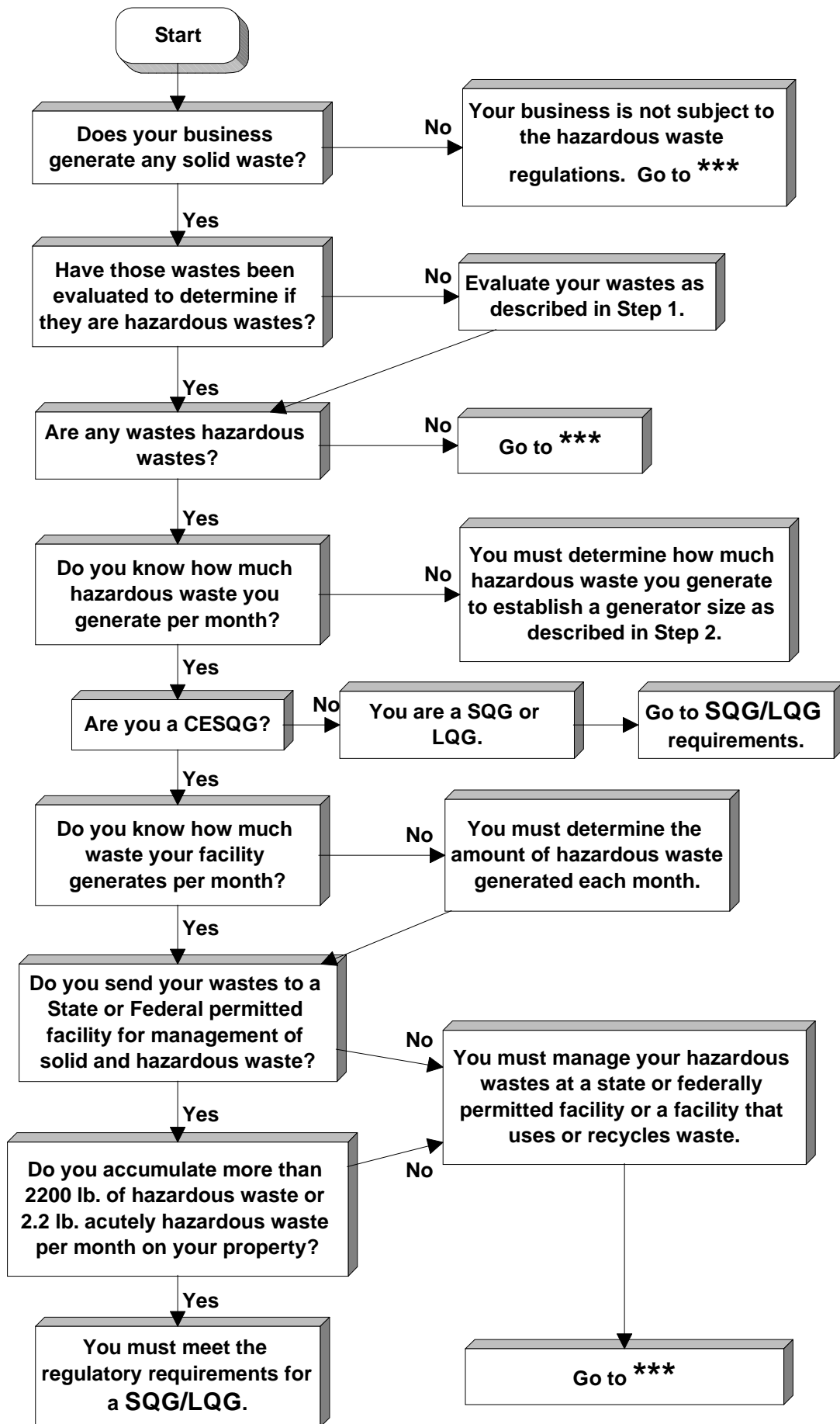
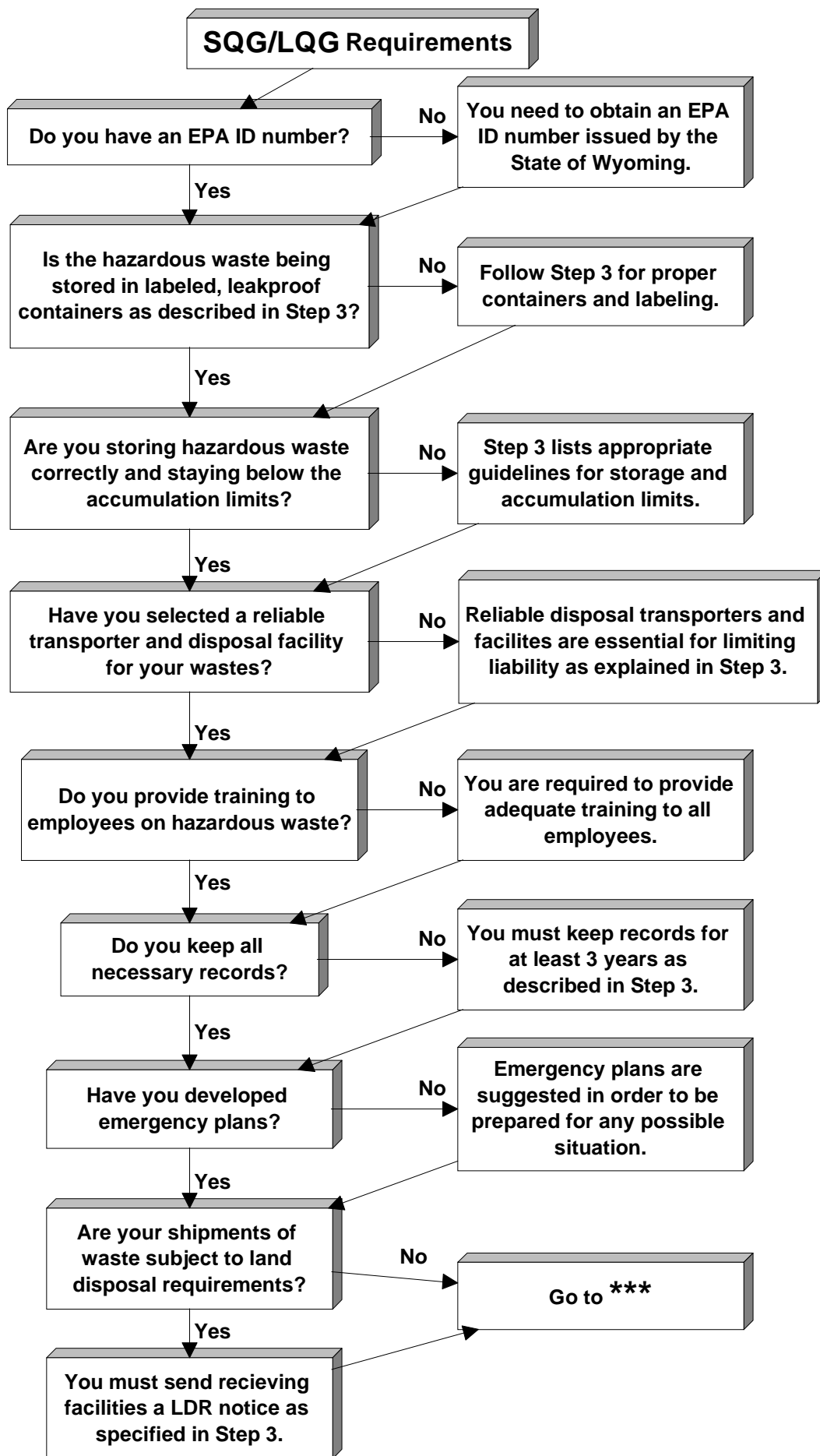
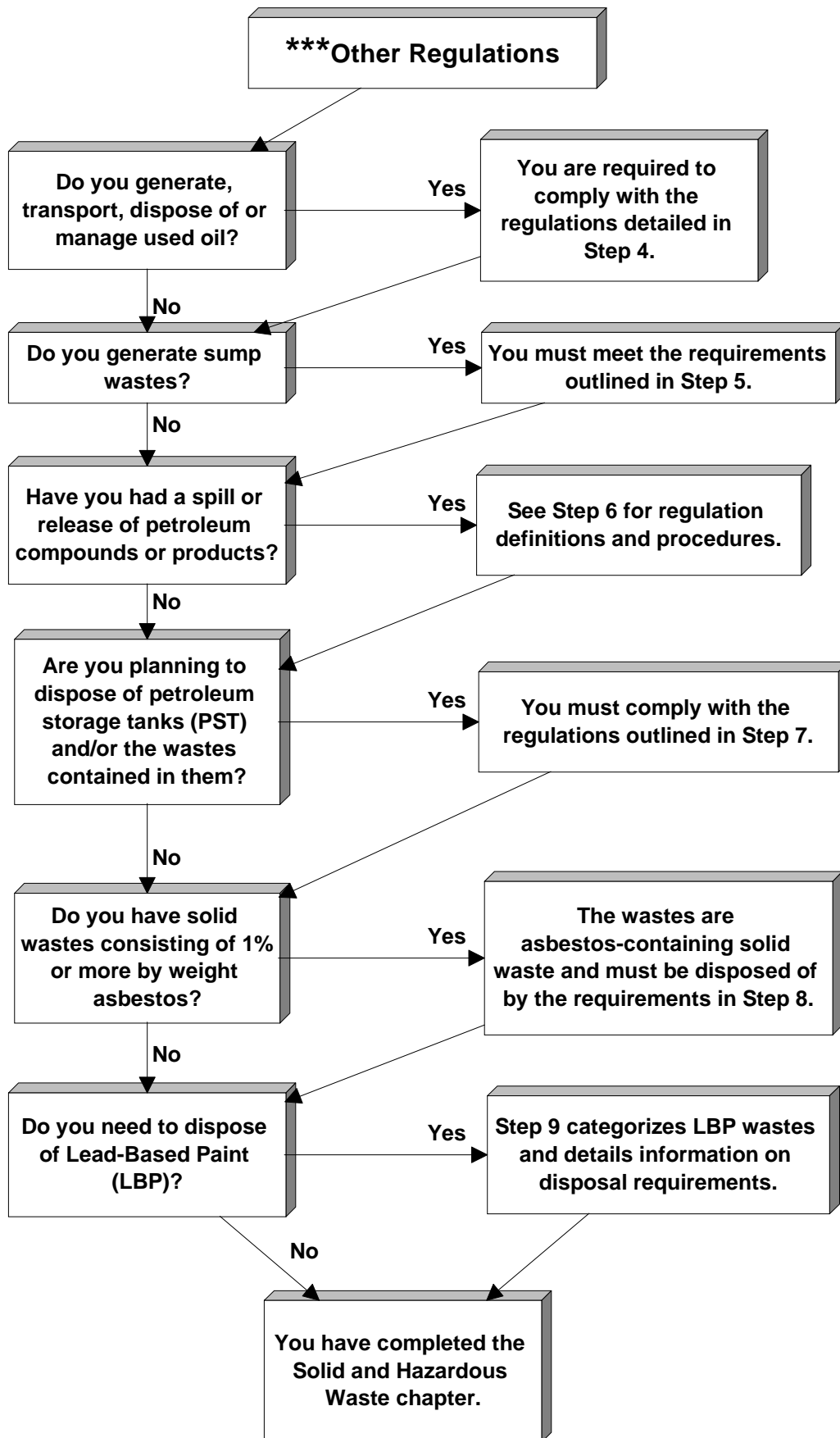




