. If gasoline went through the filter, the filter will contain benzene and may be a hazardous waste.

Used Antifreeze

Drain and replace antifreeze in areas where there are no connections to storm drains or municipal sewers. Stop spills before they reach the shop's floor drains. You should collect and store antifreeze in separate containers and not mix it with other fluids.

Used antifreeze should be recycled whenever possible. Your spent antifreeze may become hazardous waste if it picked up metals from the cooling system. It is a best practice to reclaim used antifreeze, such as in a closed loop system that connects directly to the radiator, filters the antifreeze, and returns it directly back into the radiator.

Antifreeze is deadly to animals. Be careful that animals can't get to any antifreeze that is in your shop.

Antifreeze that is not recycled has to be disposed of. You will need to determine if it is a hazardous waste to know how to dispose of it properly. If you know that the antifreeze likely picked up metals from the cooling system, it is likely a hazardous waste. If it is a hazardous waste, count it toward your generator class and manage it as a hazardous waste (store it in a closed container, label the container, etc.) or recycle it. See Table 1 to find out how long you can accumulate hazardous waste without a permit based on your generator classification.

Lead-Acid Batteries

Lead-acid batteries will typically exhibit the hazardous waste characteristics of corrosivity and toxicity for lead, and thus are hazardous waste. There are three options for managing lead-acid batteries:

1. Reclaim the batteries through regeneration by taking them back to your vendor or another recycler
2. Manage them as universal waste (see the universal waste management section)
3. Manage them as hazardous waste

Store your spent lead-acid batteries in containers that will not react with battery acid if it leaks. Solid plastic containers are preferred. The storage area should be covered to protect the batteries from weather. The storage area should not have floor drains and should be designed to prevent spills or leaks from reaching soil or surface waters near your shop. In the design of your storage area consider incorporating secondary spill containers such as berms, tanks, and basins that catch leaks. If acid leaks from a battery, these secondary containment devices will contain the spill. If there is a spill of battery acid, you should immediately neutralize the acid with baking soda or soda ash and manage the waste soda as hazardous waste. If your batteries are stored in a way that allows releases of battery acid or lead to the environment, the EPA may consider them as being illegally disposed.

Lead-acid batteries should be stored in closed, plastic containers. The storage area should be protected from weather and be designed so that any accidental spill does not reach a pervious surface.

Aerosol Cans

Any aerosol can that is pressurized and not punctured may be considered hazardous waste. It is a best practice to use all the contents of an aerosol can. Do not throw full, partially-full or pressurized spray cans into the dumpster.

Examine the contents of the can and figure out if any of the chemicals in the can are toxic, reactive, corrosive, or ignitable to see if the waste in the can is hazardous waste. Certain aerosol brake cleaners and carburetor cleaners can be hazardous waste.

If it is hazardous waste, place full, partially-full, or pressurized empty aerosol cans in a closed container, such as a drum or five gallon pail, and send to a permitted hazardous waste facility. Label and date the container with the date that you started storing cans in it.

You can depressurize and drain your hazardous waste aerosol cans. Use an aerosol can puncturing device to safely drain the contents of the can into a hazardous waste container. Once your steel aerosol can is completely empty and depressurized you may send the can to a scrap metal recycling facility.

To avoid cross-contamination of other wastes, do not use spray cans over solvent tanks, parts washers, used oil containers, or any other waste containers.

If your hazardous waste spray can malfunctions (for example, if the tip breaks off), send the can to a permitted hazardous waste handler or consider returning it to your supplier.

Certain aerosol brake cleaners and carburetor cleaners can be hazardous waste.

Use an aerosol can puncturing device, for example this one mounted over a hazardous waste drum, to safely drain the contents of your aerosol cans

Used Solvents

Used solvent may be a hazardous waste or a non hazardous waste. For example, a spent chlorinated solvent, such as 1,1,1 tricholorethane brake cleaner with 10% or more tricholorethane before use, is a hazardous waste. High flash point mineral spirits used in some parts washers are not usually hazardous waste. If your used solvent is a hazardous waste, you can recycle it in your shop, send it to a recycler, or manage it as hazardous waste (proper storage, labeling, and sending it offsite to a hazardous waste facility). You can recycle your solvents with a distillation unit.

Residues from reclaiming waste solvents may be hazardous waste, so make sure you take the time to determine whether or not the wastes you have are hazardous waste and manage them accordingly.

Determine if the spent solvent from your parts washer is a hazardous waste.

