

What is RCRA? Resource Conservation and Recovery Act, governs waste management for industry

Code of Federal Regulations (40 CFR 260-282), gives the EPA authority to regulate waste

United States Environmental Protection Agency = EPA = Enforcement agency for RCRA

The Mission of the EPA is to protect human health and to safeguard the natural environment; air, water, land, upon which life depends.

Both Federal and Ohio EPA can respond and investigate specific complaints.

RCRA Training is mandated by the EPA for any Large Quantity Generator employee who handles hazardous waste. Training must include classroom and on-the-job training. Certain managers must have additional training.

Cradle to Grave-Hazardous Waste is regulated from "birth" through "death". There are also OSHA and DOT regulations. OSHA governs emergency responses to haz waste spills and emergencies. DOT governs the transport of hazardous waste on public right of ways.

Legal Definition of Hazardous Waste= A solid waste or combination of solid wastes which because of its quantity, concentration, physical, chemical or infectious characteristics can cause mortality or serious irreversible or incapacitating illness, poses a substantial present or potential hazard to human health or the environment, when improperly treated, stored, transported, disposed of or otherwise managed.

Two Main Types of Hazardous Waste:

1. Listed Waste-over 400 chemicals that are on a RCRA list of Hazardous
F list- Hazardous waste from non specific sources; spent solvents
K list=hazardous waste from specific sources and industrial processes which employ chemicals that result in the generation of unstable waste
U list= discarded commercial chemicals, container and spill residues
P list=any of the above that are acutely hazardous
2. Characteristic-the largest category, containing four primary types (D list)
C= Corrosive
I=Ignitable
R=Reactive
T=Toxic

Corrosives

Aqueous waste that has a pH less than or equal to 2, or greater than or equal to 12.5

1. Liquid waste that corrodes steel at a rate of greater than 6.35 mm per year
2. Sulfuric Acid, Nitric Acid

Ignitables

Flashpoint below 140 degrees F; liquid, such as paint, solvent, acetone

1. Flammable Solid, ignites via friction, contact with water, or spontaneous combustion. Once it catches fire, very difficult to extinguish. Kolene Salt, Magnesium Rods, some plastic pellets
2. Flammable Gas, already in a vapor state and easily ignitable. Acetylene, Propane

3. Oxidizers, they do not ignite but are reactive and can cause other materials to ignite more easily. They can supply oxygen to a reaction, can release large amounts of heat or gas or cause an explosion. Some oxidizers can corrode metal and damage living tissue.

Reactives

1. Unstable and easily undergoes violent change without detonation
2. Forms potentially violent and explosive reactions with water
3. When mixed with water, it generates toxic gases and vapors that can present a danger to human health or the environment
4. It is capable of detonation or explosion if subjected to a strong initiating source of heat or pressure
5. Gunpowder, explosives

Toxic

1. Includes 8 heavy metals, 10 pesticides, and 21 organic compounds
2. A material that has the ability to harm human health or the environment, or it can cause injury, death, or cancer

Some questions to ask about a waste to determine whether or not it is hazardous waste?

1. Is the material a Listed Waste? F-K-U-P
2. Does it have the properties of a Characteristic Waste? Corrosive-Ignitable-Reactive-Toxic
3. Is it a Universal Waste?
4. Is the waste in an exempted category?

Generators are responsible for characterizing their waste as Hazardous or non-Hazardous

1. By testing the waste in a lab. TCLP analysis
2. By applying their knowledge of the materials and manufacturing process that created the waste

Paint Sludge-it is tested annually and it is not hazardous. It is disposed of as a solid waste as long as it has a cake-like consistency. Paint sludge cannot be transported if it is watery.

Used Powder-it is tested annually and is not hazardous. It is solid waste.

Water Treatment-Broshco and Kronis produce water that is neutralized and treated. It is tested regularly and is not hazardous waste.

Medical Waste/Biohazard-Used blood borne pathogen protective equipment and Sharps containers are Biohazard waste and must be disposed of properly.

Unknown Chemicals-EPA and OSHA consider unknown chemicals to be a serious violation

It is your job to prevent unknown chemicals. Have legible labels. Review and rotate chemical stock. Keep good inventory and tracking records.

Universal Waste-Hazardous waste that a generator can manage alternatively, instead of following strict hazardous waste requirements. When people throw away this type of waste, it is Household Waste. When a company generates this type of waste, it is Universal Waste. Electronics, fluorescent bulbs, mercury, batteries, pesticides, etc.