Solid and Hazardous Waste







Solid and Hazardous Waste

If your facility generates any solid or liquid wastes through a manufacturing process, you must evaluate your waste streams to determine quantity, composition, and if the waste is hazardous. Hazardous wastes require special management practices to protect both your workers and the environment. This section describes basic solid and hazardous waste requirements.

Wyoming Department of Environmental Quality, Solid & Hazardous Waste

Division (SHWD). The division provides assistance on federal and state regulations and the proper management of the following waste types: hazardous waste, municipal solid waste, industrial waste, petroleum contaminated soils, asbestos, PCBs, etc. For more information on solid and hazardous waste regulations, call one of the following Wyoming Department of Environmental Quality, SHWD district offices:

Casper	(307) 473-3452
Cheyenne	(307) 777-7752
Lander	(307) 332-6924

Wyoming Department of Environmental Quality, Office of Outreach &

Environmental Assistance, Pollution Prevention Program. This office provides non-regulatory, confidential technical assistance and training on waste minimization and pollution prevention to Wyoming small businesses. For assistance, call (307) 777-6105.

Step 1: Evaluate Your Wastes

Evaluate all wastes generated by your facility by identifying and inventorying them. Include waste discharged to the sewer, off-specification or unusable products, recycled wastes and other wastes associated with a production process (e.g., rags used for cleaning). Material Safety Data Sheets (MSDSs) and employees' process knowledge will help in the evaluation. It may also be necessary to have the wastes analyzed by a laboratory.

Once wastes are identified and inventoried, answer the following questions for each waste identified on the inventory. "Exempt" wastes are wastes that by rule are not considered hazardous waste. "Listed" hazardous wastes are wastes that EPA has listed as hazardous, and "Characteristic" hazardous wastes are wastes classified as hazardous due to a specific hazardous characteristic.

➤ Is the waste exempt?