If you recycle waste in your shop (for example, by distilling it), be aware that the left over waste from the process may be a hazardous waste.

Used Oil Management

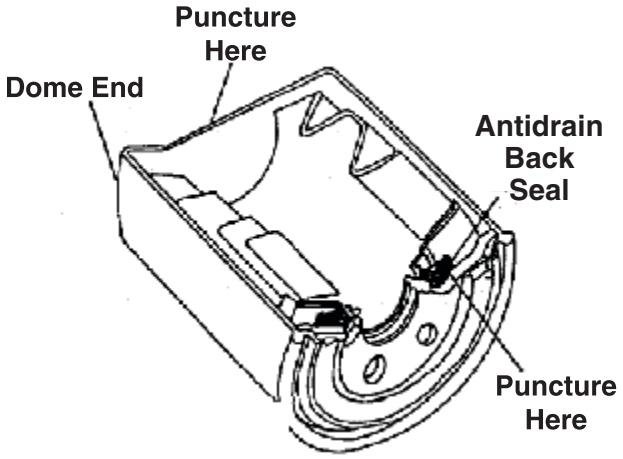
Your shop certainly generates used lubricating oils. If these oils are sent off for recycling or burned, they are regulated under EPA's used oil regulations. Used oil should not be mixed with other types of waste, especially hazardous wastes. Household do-it-yourself used oil, meaning the used oil that is generated by an individual from their personal vehicle, is not subject to the used oil regulations.

Label your used oil containers and tanks with the words "Used Oil." Do not label them "Waste Oil." Some common wastes that can be managed as used oil include:

- used crank case oil and rags that are dripping[4] with oil (see the used shop rag section)
- used oil filters that are not drained
- oil spill absorbent material that is dripping with oil
- used transmission fluid
- used brake fluid

Simple labels on containers can satisfy used oil labeling requirements. Label used oil containers with the words "Used Oil."

Used oil filters should be gravity hot drained into a used oil container. Once they are properly drained, they can be recycled as scrap metal or if they are not hazardous waste, they can be placed in the trash. Terne-plated used oil filters contain lead and need to be managed as hazardous waste. See the hazardous waste section of this guide to see what to do with them.



Your used oil will generally be classified as hazardous waste if:

- It is mixed with hazardous waste, or
- The total halogens (fluorine, chlorine, bromine, or iodine) in your used oil exceed 1000 ppm (there are exceptions. See the next section on hazardous waste in your used oil).

Review the hazardous waste section of this guide for some general information on management of used oil that is hazardous waste.

4 Any time the word "dripping" is used in this document, it means "visible signs of free flowing" as specified in the RCRA used oil regulations.

Hazardous waste in your used oil

If you are a Conditionally Exempt Small Quantity Generator (that is, if you generate 220 pounds of hazardous waste or less per month), you may mix hazardous waste with your used oil and manage the mixture as used oil.

If you are a Small Quantity or Large Quantity Generator (see Table 1), mixing hazardous waste with your used oil may require that the entire mixture be managed as hazardous waste.

- Mixing hazardous waste with used oil complicates management of your wastes. There are many hazardous wastes that cannot be mixed with your used oil, for example, any of EPA's listed wastes. Depending on the hazardous waste, burning contaminated used oil may create air pollutants that are harmful to breathe. A best practice is to keep your used oil separate from other wastes.
- If your used oil contains more than 1000 ppm total halogens (fluorine, chlorine, bromine, or iodine), EPA assumes that it has been mixed with hazardous waste and it needs to be managed as a hazardous waste. If you can demonstrate to EPA that the halogen is not from hazardous waste but comes from a nonhazardous source (for example seawater splashing into the engine compartment of a seaplane), then you can manage the oil as used oil and not as hazardous waste (known as the "Rebuttable Presumption"). To determine the amount of halogens in your used oil, there are test kits available at low costs.

