HAZARDOUS WASTE MANAGEMENT

A Reference for Small Businesses

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All businesses create useless or unwanted wastes as part of their normal operating procedure. While there are many categories of wastes, small businesses should be most concerned with hazardous wastes that may pose a threat to human health and the environment. Wastes that meet the definition of hazardous (defined below) are regulated by the Montana Department of Environmental Quality (DEQ).

This fact sheet has been designed to help you determine if your wastes are considered hazardous and determine your generator status for compliance purposes. For a more detailed explanation, refer to The Small Business Handbook for Managing Hazardous Wastes published by the DEQ (telephone numbers listed on insert).

DEFINING A HAZARDOUS WASTE

Any Montana business that generates wastes must determine if the wastes are hazardous as defined by the Administrative Rules of Montana (ARM). This can be done by either applying knowledge of what is in the waste or analyzing the waste by an approved test method. If a waste is determined to be hazardous, specific state rules apply to its management and disposal.

The Material Safety Data Sheets (MSDSs) published by the manufacturer for each product is an invaluable tool not only to help employees use a product safely, but to determine if the waste produced could be hazardous. For more information on MSDSs, refer to the Montana State University Extension Service Pollution Prevention (MT P2) Program’s MSDS Fact Sheet.

Is your waste exempt from hazardous waste requirements?

Specific wastes are exempt from state and federal hazardous waste regulations. However, be aware that even though the following wastes are not subject to hazardous waste regulations, they are managed under other state or federal regulations. They include, but are not limited to:

- **Hazardous wastes generated in the home** (e.g., oven cleaner, drain cleaner)
  - not applicable for small businesses. Regulated as solid waste by the DEQ under ARM.
- **Spent lead-acid batteries** (e.g., vehicle batteries) that will be sent off-site for reclamation.
  - Regulated as solid waste by DEQ under ARM.
- **Scrap metal that is to be recycled**
  - Regulated as solid waste by DEQ under ARM.
- **Asbestos that is to be disposed of**
  - Regulated as a hazardous air pollutant by DEQ under the National Emission Standards for...
Hazardous Air Pollutants.

- **Polychlorinated biphenyls (PCBs)**
  - Regulated as a toxic substance by the US Environmental Protection Agency (EPA) under the Toxic Substance Control Act.

- **Chlorofluorocarbons (CFCs)**
  - Regulated as a volatile organic compound by EPA under the Clean Air Act.

**Is your waste a characteristic hazardous waste?**

A waste may be considered hazardous if it exhibits any one of the following characteristics:

- **Ignitability** - Easily combustible or flammable (the material has a flash point below 140°F). *Examples: Solvents, mineral spirits.*

- **Corrosivity** - Aqueous-based liquid with a pH of less than or equal to 2.0 or a pH of greater than or equal to 12.5. *Examples: Battery acids, alkaline cleaning solvents.*

- **Reactivity** - Unstable or undergoes violent chemical reactions with water or other materials. *Examples: Hydrogen sulfide, bleaches.*

- **Toxicity** - Toxic due to the presence of metals or organic compounds. The test for this characteristic simulates leaching of the contaminant through a landfill environment and into groundwater. There are 40 constituents that EPA has established concentration limits for in the Toxicity Characteristic Leaching Procedure (TCLP) test. For more information on TCLP tests and a list of toxic wastes, contact the DEQ. *Examples: Wastes with high metal (lead, silver, etc.) content, such as lead paint.*

**Is your waste “Listed”?**

A waste may be considered hazardous if it appears on any one of four lists of hazardous wastes contained in the federal Resource Conservation and Recovery Act regulations (available from the DEQ). These wastes exhibit one or more of the characteristics described above or contain toxic constituents that have been shown to be harmful to human health and the environment. More than 400 chemicals can be found on these lists.

- **F Wastes** - Waste derived from nonspecific sources such as halogenated solvents used in degreasing (tetrachloroethylene, methylene chloride).

- **K Wastes** - Waste derived from specific manufacturing processes such as wastewater treatment sludge from the production of certain inorganic pigments.

- **P (Acute) and U Wastes** - Discarded chemical products or off-specification products and residues, such as certain pesticides.

Acute (P Listed) hazardous wastes are wastes determined by EPA to be so dangerous in small amounts that they are regulated morestringently. Examples include some pesticides found on the market today.

**DETERMINING YOUR GENERATOR STATUS**

Your generator status is dependent on how much hazardous waste you generate per calendar month. For simplicity, calculate waste quantities in either pounds (lbs) or kilograms (kgs). The MSDS for each product should have conversion information for helping you convert liquids to pounds or kilograms.

There are three types of hazardous waste generators defined in state hazardous waste regulations. Note that your generator status can change each month so it is very important to keep good records (see record keeping form illustrated in Figure 1).