Exempt wastes include:

- Wastes generated by facilities regulated by the Wyoming Oil and Gas Commission under W.S. 30-5-104(d) (vi) (A) or (B);

- Baling of used motor vehicles or scrap metals, and operation of metal smelters regulated by the Air Quality Division and storage for sale or reuse of used motor vehicles, parts, or scrap metal at salvage yards not to exceed:
 - A. 1,000 scrap tires (not including tires on vehicles),
 - B. 500 gallons of used motor oil, if the oil is being stored to be recycled, or to be burned in a used oil-fired space heater,
 - C. 1,200 used lead acid batteries, if the batteries are being stored in an upright position and are not leaking, for the purpose of being transferred to a recycling facility, or
 - D. 500 gallons of used antifreeze, if the antifreeze is being stored to be recycled, and the owner only stores used antifreeze they generate or receive from do-it-yourself antifreeze changers;
- Disposal of waste soil and rock directly connected with mining, subject to the Land Quality Division rules and regulation;
- Collection, storage and disposal of household wastes generated by a single family unit in such a manner that does not create a health hazard, public or private nuisance, or detriment to the environment;
- Disposal of sewage waste, municipal wastewater treatment sludge, wastewater's, or bulk liquid waste at facilities, other than solid waste landfills;
- Open burning of wood, brush, weeds, and tree trimmings conducted in compliance with the Air Quality Division rules and regulations;
- Disposal of clean fill consisting solely of uncontaminated natural soil and rock, hardened asphalt rubble, bricks, and concrete rubble in such a manner that does not create a health hazard, public or private nuisance, or detriment to the environment;
- Solid wastes, which in the judgement of the administrator, constitute de minimis quantities that are managed in such a manner that does not create a health hazard, public or private nuisance, or detriment to the environment;
- Facilities which would have been subject to the permitting requirements of Article 3 (Water Quality) of the act if constructed after July 1, 1973;
- Lands and facilities subject to the permitting requirements of Articles 2 (Air Quality), 3 (Water Quality), or 4 (Land Quality) of the act used solely for the management of wastes generated within the boundary of the permitted facility or mine operation;
- Farming or ranching lands used to dispose of solid waste generated incidental to the farming and ranching operation;
- Transport vehicles, storage containers and treatment of waste in containers;
- Scrap tire storage units at permitted landfills that have less than 5,000 tires stored above ground;
- Retail business facilities which have fewer than 1,000 scrap tires on the premises at any one time;
- Solid waste storage or transfer facilities used only for:
 - A. No more than 1,200 used lead acid batteries, if storing to be transferred to recycling facility, or
 - B. No more than 500 gallons of used oil and 500 gallons of used antifreeze, if storing to be recycled;

- Solid waste storage, treatment, or transfer facility occupying less than 10,000 square feet and used only for the storage, treatment, or transfer of recyclable household wastes including paper, cardboard, plastic, aluminum cans, glass and metal;
- Solid waste transfer facilities used for transferring 20 cubic yards or less of non-liquid solid waste per day and having 40 cubic yards or less total container capacity for solid wastes except for transfer facilities within one mile of each other;
- Used oil and used antifreeze storage tanks located at vehicle service facilities, assuming tanks are properly labeled and do not exceed a capacity of 2,000 gallons for each waste;
- Used oil-fired space heaters, provided the heater has a maximum capacity of less than 0.5 million Btu per hour, combustion gases are vented to outside air, and heater burns only used oil that the owner generates or receives from do-it-yourself oil changers; and
- Medical waste storage units, incinerators, autoclaves, or other treatment devices used to treat medical wastes generated within the county or local area where the devices are located.

➤ **Is the waste listed as a hazardous waste?**

Certain classes of chemical wastes are specifically *listed* in the rules as being hazardous. EPA has defined codes for these types of hazardous waste (e.g., F001).

These wastes are known as **listed hazardous wastes**. Common listed wastes include:

- **K-listed wastes**: wastes generated from a specific industrial processes such as preserving wood, formulating inks, pigments, chemicals and pharmaceuticals, petroleum refining and metal smelting.
- **F-listed wastes**: wastes generated during a non-specific industrial process. Solvents such as paint thinners with xylene, toluene or acetone and carburetor cleaner are included in this list.
- **U-listed wastes**: wastes that contain hazardous chemicals when the chemical is the sole or main active ingredient, which are toxic to human health and the environment. Generation of more than four 55-gallon drums of U-listed waste can cause strict regulation.
- **P-listed wastes**: wastes that contain extremely hazardous chemicals, which even in small quantities, are extremely toxic to human health and the environment. Generation of approximately 2 pounds of P-listed waste can cause strict regulation.

Some examples of hazardous wastes from non-specific **F-listed** waste sources are:

- **F001**: spent halogenated solvents used in degreasing such as trichloroethylene, methylene chloride, 1,1,1-trichloroethane and carbon tetrachloride.*
- **F002**: spent halogenated solvents such as those above but not used as degreasers. Other examples are 1,1,2-trichloro-1,2,2-trifluoroethane and chlorobenzene.*

- **F003:** spent nonhalogenated, ignitable-only solvents such as xylene, acetone, methanol and methyl isobutyl ketone.*
- **F004:** spent nonhalogenated solvents such as cresols, cresylic acid and nitrobenzene.*
- **F005:** spent nonhalogenated solvents such as toluene, methyl ethyl ketone, carbon disulfide and benzene.*

* Spent solvent mixtures/blends containing 10% before use of F001, F002, F004 and/or F005 compounds.

➤ **Is the waste hazardous because it exhibits a hazardous characteristic?**

If a waste exhibits one or more hazardous characteristics, it can also be considered a hazardous waste. The MSDSs for your raw materials can help determine if the waste products are hazardous. Contact the Office of Outreach and Environmental Assistance to obtain a copy of “How to Use a MSDS”. Laboratory tests can also help determine if the wastes exhibit a hazardous characteristic. Hazardous characteristics are:

- **Ignitable waste - D001:** liquid wastes having a flashpoint lower than 140 degrees Fahrenheit; or, a non-liquid waste capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard; or, an ignitable compressed gas. Examples of ignitable wastes include spent parts-washer waste or spent solvents.
- **Corrosive waste - D002:** water-based wastes having a pH of 2.0 or less (strong acids) or 12.5 or more (strong bases); also, any material able to corrode 1/4 inch of steel per year. One example of a corrosive waste would be automotive battery acid.
- **Reactive waste - D003:** unstable or explosive wastes; wastes that react violently in the presence of water; and, sulfide or cyanide-bearing wastes which give off toxic vapors when exposed to pH conditions between 2.0 and 12.5. Explosives are an example of a reactive waste.
- **Toxicity Characteristic waste - D004-D043:** wastes that, under acidic conditions, release toxic metals, pesticides or volatile organic chemicals above certain limits. Examples of toxic hazardous wastes are photographic fixers, paints or inks.

Step 2: Determine Your Generator Size

In order to figure out which hazardous waste requirements apply to your facility, first determine how much hazardous waste your facility generates per month. Exempted wastes are *not* counted in determining generator size. The table below will help determine what size generator your facility is.

If your facility generates:	Then your facility's size is:
220 pounds of hazardous waste or less per month (about one-half a 55-gallon drum of liquid waste)*. A CESQG cannot generate more than 2.2 pounds of acutely hazardous waste (P-listed waste) per month.	CESQG (Conditionally-Exempt Small Quantity Generator)
More than 220 pounds but less than 2,200 pounds of hazardous waste per month (between one-half to four 55-gallon drums of liquid waste)*. A SQG cannot generate more than 2.2 pounds of acutely hazardous waste (P-listed waste) per month.	SQG (Small Quantity Generator)
2,200 pounds or more of hazardous waste per month (four or more 55-gallon drums of liquid waste)*.	LQG (Large Quantity Generator)

* pounds determined using the weight of water.

Episodic Generator: if for **any single month**, you are a CESQG, SQG, or LQG, you must comply with the requirements only for that particular month. For example, if you are classified as a CESQG but in the month of July, you were a SQG, you must comply with the SQG requirements for July only.