Determine if used oil is on specification prior to burning

Burning contaminated used oil can be hazardous to your health. If oil mixed with chlorinated solvents is burned in your heater, it may emit harmful dioxins into your shop. You may burn the oil you generate in your shop in a space heater at the shop if the heater has a maximum capacity of not more than 500,000 Btu per hour and combustion gases from the heater are vented to the outside air. You may also burn used oil given to you by household do-it-yourselfers. If you ship used oil offsite for burning, make sure it is transported by a registered used oil transporter with an EPA ID number and is sent to a registered used oil burner. If you give your used oil to someone else to burn and it is not burned at an industrial used oil burning facility authorized to burn off-spec used oil (for example, if you give your used oil to the shop down the street for burning), make sure that the used oil meets the specifications in the regulations for burning without a permit.[5]

Table 3: Specifications for burning used oil off-site at non-permitted burners

Constituent or Property	Allowable Level for Burning Without a Permit
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash point[6]	100 °F minimum
Total halogens[7]	4,000 ppm maximum

It is a best practice to only burn used oil in the shop where it was generated. If you send your used oil to a friend's shop down the street for burning, you may have to get an EPA ID number and comply with requirements for a used oil marketer.

5 Applicable standards for the burning of used oil containing PCBs are imposed by 40 CFR 761.20(e)

6 Flash point is determined in a laboratory with a special instrument that measures ignition temperature.

7 Total halogens is the total concentration of fluorine, chlorine, bromine, and/or iodine.

Transporting used oil

You may use your car to transport up to 55 gallons of used oil to a used oil collection center. If you wish to ship more than 55 gallons of used oil offsite, make sure it is transported by a registered used oil transporter with an EPA ID number. Used oil may be shipped offsite to a collection center, oil recycler, re-refiner or burner.

Clean up used oil spills as soon as possible

Always work to prevent spills by keeping machinery, equipment, containers and tanks in good working order and be careful when transferring used motor oil. Have clean-up materials, such as rags, absorbents (like kitty litter), booms or sand readily available.

If a spill happens:

- Stop the release of used oil at the source
- Contain spilled used oil such as by spreading sand or other clean-up material (absorbents) over the oil and surrounding area
- Clean up the used oil and absorbent material by placing it in a container and manage it and other materials properly (see the section of this guide on what to do with shop waste to learn how to dispose of absorbent material)
- Repair or replace the defective tank or container before returning it to service

Clean up used oil spills immediately

Did you know that motor oil from one oil change dumped in a drain or on the ground can contaminate a million gallons of fresh water? That means that if we don't recycle it, we could be drinking it!

Universal Waste (e.g. fluorescent tubes, batteries) Management

To facilitate recycling and reduce illegal disposal, EPA developed a set of less strict requirements for a subset of hazardous waste called universal waste. Most shops generate some universal waste. You may choose to manage your universal waste under universal waste standards. For example, mercury switches, lead acid batteries, flashlight-type batteries and fluorescent lamps may all be managed as universal waste. If you do not choose to manage these wastes as universal waste and they qualify as hazardous waste, then you need to manage them to full hazardous waste standards.

There are four main types of universal waste:

1. Most batteries, such as lead acid, flashlight batteries, lithium, NiCad, etc.
2. Some expired pesticides
3. Fluorescent tubes and other non incandescent lights (lamps)[8]
4. Mercury containing equipment, such as mercury switches

Store all universal wastes in closed containers that are structurally sound and made from materials that won't react with the waste (such as, don't store lead acid batteries in a container that is made of wood, cardboard or metal because those materials will dissolve if the acid leaks). Make sure the containers won't leak.

Universal waste lamps can be stored in the original boxes they came in as long as the boxes will prevent them from breaking. Broken lamps must be stored in a closed container.

8 Clean up broken fluorescent lamps safely. For instructions, see www.epa.gov/cfl/cflcleanup.html

Label your universal waste containers with the words “universal waste” and a description of the contents such as “lamps” or “batteries.”

Universal waste labels should include the words “universal waste” and the kind of waste in the container. Include the date that you started accumulating the waste on the label. That way you will know how long the waste has been stored.

Universal waste should not be stored in your shop for over one year. Ship your universal waste to a facility with an EPA ID number that processes universal waste. Keep a record of how long all the universal waste has been stored in your shop.

EPA Inspections

Automotive or aircraft repair shops that don't follow EPA used oil or hazardous waste management regulations could be fined. EPA conducts compliance inspections at shops regularly regardless of the size of the shop. Inspectors most frequently find the following areas of concern at automotive and aircraft repair shops that could result in an EPA enforcement action:

1. Used oil
   a. Improper labeling of used oil tanks or containers
   b. Not determining if used oil from other generators other than do-it-yourself households is "on specification" prior to burning
   c. Not cleaning up used oil spills properly
2. Universal waste (fluorescent tubes, batteries, etc.)
   a. Storing waste for too long
   b. Improper labeling of storage containers
   c. Not storing universal waste in the proper containers
3. Hazardous waste identification
   a. Not identifying all of the hazardous waste in a shop
   b. Not accurately determining how much waste the shop generates
4. Hazardous waste container and tank management
   a. Lack of waste management training
   b. Lack of emergency response supplies, equipment, and plans
   c. Improper labeling of hazardous waste containers (including the accumulation start date)