Hazardous Waste Generator Types

Large Quantity Generator-more than 2200 pounds of hazardous waste per month

Small Quantity Generator-between 220 pounds and 2200 pounds of hazardous waste per month

Conditionally Exempt Small Quantity Generator-less than 220 pounds of hazardous waste per month

Large Quantity Generators have more rules to follow than Small Quantity Generators.

1. Identify hazardous waste
2. Obtain an EPA number
3. Pack waste in a DOT container with proper markings, label, and accumulation date
4. Store the waste less than 90 days
5. Dispose of all hazardous wastes at an EPA permitted treatment, storage and disposal site
6. Designate an Emergency Coordinator and make Contingency Plans and a Hazard Prevention Plan
7. Train every person that handles Hazardous Waste
8. Manifest all hazardous wastes using uniform hazardous waste papers
9. Keep manifests for three years in a safe place
10. Analyze waste through lab testing and maintain the results for three years
11. Submit a report to the EPA every 2 years with types, quantities, disposal, and waste minimization efforts

Small Quantity Generators-same rules as LQG, except may have waste on site for 180 days, with a weight limit of no more than 13,277 pounds of hazardous waste at any time.

Waste Treatment or Storage-If a waste generator does not follow the rules for their classification, the EPA can investigate. If they find violations, they can change the Generator to a Waste Storage or Treatment facility, which has many more complicated rules to follow.

Hazardous Waste Containers

1. Can only be used for Hazardous Waste
2. Must be clearly marked as Hazardous Waste
3. Closed when not in use to reduce flammable vapors and to prevent spills if knocked over
4. Outside of the barrel must be clean
5. Drums of waste must be separated from drums of materials
6. DOT approved metal drum
7. No structural defects
8. No rusting steel on the drum
9. Container must be compatible with the waste
10. Must be stored and shipped in DOT approved containers/metal drums
11. Look for DOT marks or stamps on the top or sides of barrel; don't paint over DOT markings

Hazardous Waste Label

1. Generator Name: Jay Plastics
2. Address: 150 East Longview Avenue, Mansfield, Ohio 44903
3. EPA Identification Number: OHD000817858

Main Accumulation Site

1. Must be orderly and neat
2. Labels must always be visible, readable, and turned where they can be seen immediately
3. Must be regularly inspected (weekly-by Paint Room Manager)
4. Inspection records are maintained three years (EHS) and subject to EPA inspection
5. Labels must be filled out properly
6. Containers and tanks must be closed when not in use
7. Containers must be handled carefully to prevent leaks
8. The Haz Waste label will already be on the drum from the Satellite area
9. When barrel is taken to the paint room, add the date on the label
10. The calendar starts the day the barrel enters the paint room
11. Time Limits=90 days maximum storage on site

Satellite Accumulation Sites

1. Must be located AT or NEAR the point where waste is created and collected
2. Must be located more than 50 feet from the property line
3. Designed to limit the movement of waste and to reduce spills and accidents from transport
4. No more than 55 gallons of Haz Waste at each satellite location
5. Can have more than one container, but the total cannot exceed 55 gallons
6. Drums must be clean with no drips or splatters
7. Use a drip pan under the spigot to catch drips and spills
8. Containers must be grounded and/or bonded when they are open or in use
9. Must be controlled, monitored and inspected (Paint Room Manager)
10. Have up to three days to move the barrel after it is full
11. Must be stored in approved containers and properly labeled
12. Container must be closed when not in use
13. Funnel with flam arrestor must be used when adding flammable waste
14. Funnel must be closed and latched when not in use
15. Labels must be clean, neat, legible, visible and turned for easy inspection
16. The start date SHOULD NOT be placed on a Satellite barrel; the calendar begins when the barrel is moved to the Main Accumulation area
17. Each satellite has an orange instruction sheet hanging on the wall with EPA ID, rules and emergency contacts
18. ABSOLUTELY NO smoking or e cigarettes anywhere near a main or satellite accumulation

EPA Violations

The EPA considers these rules so important that they can issue violations against the company if the rules are broken. Each rule can constitute ONE EPA violation. Fines for ONE violation begin at \$10,000 per violation.

Hazardous Waste Manifest-shipping papers with mandated information completed.