- **Large Generator (LG)** - Generates 2,200 lbs (1,000 kgs) or more of hazardous waste, or more than 2.2 lbs (1 kg) of acute hazardous waste in any calendar month.

- **Small Generator (SG)** - Generates between 220 and 2,200 lbs (100 and 1,000 kgs) of hazardous waste in any calendar month.

- **Conditionally Exempt Generator (CEG)** - Generates no more than 220 lbs (100 kgs) or about 25 gallons of hazardous waste, or no more than 2.2 lbs (1 kg) of acute hazardous waste, in any calendar month. These businesses are
Montana State University Extension Service
   MT P2 Program/Solid Waste Program   (406) 994-3451/(888) MSU-MTP2 (toll-free)
   County Extension Agents   See Local Telephone Directory
   Montana Material Exchange   (406) 994-1748
   MT Department of Environmental Quality   (406) 444-1430
   MT Small Business Assistance Program   (406) 444-2960/(800) 433-8773
   MT Department of Transportation   (406) 444-7696
   MT Disaster & Emergency Services   (406) 444-6911/(800) 426-9440
   State Fire Marshal’s Office   (406) 444-2050
   US EPA - Montana Office   (406) 441-1130
   National Emergency Response Center   (800) 449-5381
   Occupational Safety & Health Administration (OSHA)   (800) 488-7087
   RCRA/Superfund Hotline   (800) 424-9346

**Montana P2 ★ Success Stories**

**Example 1.**
A furniture restoration business reduced its consumption and disposal of thinners and strippers through the use of a solvent distillation unit. The payback period for the unit was less than seven months and will save the business over $2,500 a year on virgin solvent purchases and waste solvent disposal costs.

**Example 2.**
A printing business completely eliminated the use of isopropyl alcohol in their fountain solution by converting to an alcohol substitute. The change reduces employee exposure to volatile organic compounds and will save the company at least $10,000 in air emissions control equipment.

**GENERAL P2 TIPS**

**Procurement**
- Purchase high efficiency equipment such as computers, copiers, etc.
- Always ask for the MSDS when looking for or purchasing a product.
- When possible, buy less toxic products in bulk.
- Use refillable, smaller, labeled containers for dispensing bulk materials.
- If making a special order, purchase only the amount of material needed to do a job.
- Don’t purchase products in aerosols.
- Purchase materials with less packaging or with reusable/recyclable packaging, such as reusable pallets and milk crates.

**Housekeeping**
- Keep good inventory records to prevent materials from spoiling or becoming outdated.
- Use up material that was “first in” your shop.
- Regularly check containers for leaks and spills, cleaning them up immediately.
- Keep non-hazardous waste separated from hazardous waste.
- Turn off lights and equipment when not in use.
- Install low-flow plumbing, such as low-flow showerheads and toilet dams to conserve water.
- Install aerators in faucets to decrease water consumption.
- Teach employees the importance of conserving energy and water.

**Waste Management**
- Contact the MME if you need materials or want to get rid of reusable materials.
- Reuse as much leftover material as possible.
- Recycle waste solvents and used oil either on-site or off-site to save on disposal costs.
Regulated Hazardous Waste Generation: Internal Manifest

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Name of Waste Hauler: ___________________________  Address/Phone: ___________________________

EPA Identification Number: ___________________________

Name of Treatment, Storage and Disposal Facility: ___________________________  Address/Phone: ___________________________

EPA Identification Number: ___________________________

Figure 1. Example form for internally tracking hazardous waste generated by a business. For the actual *Uniform Hazardous Waste Manifest (EPA Form 8700-22)* required for the final disposition of hazardous waste, contact the DEQ or your hazardous waste consultant or hauler.
required to meet much lighter regulatory requirements than SGs and LGs.

Remember, only waste that meets the definition of a hazardous waste must be included in calculating your generator status.

HAZARDOUS WASTE MANAGEMENT

Conditionally Exempt Generators

The requirements for maintaining a CEG status* include:

- Identifying all regulated hazardous wastes generated (see record keeping form in Figure 1).
- Limiting the amount of regulated hazardous waste generated in any month to less than 220 lbs (100 kgs).
- Never accumulating on-site more than 2,200 lbs (1,000 kgs) of regulated hazardous waste at any time.
- Never generating more than 2.2 lbs (1 kg) of acute hazardous waste or 220 lbs (100 kgs) of soil contaminated from acute hazardous waste spills in any calendar month.
- Treating the waste on-site in accordance with DEQ requirements.
- Disposing of hazardous waste at one of the following facilities (lists available from the DEQ):
  - A legitimate recycling facility.
  - A permitted Treatment, Storage and Disposal (TSD) Facility.
  - A licensed Class II (municipal) solid waste management facility in accordance with state solid waste management regulations and with the permission of the facility owner/operator.