When an EPA inspector comes to your shop, you can expect:

- A tour of your shop focusing on the areas where wastes and used oil are generated and managed
- A review of all records
- A discussion of the inspector's findings immediately after the inspection

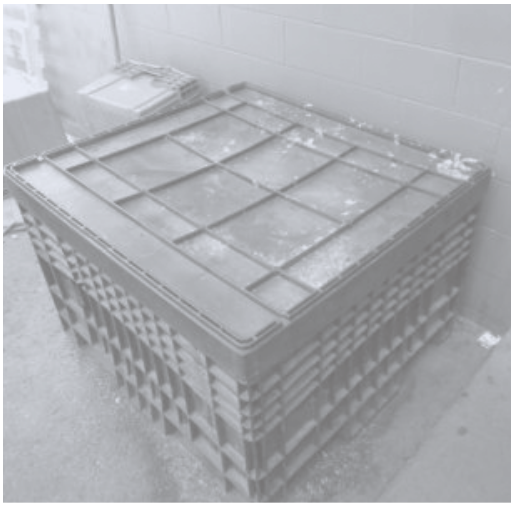
Inspectors are available any time to answer your questions about hazardous waste management. After the inspection, your shop will be contacted in writing by the EPA enforcement office notifying you of any issues identified during the inspection and what you need to do to address them.

Appendix: TCLP List

The Toxic Characteristic Leaching Procedure (TCLP) is a laboratory test that assesses whether or not a waste exhibits the toxicity characteristic that would classify the waste as a hazardous waste. If you send a sample to the lab for a TCLP test, compare your lab results with the regulatory level for the given contaminant in the table below. If your lab results meet or exceed the regulatory level, your waste is considered a hazardous waste.

EPA Hazardous Waste No.	Contaminant	Chemical Abstracts Service No.	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	200.0
D024	m-Cresol	108-39-4	200.0
D025	p-Cresol	106-44-5	200.0
D026	Cresol (total)		200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0

EPA Hazardous Waste No.	Contaminant	Chemical Abstracts Service No.	Regulatory Level (mg/L)
D036	Nitrobenzene	98-95-3	2.0
D037	Pentrachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	3 5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethyl-ene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethyl-ene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

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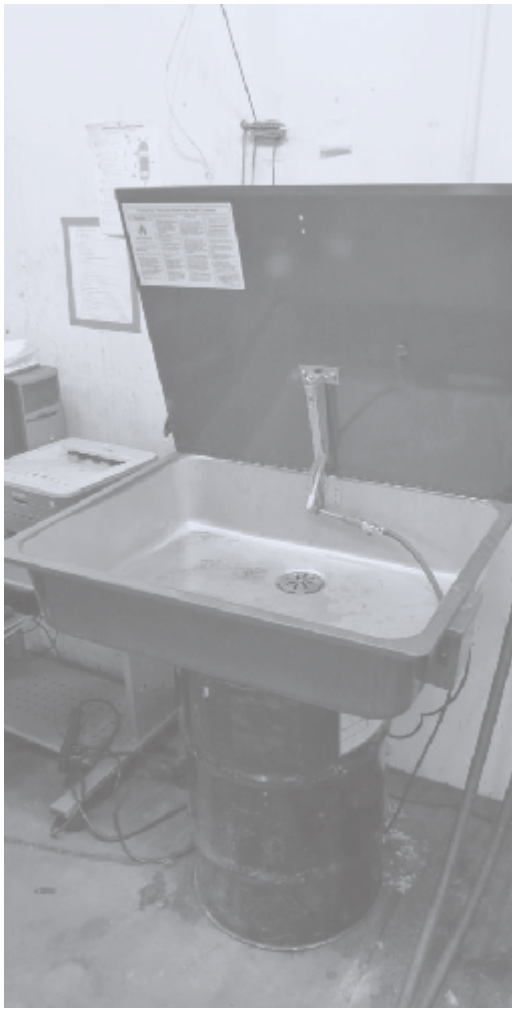


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United States
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Agency

Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-1128

Used Oil and Hazardous Waste Management

For Auto and Aircraft Repair Shops in Alaska

BEST PRACTICES