The less waste generated the fewer the requirements. If you are interested in reducing the amount of hazardous waste your facility generates, see the chapter on **Pollution Prevention**.

Step 3: Understand Hazardous Waste Generator Requirements

➤ **CESQG Requirements:**

- A. Inventory: Identify all hazardous waste on-site, and determine pounds generated each month;
- B. Hazardous Waste Accumulation: Never accumulate more than 2200lbs of hazardous waste or 2.2lbs of acutely hazardous waste on your property. If you do, you must meet requirements of the Small Quantity Generator;
- C. Manage hazardous waste at a state or federally permitted facility or a facility that uses, reuses or legitimately recycles the waste.

➤ **SQG's and LQG's Requirements:**

- A. **Obtain a State/EPA ID number:** The State of Wyoming issues identification numbers, commonly referred to as EPA ID numbers. EPA ID numbers are assigned to a specific location and are used for tracking where wastes are generated and where they are disposed of. If you have more than one facility, you will need a number for each location. In some cases, a business generates waste in multiple buildings, but ship wastes from only one location. If the buildings are on contiguous property, you only need one EPA ID number. For a definition of "contiguous property," call the WDEQ/SHWD.

There is no charge to obtain a number. You may not ship wastes legally without an ID number unless you are a CESQG. An ID number can be obtained by filling out a “EPA Notification of Hazardous Waste Activity Form” (Form 8700-12). These forms are available from the WDEQ/SHWD.

Changes in your business:

If your business moves to a different location, you must obtain a new number for the new location. Use the same form, “EPA Notification of Hazardous Waste Activity Form” to obtain a new number. Check the box marked “subsequent notification” and attach a note stating whether the old EPA ID number is no longer applicable and why.

If you change operations so that hazardous wastes are no longer being generated, you should notify the department by letter.

B. Place waste in marked, leak-proof containers: Containers used for storing hazardous wastes must be sturdy, leak-proof and made of or lined with materials compatible with the wastes stored. Containers must be labeled with the following information:

1. Mark with the words “**Hazardous Waste**”; and
2. Mark the container with the date the first waste is placed inside (called the “accumulation start date”).

C. Store wastes correctly: Follow all fire and building codes for wastes stored **indoors**. In addition:

1. Do not mix incompatible waste or materials.
2. Do not place ignitable or reactive wastes in tanks unless certain precautions are taken.
3. Keep containers closed except when wastes are added or removed (this includes bungs and snap rings).
4. Provide enough aisle space for easy access and visibility.
5. Inspect containers at least weekly to ensure they have not deteriorated or are not leaking.
6. You must also meet storage time limits. If you are a SQG and store wastes past storage time limits, you will be subject to additional hazardous waste requirements.

When storing wastes outdoors the following are recommended:

1. Follow all requirements for inside storage;
2. Place containers holding liquids on a surface impermeable to that particular waste;
3. Separate incompatible wastes with a dike, berm or wall within the storage area;
4. Store wastes in an area without floor drains;
5. Restrict access to individuals responsible for managing the wastes;
6. Store wastes on a curbed, impermeable surface; and,

7. Protect wastes from the elements (rain, snow, and sunlight) and the risk of inadvertent damage.

Size	Accumulation Limit	Storage Time Limit
SQG	13,228 lbs.	Ship stored waste within 180 days of the accumulation start date. If the treatment, storage or disposal facility is more than 200 miles away, the storage time limit is 270 days.
LQG	No Limit	Ship waste within 90 days of the accumulation start date unless a storage facility permit is obtained.

The **Satellite Accumulation Requirements** allow hazardous waste generators to suspend the storage time clock until they fill a container or transfer their waste to the accumulation area. Generators using these provisions must comply with the following requirements:

1. The amount of hazardous waste being stored in the satellite accumulation area is one 55 gallon drum or less;
2. The hazardous waste container is properly labeled with “Hazardous Waste” or other applicable wording;
3. The drum/container in the hazardous waste satellite accumulation area is located at or near the waste generating process or in control of the waste generating process operator; and,
4. Once the 55-gallon limit is met, the drum/container in the hazardous waste satellite accumulation area must be moved to the main storage area and dated within 3 days.

- D. **Suggestions for transport and dispose of waste:** Generators of wastes are responsible forever for their hazardous wastes. This means that even when you give your waste to a transporter or disposal facility, you may be liable for cleanup costs if a release occurs. To ensure your wastes are properly managed and reduce your liability, choose a transporter and disposal facility with care.

Before you contact a transporter, you need to know:

- Kinds and amounts of waste you wish to be picked up;
- Form of the wastes (solid, liquid or sludge);
- Types of containers holding the waste;
- How often you need to ship the waste; and
- Which recycling, treatment or disposal facility the wastes are to be shipped to.

- E. **Selecting a Transporter:** Do not let cost be the only criterion you use in selecting a transporter or disposal facility. Other important factors in selecting a transporter include:

1. Does the Wyoming Department of Transportation (WYDOT) currently license the transporter? WYDOT can be reached at (307) 777-4375.
2. Does the transporter have a good track record? Have they been cited for violations within the last two years? Have they had spills or accidents within the past two years? If so, were appropriate cleanup actions taken? Ask the transporter for the names of other customers and call them for their opinion, or call WYDOT.
3. Does the transporter maintain adequate insurance? Depending on what is hauled and how it is transported, the transporter is required to have between \$1 and \$5 million liability insurance.
4. Are drivers given proper training? Drivers must be trained on emergency response procedures, placarding and labeling vehicles, filling out shipping papers, manifesting wastes, labeling and marking hazardous waste containers, loading and handling wastes, and safe vehicle operations.
5. Will the transporter ship wastes to the disposal facility you select?

CESQGs may be able to drop off their own wastes at Household Hazardous Waste (HHW) collection sites where wastes from many CESQGs may be consolidated and then shipped to a disposal facility. Although each business must still pay disposal fees, the drop-off program is a convenient and low-cost disposal option.

When transporting wastes it is recommended that you:

- Apply and receive approval from the drop-off collection site;
- Transport wastes from your business only in your business vehicle; and
- Keep all receipts for wastes delivered to drop-off sites.

Factors to consider when selecting a disposal facility include:

- Does the facility have a good track record? Check with the environmental regulatory agency in the state where they are based (similar to the DEQ) and check with other customers. Many times trade associations or peers can also help you.
- How will the facility dispose of your waste? The longer a waste remains in a form that can be released, the higher the liability. For example, incinerating wastes may be more expensive, but liability is much lower.
- Does the facility carry the necessary insurance?
- Does the facility have a plan to deal with spills or accidents? Has the facility ever had to use it?
- How are ash, sludge and empty containers managed?

If possible, visit the facility. Look for general good housekeeping, workers using safety equipment, warning signs, fencing to restrict access to the site, condition of building, tanks and equipment.

- F. **Manifest hazardous waste shipments:** A manifest is a multiple-page shipping paper that must accompany each shipment of hazardous waste. The manifest is the tracking document used to show that your wastes reached their proper destination. One manifest is prepared for each shipment of waste. See Section 8-A-2 of the HWRR to properly fill out a manifest form.