Small Generators

There are a number of requirements SGs must follow to maintain this status* and include:

- Identifying all hazardous waste generated (see record keeping form illustrated in Figure 1).
- Obtaining an EPA Identification Number.
- Not accumulating hazardous waste for more than 180 days, except if the waste must be transported farther than 200 miles. Then the SG has 270 days to remove the waste. If the SG accumulates more than 6,000 kgs of hazardous waste, the SG must comply with LG requirements.
- Maintaining a log book listing type and amount of hazardous waste generated per month, what has been removed, etc.
- Having emergency response measures in place.
- Storing hazardous waste appropriately.
- Treating the waste on-site in accordance with DEQ requirements.
- Manifesting all hazardous waste sent off-site.
- Disposing of hazardous waste only at a permitted TSD Facility.

*For more information or to obtain the forms discussed above, contact the DEQ.

Large Generators

LGs are required to follow all the above requirements for SGs, in addition to more stringent requirements not covered in this document. For more information, contact the DEQ.

OBTAINING AN EPA IDENTIFICATION NUMBER

An EPA Identification Number is a 12-digit code used to track hazardous wastes from the point of generation to the disposal facility. Your business must obtain one if your hazardous waste is sent to a TSD Facility and you are a SG or LG.

To get an EPA Identification Number, contact DEQ and ask for an EPA form entitled Notification of Regulated Waste Activity (#8700-12).

*For more information or to obtain forms discussed above, contact the DEQ.

If a business’ waste management practices result in a loss of its CEG status, all requirements for SGs or LGs must be met for that month.
POLLUTION PREVENTION OPPORTUNITIES

The more hazardous waste generated by a business, the more liability, paper work, regulations, and expense it must incur. Therefore, businesses should strive to produce as little hazardous waste as possible in order to avoid polluting water, air and soil, and to qualify as a CEG each month. To reach these goals, progressive businesses focus on pollution prevention and waste minimization.

Pollution prevention (P2) is a progressive approach to safeguard our water, air and soil. It means reducing the amount of any hazardous waste, pollutant, or contaminant entering the environment by:

- **Minimizing or eliminating** products that contain hazardous constituents (this is where the MSDS comes in handy).
- **Substituting** less hazardous products and techniques, such as replacing latex paint with oil-based paint (which usually requires potentially hazardous solvent for cleanup).
- **Good housekeeping** to prevent spills, leaks, contamination of non-hazardous wastes with hazardous wastes, etc.
- **Using products** completely according to product label instructions.
- **Keeping good inventory records** in order to use older products before using the new materials (first in, first out).
- **Minimizing waste** through:
  - Reuse
  - Recycling
  - Disposal or incineration as a last resort.

The benefits of implementing P2 measures include:

- **Reduced operating costs**
- **Reduced management and disposal costs**
- **Reduced potential liability** for cleaning up contamination
- **Less regulation and paperwork** with CEG status
- **Increased productivity** through more efficient use of raw materials and improved processes and operations
- **Consumer market appeal**
- **Improved worker safety** by minimized exposure to hazardous materials
- **Improved employee morale** when all employees are involved in the planning and implementation of P2 programs.

MT P2 PROGRAM

For business-specific P2 assistance, contact the MT P2 Program. The MT P2 Program provides free, non-regulatory technical assistance to small businesses. The Program is located on the campus of Montana State University in Bozeman, Montana. The MT P2 Program can be reached toll-free in Montana by calling (888) MSU-MTP2 (678-6872) or (406) 994-3451. Your local County Extension Agent can also assist you.

Montana Material Exchange

If a small business cannot reuse extra materials on-site or recycle it without treatment, the next best option would be to find a business that can use it. The Montana Material Exchange Program (MME) promotes the use of one company's unneeded materials as another's raw material through its quarterly newsletter and on a national computer exchange network. It is a free service coordinated by the MSU Extension Service Solid Waste and Pollution Prevention Programs in cooperation with the Montana Chamber of Commerce. The MME is also located on the campus of MSU in Bozeman.

Waste Collection Programs

Another strategy for safely and legally disposing of hazardous waste from CEGs is to organize or participate in a Hazardous Waste Collection Program. A county or municipality may sponsor an event where wastes are collected at a central location and transported to a TSD Facility.

The major advantage for CEGs is that the cost of hiring a hazardous waste company, equipment, transportation, and final disposal costs are distributed among the participants. And by contracting with a hazardous waste management company, the CEG's liability for disposing of hazardous waste is reduced.

- Printed with soy-based ink on recycled paper
- September 1996