1. Legal document, the person who signs them must have special training
2. Person who signs can be charged criminally if they are incorrect or fraudulent
3. Allows accurate tracking from Cradle to Grave; creates a paper trail or chain of custody
4. Creates liability for the GENERATOR
5. A copy is sent to the state; must be kept by the company for three years
6. Required by the EPA and DOT; open to inspection for three years

Hazardous Waste Mistakes and Challenges-can cause EPA, DOT or OSHA violations; can waste materials, money and time; can cause fire, explosions, unsafe or unhealthy conditions

1. Not closing drums of waste
2. Not keeping training up to date
3. Pouring Haz Waste down the drain
4. Using improper containers
5. Outdated contingency plans
6. Incorrect markings on the labels
7. Improperly filled out Haz Waste Manifests
8. Accumulating too much waste at the satellite
9. Keeping waste over legal time limits
10. Misclassification as hazardous or non hazardous and vice versa
11. Mishandling of drips and spills
12. Throwing Haz Waste in the trash
13. Mixing incompatible waste together

PREVENT MISTAKES TO PREVENT PROBLEMS and VIOLATIONS

1. Be careful. Slow down and do it right
2. Keep your work area clean
3. Use Personal Protective Equipment
4. Remember the Hazardous Waste rules

Personal Protective Equipment and Personal Hygiene

1. The chemical SDS will tell you what to use
2. SDS information is on PLEX or the internal web page
3. Wear chemical resistant gloves, goggles, aprons, suits or respiratory protection when needed
4. Wash your hands before eating or smoking
5. Do not eat or drink near Hazardous Waste
6. Remove contaminate clothing
7. Wash thoroughly at the end of the day

What IS a Haz Mat emergency? An incident that the plant cannot handle using its own personnel. Outside resources are needed to stabilize and clean up the situation because there is a potential health or safety hazard.

What is NOT a Haz Mat emergency? The spilled substance can be absorbed, neutralized or controlled by employees in the immediate area or with the help of Maintenance.

Jay Plastics Hazardous Materials Contingency Plan addresses fire, explosion, and large scale spills. Top managers have been trained on the plan.

Emergency Response

1. Notify others of the spill
2. Limit access to the spill area
3. Leave the area if the chemicals threaten personal health or safety
4. Use proper PPE and equipment during clean up
5. Know the locations and contents of large and small spill kits

Housekeeping

1. Clean up all spills immediately
2. Keep containers closed tightly when not in use
3. Use drip pans and secondary containment
4. Keep trash and debris away from flammables
5. No smoking or sparks nearby

Know your chemicals

1. Read the label
2. Use caution and follow the precautions; read the SDS
3. Keep Corrosives away from Flammables
4. Keep water away from Reactives
5. Make sure every container containing a chemical is labeled

Oil Management

Jay Industries recycles all used oil, used coolant and used oil filters. Used oil is sorted by grade and the higher grades of oil are recycled. If the oil has too much water, it cannot be recycled, but is disposed of properly. The term "Waste Oil" should not be used, because waste oil has been contaminated by other chemicals and must be disposed of as hazardous waste.

Used Oil

1. Must be in a closed container unless the container is being filled; open buckets are a spill hazard
2. Secondary containment must be used for drips and spills
3. Containers must be closed when not in use; open buckets are a spill hazard
4. Used oil must be labeled "used oil"
5. Used oil cannot be stored outdoors; oil in the drains damages the water supply and can result in heavy fines

Universal Waste Types

1. Light bulbs that contain heavy metals
2. Pesticides suspended or recalled
3. Mercury containing equipment
4. Batteries

Universal Waste Handling

1. Must be labeled "universal waste"
2. Cannot be stored on site for more than 365 days
3. The date storage begins should be written on the label
4. Must be stored to prevent breakage, leakage and spills











Recycling-Jay Industries has an active recycling program

1. Uses part or all of a product to create a new produce
2. Saves natural resources
3. Puts less solid waste in the landfill
4. Lightbulbs are crushed
5. Batteries, both car and household types
6. Scrap metals and parts
7. Plastic bottles/Aluminum cans/Cardboard/Office paper
8. Some electronics and ink cartridges

WHOSE JOB IS RESPONSIBLE FOR HAZARDOUS WASTE? YOURS

Why Recycle?

Estimated Decomposition Rates

 Paper 2-4 Weeks	 Leaves 1-3 Months	 Orange Peel 3-6 Months	 Milk Carton 5 Years	 Plastic Bag 10-20 Years
 Aluminum Can 200-400 Years	 Plastic 6 Pk Ring 400-500 Years	 Plastic Bottle 400-500 Years	 Glass Bottle 500 Years-Forever?	 Styrofoam Never?

Better than recycling:

- o **Reuse**-use it over and over until it is worn out
- o **Reduce**-don't buy it
- o **Recycle**