You should use the manifest provided by the state receiving the waste. You can obtain blank manifests from your transporter or disposal facility.

Any SQG that does not receive a signed copy of the manifest from the designated TSDF **within 60 days** of shipment must submit a legible copy of the manifest to the SHWD.

- G. **Train personnel:** Although only SQGs and LQGs are subject to training requirements for hazardous waste, personnel at CESQG facilities should be familiar with safe waste-handling and emergency response procedures. OSHA programs require employees to be adequately trained in using fire-suppression equipment and small/incidental spill clean-up procedures.

SQGs are required to:

1. Make sure all employees associated with hazardous waste management are familiar with proper waste handling and emergency procedures; and,
2. The following information must be posted next to the telephone:
 - a) Name and phone number of emergency coordinator,
 - b) Location of the fire extinguishers, spill control equipment, and
 - c) Phone number of the Fire Department.

LQGs have more extensive training requirements. Contact the SHWD for the LQG training requirements.

- H. **Keep records:** If your business is classified as a SQG or LQG, the business is required to keep a number of records. **For your own protection from future liability, the DEQ recommends you keep these records indefinitely.** Electronic records may be used in place of paper copies.

SQGs and LQGs must maintain the following records for three years:

1. Manifests;
2. Manifest exception reports;
3. Analytical reports for wastes;
4. Documentation of employee training must be kept for three years after the last date the employee worked for your company (LQGs only);
5. Land Disposal Restriction (LDR) notification forms, certifications, waste analysis plan (if on-site treatment) for a minimum of 5 years; and
6. Biennial reports (LQG only).

- I. **Preparedness and Prevention / Emergency Procedures:** If you are a SQG and store hazardous waste on site, you must be equipped with:
- An internal communications or alarm system capable of providing emergency instructions to all personnel;
 - Telephone or hand held radio capable of summoning emergency assistance from local fire and police departments;
 - Portable fire extinguishers, control devices, spill control materials, and decontamination supplies; and,
 - Adequate volume of water and pressure to supply water hose streams or sprinklers.

You should be prepared for an emergency at your facility. Development of a contingency plan that answers “what if” questions is a recommended. **In the event of a fire, explosion, or other release of a hazardous material that could threaten human health outside the facility, or if you think that a spill has reached surface water, call the National Response Center at 1-800-424-8802 to report the emergency.**

- J. **Compliance with Land Disposal Restrictions (LDRs):** Regardless of where the waste is being sent, for each shipment of waste subject to LDRs you must send the receiving treatment, storage, and disposal facility (TSDF) or recycler an LDR notice. The notice must provide information about your waste. This is to inform the TSDF that the waste must meet treatment standards before it is land disposed.

Other recommended records to keep include:

- Documentation showing how wastes were determined to be nonhazardous;
- Weekly inspection logs of storage areas and containers;
- Receipts for used oil and used oil filters;
- For lead acid batteries, shipping papers and logs to show that 75 percent of what you collect each year is recycled;
- Receipts or shipping papers for sorbents, fluorescent and high intensity discharge lamps or other special wastes. CESQGs using CESQG drop-off sites should also maintain these records;
- Any correspondence from the DEQ, EPA or county hazardous waste office;
- A log of telephone calls regarding solid and hazardous waste management;
- Certificates of destruction or recycling from the disposal facility; and
- Spill and clean-up records.

Step 4: Understand Used Oil Regulations

The used oil regulations apply to anyone who generates, transports, disposes, and manages used oil. Used oil can come in a variety of forms. It can be any used engine oil, lubricating oil, grease, hydraulic fluid, gear oil, transformer fluid, cutting oil, tempering or quenching oil, piston engine crankcase oil, refrigeration coolant, metalworking fluid

and oil, laminating oil, copper and aluminum wire drawing solution, and electrical insulating oil.

Inventory the type and quantity of your used oil to determine permit and disposal requirements. Mixtures of used oil and hazardous wastes or used oil containing polychlorinated biphenyls (PCBs) concentration greater than or equal to 50 ppm must be managed according to TSCA regulations at 40 CFR, Part 750 and 761.

Exemptions from the used oil generator requirements:

- Household do-it-yourselfer;
- Mixtures of used oil/diesel fuel mixed by generator for use in the generator's own vehicle after they have been mixed;
- Farmers who generate an average of less than or equal to 25 gallons per month from vehicles or machinery used on the farm; and,
- Used oils that are placed directly into crude oil or natural gas pipelines.

Used Oil Generator Requirements:

- Used oil must be stored in leakproof containers. The containers must be labeled with the words "**Used Oil**" to avoid accidental mixing;
- If an oil spill or release occurs, you must comply with the following requirements:
 - A. Stop the release,
 - B. Containing the released used oil,
 - C. Cleanup and properly manage the released used oil and materials as described in the Solid Waste Rules and Regulations (SWRR) Guideline #2,
 - D. Prevent future releases by repairing or replacing any leaking storage tank or containers before returning them to service.
- Vehicle service facilities may have a storage capacity of up to 2,000 gallons of used oil without a permit. Contact the DEQ Solid and Hazardous Waste Division nearest you for permitting requirements;
- You must comply with all Spill Prevention Control and Countermeasures (SPCC) Plan requirements if on site storage capacity in aboveground tanks is greater than 1,320 gallons or any single container holds more than 660 gallons;
- An EPA I.D. number for transportation is not necessary **if** an agreement between the used oil processor/refiner and generator is made to return the re-processed used oil to the generator; or
- The oil is transported in a company or employee owned vehicle and no more than 55 gallons is transported at any time.

Requirements for burning used oil:

You may burn your own used oil in a used oil fired space heater for energy recovery if:

- The heater burns only the used oil that you generate or used oil from household do-it-yourselfers;
- The heater has a maximum capacity of not more than 0.5 Million Btu/hr; and
- The combustion gases from the heater are vented to the outside.

- Used oil from commercial used oil generators and used oil containing greater than or equal to 50 ppm PCBs are not allowed to be burnt in your used oil space heater.

Used Oil Filters:

Non-Terne plated used oil filters must be gravity hot-drained and disposed of by using **one** of the following:

- Puncturing the filter anti-drain back valve or the filter dome and hot-draining;
- Hot-draining and crushing;
- Dismantling and hot-draining; or
- Any other equivalent hot-draining method which will remove the used oil.

Terne plated filters contain a lead-tin alloy. Oil Filter suppliers and manufacturers should be able to tell you if you are using terne or non-terne plated filters.

Gravity hot-draining means drain the filter at room temperature (60 degrees F) for a minimum of 12 hours. Empty filters should be recycled at a metal salvage yard or other recycler.

The Wyoming Department of Environmental Quality, Solid and Hazardous Waste Division also checks out a video produced by the EPA called The Used Oil Management Standards that may help answer more questions regarding used oil.

Step 5: Define Possible Sump Wastes

Sump wastes include, but are not limited to liquid (water, oil, solvents, etc.) and solid (sludge, residue, scales, soil, etc.) mixtures accumulated in a pit, tank, or reservoir constructed to serve as a drain or receptacle for the liquid/solid mixture. Under State Hazardous Waste Rules and Regulations, sump wastes may be classified as hazardous. The generator should:

- Determine the facility’s hazardous waste generator status, and
- Chemically test the sump wastes (if the hazardous waste generator status determination requires that characterization be done).

To determine the amount of sump waste that may be generated (removed from the sump) in a single month before chemical testing is required (right column), find the monthly amount of non-sump hazardous waste generated by the facility in the left column of the table below.

WASTES GENERATED ON A MONTHLY BASIS

<u>Non-Sump/PST Hazardous Waste</u>	<u>Testable Quantity of Sump/PST Waste</u>
0 lbs.	220 lbs.
55 lbs.	165 lbs.
110 lbs.	110 lbs.
165 lbs.	55 lbs.
> 220 lbs.	All waste must be tested.

For example, if a facility generates 55 lbs. of non-sump hazardous waste in a month, the facility can generate (remove from the sump) up to 165 lbs. of sump waste in that month before chemical testing of the sump waste is necessary.

For determination of a facility's hazardous waste generator status, the quantity of sump wastes must be counted in the month that they are **removed** from the sump even though they may have been **collected** in the sump for a longer period of time. If the amount of waste to be removed from the sump is over 2200 pounds at the time of sump cleaning, the generator is responsible for testing the sump wastes regardless of the amount of time that was required to collect that sump waste.

If you are required to test your sump wastes, you should combine liquid and solid portions of the waste to be chemically analyzed at least once. If the wastes test non-hazardous, the generator will not be required to test each load of sump waste, but will be required to retest upon change in operations, product usage, or procedures at the facility. Sump wastes should be tested before it is removed from the sump for disposal.

The following sump wastes are acceptable for disposal at landfill facilities within the state that have been permitted to operate a non-hazardous liquid waste disposal pond or lagoon after receiving either written or verbal permission from the disposal facility:

- Sump wastes which are generated by car washes,
- Sump wastes which are generated by CESQGs, and
- Sump wastes which are generated by SQGs and LQGs, **and** which have been chemically tested and shown to be non-hazardous.

If facilities are not available within the city, county, or solid waste disposal district to accept liquefied sump wastes the following waste management option can be used:

- If possible, all free liquids should be removed from the sump and either flushed to the sanitary sewer system or delivered to an approved wastewater treatment plant. Generators must contact DEQ/WQD and the wastewater treatment plant prior to discharging.
- For large sump volumes, the remaining liquids, sludges, and solids may be removed and dried in an onsite bermed area which is lined with concrete, asphalt, or a 30-mil poly-vinyl chloride (PVC) liner. The drying area must be located at least 20 feet from adjacent property lines and have a lined capacity of no more than 5500 cubic feet. These types of waste drying units must receive a de minimis exemption from the department prior to construction and operation.
- For small sump volumes, solids removed from the sump may be drained and dried within the influence of the sump system by placing the wastes in such a manner that any liquids draining from the solids return to the sump system. Solids may also be removed from the sump and dried in a small bermed area that is lined with concrete, asphalt or plastic. The treatment area must be at the facility and must only be large enough to drain and dry a single batch of sump solids at any one time.
- The solid portion of the sump wastes must be dried until it passes the Paint Filter Liquids Test (EPA Method 9095). Free liquids, which accumulate in the drying area, must be removed and disposed as described above.

Step 6: Analyze Petroleum Contaminated Soils

Soils that become contaminated due to a spill or release of petroleum compounds or products are defined as “petroleum contaminated soils” (PCS). PCS are regulated as a solid waste and may be regulated as a hazardous waste depending on the type and/or concentration of contaminants.

The SHWD recommends that at least one 3-point composite sample be collected and analyzed to properly characterize the PCS. Additional 3-point samples should be analyzed for every 400 cubic yards of PCS. If any of the RCRA hazardous waste characteristics are exceeded, the PCS is probably a hazardous waste, therefore, the management options in this section are not applicable.

Qualified personnel using an organic vapor analyzer (OVA) or flame ionization detector (FID) and standard headspace analysis may screen excavated soils in the field. Soils with head space readings in excess of 20 ppm should be managed as a regulated solid waste under the assumption that they are contaminated and may require treatment. Soils with headspace readings below 20 ppm can be assumed to be “clean fill material”, which may be stockpiled at the excavation site or some other location in a bermed area that is lined until they are tested. PCS meeting all of the following conditions may be used as clean fill material:

- TPH/GRO is less than 30 mg/kg;
- TPH/DRO is less than 100 mg/kg;
- PCS is not placed in direct contact with seasonally high surface water or ground water;
- PCS is not placed in an existing or proposed residential, recreational or agricultural area.

Storage and treatment

Non-hazardous PCS storage in Wyoming are described below. These options **ARE NOT APPROPRIATE** if the PCS is a regulated hazardous waste.

- PCS may be temporarily stored at the point of generation if **all** of the following are met:
 - A. The PCS is not stored for more than 180 days,
 - B. Public access to the storage area is controlled,
 - C. The storage unit is bermed, lined and covered with an impermeable material which has a nominal thickness of 6-mils, and
 - D. The storage unit is posted with a sign, which identifies the date of accumulation and the words: "Caution – Petroleum Contaminated Soils – No Smoking”;
- PCS may be transported to any solid waste management facility, which is permitted to accept PCS for storage or treatment. The owner or operator of the facility should be contacted **before** transporting the PCS. PCS generators may contact the SHWD for listings of permitted facilities;

- The SHWD has permitted a number of mobile treatment units, which are capable of treating PCS at the point of generation. Contact the SHWD for listings of permitted mobile treatment units;
- Properly characterized PCS may be burned in-situ in order to reduce or eliminate contamination. Generators who are interested in pursuing this option must contact WDEQ Air Quality Division (AQD) to determine the conditions under which this option may be permitted. If this option is chosen, residual levels of contamination must meet the “cleanfill material” criteria;
- Generators of properly characterized PCS may apply to the SHWD for authorization to treat PCS on-site if an emergency exists or if the treatment activity is anticipated to be a one-time, non-recurring event, and the treatment location meets the following location standards:
 - A. Facilities shall not be located within 100 feet of any occupied dwelling house, school, or hospital except with written consent of the owner,
 - B. Facilities shall not be located within 100 feet of a public park or recreation area, except with written consent of the owner, and
 - C. Facilities shall not be located in an area, which is not approved by the governing fire marshal. The PCS generator using this option must also submit the required application form contained in SWRR Guideline #2;
- Generators of “de minimis quantities” of properly characterized PCS may conduct on-site treatment of PCS without notifying or obtaining authorization from the SHWD if the treatment does not create a health hazard, public or private nuisance, or detriment to the environment. De minimis quantities of PCS are defined as:
 - A. Less than 200 cubic yards of soil contaminated with an E&P exempt source of crude oil or condensate, and
 - B. Less than 20 cubic yards of soil contaminated with gasoline, diesel, refined oil, or used oil;
- Properly characterized PCS may be transported to an out-of-state facility for storage and/or treatment.

Disposal Options

- Backfilling at the point of generation – PCS which is inadvertently generated during a site investigation or an unrelated construction project may be backfilled in the source excavation or drill hole if WDEQ is promptly notified and given the opportunity to inspect the site and sample the PCS. This option is not available if the PCS is classified as a hazardous waste;
- PCS may be used as clean fill material if **all** of the following are met:
 - A. The TPH/GRO concentration is less than 30 mg/kg,
 - B. The TPH/DRO concentration is less than 100mg/kg,
 - C. The PCS is not placed in direct contact with seasonally high surface water or groundwater, and
 - D. The PCS is not placed in an existing or proposed residential, recreational, or agricultural area;
- PCS may be disposed at a permitted solid or industrial waste landfill with operator approval if the following TPH criteria are met:
 - A. When ground water monitoring required:

1. TPH/GRO *less than or equal to* 300 mg/kg, and
 2. TPH/DRO *less than or equal to* 1,000 mg/kg;
- B. When ground water monitoring is not required:
1. TPH/GRO = 300 mg/kg, and
 2. TPH/DRO = 10,000 mg/kg;
- PCS may be transported to an asphalt batch plant which is permitted by the WDEQ Air Quality Division to incorporate PCS into their asphalt manufacturing process if all of the following guidelines are met:
 - A. All PCS is stockpiled in a bermed area which is lined with plastic or some other impermeable material until such time that it is processed,
 - B. No more than 1,000 cubic yards of unprocessed PCS are stored at any one time,
 - C. No PCS is stored for more than 180 days before it is processed,
 - D. The PCS storage area contains at least one sign that says “Caution – Petroleum Contaminated Soils – No Smoking”, and
 - E. Written records of the generator name, address and phone number, volume of PCS received, and the date the PCS was received are maintained and available for inspection while the PCS is stockpiled on-site;
 - PCS may be road applied with approval from the WDEQ Water Quality Division;
 - PCS may be disposed on-site with approval from the WDEQ Solid and Hazardous Waste Division. To obtain approval, an application must be submitted addressing the application requirements of the SWRR; and
 - Properly characterized PCS may be transported to an out-of-state facility for disposal.

Further information can be obtained by calling one of the Solid and Hazardous Waste Division offices listed at the beginning of this chapter.

Step 7: Disposal of Petroleum Storage Tank (PST) Wastes

A petroleum storage tank is any underground or above ground storage tank that has been taken out of service and which contained any substance regulated under Subtitle I of the federal Resource Conservation and Recovery Act (RCRA) including, but not limited to storage tanks that have held gasoline, diesel fuels, and used and unused motor oils.

PST wastes may be classified as hazardous. Therefore, **before** PST wastes can be disposed at a permitted solid waste management facility within Wyoming, the PST waste generator should:

- Determine his/her hazardous waste generator status (as above);
- Evaluate the potential impact of PST waste on generator status (Table located in Sump Waste section of this chapter); and
- Chemically test the PST wastes (if the hazardous waste generator status requires that characterization be done).

Petroleum Storage Tanks (PSTs)

- All PSTs must be decommissioned at a state permitted PST decommissioning facility prior to any use/reuse or disposal of the tank. PSTs may be decommissioned on-site

after receiving prior approval from DEQ. PSTs should be decommissioned on an impermeable pad to control surface water run on and run-off. PSTs **may not** be decommissioned at municipal landfills. Owners of underground PSTs may use the tank for above ground purposes under the following conditions:

- A. Only the tank owner may reuse the tank for an above ground purpose,
 - B. The tank must store only petroleum products similar to the product stored in the underground application,
 - C. The PST must be structurally acceptable for an above ground storage purpose, and
 - D. The location and use of the underground PST for above ground purposes must comply with local fire ordinances and be approved by the local fire marshal;
- All PSTs, except those being reused as described above, must be “opened” in accordance with requirements, and standards;
 - Once opened, all sludge, scale, and waste product must be removed from the PST and accumulated in a tank or container in compliance with 40 CFR Part 265, Subpart I or Subpart J. A 55-gallon drum in good condition may meet the definition of an appropriate container. All accumulated waste product must be counted toward the volume of PST waste generated;
 - All PSTs must be thoroughly cleaned using an appropriate cleaning method/device; and
 - If the PST is to be disposed, landfill operator approval must be obtained and the PST should be cut into pieces of a size approved by the landfill operator. As an alternative to disposal, steel tanks may be sold as scrap following proper decommissioning.

Wastes Contained in Petroleum PSTs

- All sludge, scale, waste product, and rinseate generated as a result of PST decommissioning must be containerized separately in 55-gallon steel drums at the decommissioning site. Each drum should be filled not more than one-third (1/3) full and be properly identified and labeled;
- If the total amount of PST waste is greater than the testable quantity (above), samples must be taken from each waste type (sludge, scale, waste product, and rinseate) and combined into a single composite sample and analyzed by the following chemical testing procedure:

<u>Characteristic</u>	<u>Regulatory Limit</u>
Arsenic*	5.0 mg/L
Barium*	100.0 mg/L
Cadmium*	1.0 mg/L
Chromium*	5.0 mg/L
Lead*	5.0 mg/L
Mercury*	0.2mg/L
Selenium*	1.0 mg/L

<u>Characteristic</u>	<u>Regulatory Limit</u>
Silver*	5.0 mg/L
Corrosivity	pH < 2 or pH > 12.5
Ignitibility (flash point)	< 140 degrees F

* Must prepare and analyze sample using the Toxicity Characteristic Leaching Procedure (TCLP) as described in 40 CFR Part 261

- The mass of all PST waste, which is determined to meet the criteria of characteristic hazardous waste as described in the table above, should be counted toward the generator's hazardous waste generator status. All hazardous waste generated by SQGs and LQGs must be shipped to a RCRA-permitted facility for treatment, storage or disposal. PST wastes, which are generated by CESQGs or are generated by SQGs or LQGs and are nonhazardous can be disposed at landfill facilities within the state.
- Nonhazardous waste may be solidified in preparation for disposal at a permitted landfill. The waste in each drum should be mixed in an appropriate ratio with a solidifying agent such as portland cement, flyash, or cement kiln dust.
- All contaminated soils which are excavated during petroleum PST remediation must be managed in accordance with solid and hazardous waste rules and regulations and Solid Waste Disposal of Petroleum-Contaminated Soils (above).

Step 8: Identifying and Disposing of Asbestos

Asbestos-containing solid wastes means solid wastes containing greater than one percent by weight asbestos in any of the asbestiform varieties of: chrysotile (serpentine), amosite (cummingtonite, grunerite), crocidolite (riebeckite), anthophyllite, antinolite or tremolite, and those which may be considered friable asbestos.

Friable asbestos is defined as asbestos that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure, and includes previously nonfriable asbestos after such previously nonfriable asbestos becomes damaged to the extent that when dry it may be crumbled, pulverized or reduced to powder by hand pressure.

Friable Asbestos may include:

- Asbestos-containing thermal insulation (sprayed or trowelled asbestos coatings and molded or wet-applied pipe coverings),
- Preformed pipe coverings (used for thermal insulation on steam pipes in industrial, commercial, institutional and residential applications),
- Preformed block insulation (used as thermal insulation on boilers, hot water tanks and heat exchangers in industrial, commercial, institutional and residential applications),
- Pipeline wrap (used to protect underground pipes from corrosion particularly in the oil and gas industry),
- Millboard and rollboard (laminated paper products used in commercial construction such as walls and ceilings),

- Commercial insulating papers (used for high temperature applications in the metals and ceramic industries, for low-grade electrical insulation and for fireproofing steel decks in building construction),
- Corrugated asbestos paper (used for pipe coverings, block insulation and specialty panel insulation), and
- Miscellaneous friable asbestos-containing wastes such as plaster/stucco, artificial snow, and spackle and joint patching compounds.

Non-friable Asbestos (asbestos in these products is tightly bound and is not released under typical conditions or use) may include:

- Asbestos cement (A-C) pipe (used for water and sewer mains, electrical conduits, drainage pipe and vent pipes),
- Asbestos-cement sheet (manufactured in flat or corrugated panels and shingles; used for roofing, siding, cooling tower fill sheets, canal bulkheads, laboratory tables and electrical switching gear panels),
- Asbestos-containing brake linings (include drum brake linings, disk brake pads and brake blocks),
- Vinyl (linoleum) floor tiles and wall paper,
- Asphalt flooring,
- Asphalt roof coatings (i.e. roof sealants and shingles),
- Traditional molded plastic products (i.e. plastic laboratory sinks),
- Roofing felt (smooth surface, mineral surface, shingles and pipeline),
- Gaskets and other paper products which use asbestos fibers instead of cellulose,
- Asbestos yarn, cloth and other textiles (used to manufacture fire-resistant curtains and blankets, protective clothing, electrical insulation, thermal insulation and packing seals), and
- Miscellaneous non-friable asbestos-containing wastes (may contain asbestos) such as shotgun shell base wads, asphalt paving mix, artificial fireplace logs for gas-burning fireplaces, oil and gas drilling fluids, caulking putties, asphalt tile cement adhesive, mastics and roof putty.

Asbestos wastes can be disposed at State landfills that are permitted to accept asbestos waste. For a listing of the landfills, contact the SHWD.

If you have any questions concerning the content of these wastes, contact the Solid and Hazardous Waste Division at (307) 777-7752. **Removal of non-friable asbestos-containing products before a building is demolished is regulated by the Department of Environmental Quality/Air Quality Division (307-777-7391).**

Step 9: Identifying and Disposing of Lead-Based Paint

There are two main types of lead-based paint (LBP) waste. **Household LBP waste** is generated by individuals on the household premises. A homeowner or contractor can generate this waste. LBP waste generated at single family homes, apartment buildings, public housing and military barracks are exempt from the state hazardous waste

requirements. This waste can be disposed as municipal solid waste at state permitted municipal landfills. Dumping and open burning of Household LBP waste is **not** allowed.

Non-Household LBP waste is subject to the State Hazardous Waste Rules and Regulations (HWRR) and must be properly characterized. Samples of the waste must be taken and analyzed using the Toxicity Characteristic Leach Procedure (TCLP) to determine if the waste leachate extract contains 5.0mg/L or greater lead. If so, the waste would be classified as hazardous. A total waste analysis can also be performed. If the total amount of lead in the sample is greater than 100mg/kg lead, it would more than likely fail the TCLP and the waste would be classified as hazardous.

All other LBP waste is subject to the State HWRR and must be properly characterized. Samples of the waste must be taken and analyzed using the Toxicity Characteristic Leach Procedure (TCLP) to determine if the waste leachate extract contains 5.0 mg/L or greater lead. If so, the waste would be classified as hazardous. A total waste analysis can also be performed. If the total amount of lead in the sample is greater than 100 mg/kg lead, it would more than likely fail the TCLP and the waste would be classified as hazardous.

If the total amount of hazardous waste generated including the LBP hazardous waste, is less than 100 kg/month, the LBP hazardous waste is defined a conditionally exempt small quantity generator (CESQG) hazardous waste. This waste may be disposed at state permitted landfills with prior authorization from the landfill owner/operator.

If the total amount of hazardous waste generated including the LBP hazardous waste is greater than 100kg/month, the LBP hazardous waste is regulated hazardous waste and must be properly packaged, shipped and disposed at a commercial hazardous waste management facility. The State HWRR also allow LBP hazardous waste to be treated in the original container. If the hazardous wastes are treated in their original container to render the wastes nonhazardous, the following requirements must be met:

- The container must be in good condition and must be compatible with the wastes being stored;
- The container holding the LBP hazardous waste must always be closed during storage, except when it is necessary to add or remove waste;
- The container holding the waste must not be opened, handled, or stored in a manner that may cause the container to rupture or leak;
- The owner/operator must inspect areas where containers are stored, at least weekly, looking for leaks or deterioration;
- LBP hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see appendix V, Chapter 11, HWRR for examples); and
- If water is used as part of the activity it must be collected and tested to confirm it is not hazardous before it can be disposed of through storm or sanitary sewers.

If **LBP hazardous waste** is generated, you must comply with the following:

- Use required hazardous waste containers and labels;
- Mark the waste accumulation start date on each waste container;

- Inspect the waste containers at least weekly for leaks/corrosion and keep records of all inspections;
- The maximum amount of waste that can be stored on-site is 6,000kg of LBP hazardous waste;
- The maximum on-site storage time is:
 - A. large quantity LBP hazardous waste generators (LQG) (generate 1,000kg or more LBP hazardous waste/month): 90 days;
 - B. small quantity LBP hazardous waste generators (SQG) (generate > 100kg but < 1,000kg/month): 180 days when transportation to waste management facility is < 200 miles;
 - C. SQG: 270 days allowed when transportation to waste management facility is > 200 miles.
- Copies of hazardous waste manifests, exception reports, test results, waste analyses, and Biennial Reports for LQGs, must be maintained for 3 years. LQGs must keep LDR records for 5 years. SQGs are required to keep manifests and waste test results for 3 years and LDR records for 5 years.
- SQGs must have in their possession basic safety information that can be used during an emergency. LQGs must have a written emergency plan. **(For a complete listing of all state hazardous waste requirements, contact WDEQ to obtain a copy of the State Hazardous Waste generator checklist);**
- SQGs must ensure their employees are familiar with emergency spill and accident procedures. LQGs must have an established training program that includes the identification or availability of the following:
 - A. waste handling procedures;
 - B. emergency response actions/contingency plans;
 - C.
 - D. emergency contacts and equipment;
 - E. medical treatment and supplies;
 - F. a designated emergency coordinator.

Recommendations For Handling Household LBP Waste:

The following best management practices are recommended for the proper handling and disposal of **Household LBP Waste**:

- Collect paint chips, dust, dirt, and rubble in plastic trash bags for disposal;
- Store larger architectural debris pieces in containers until ready for disposal;
- Consider using a covered mobile dumpster for storage of debris until the job is done;
- Contact local municipalities or county solid waste offices to determine where and how to dispose of Household LBP.

For more information, contact one of the Solid and Hazardous Waste Division offices at:

Casper:	(307) 473-3450
Cheyenne:	(307) 777-7752
Lander:	(307) 332-6924