

Hazardous Waste Compliance Technical Assistance Workbook

For

Rhode Island Generators



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This document is intended as **advisory guidance** only in developing approaches for pollution prevention and environmental compliance. Any and all products and companies identified (through the manufacturer's supplied product literature) in this report are for example only. No endorsements are implied nor should any be inferred. The Office of Technical and Customer Assistance advises that prior to implementation of any suggestion or recommendation, the company should consult with proper Federal, State, and Local regulatory agencies. This workbook does **not** replace the Rhode Island DEM Rules and Regulations for Hazardous Waste Management. The Rhode Island Regulations are the basis of any compliance or enforcement issues.

State of Rhode Island
Department of Environmental Management
Office of Technical and Customer Assistance

<http://www.dem.ri.gov>

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Questions and/or Comments can be directed to:
Rhode Island Department of Environmental Management
Office of Technical and Customer Assistance
235 Promenade Street
Providence, RI 02908-5767 (401) 222-6822

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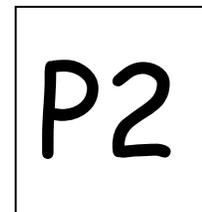
Section 1.0 – Overview

In 1976, the U.S. Congress passed the Resource Conservation and Recovery Act (RCRA) to develop and implement a program to protect human health and the environment from improper solid and hazardous waste management practices. Hazardous waste includes materials that you intend to discard and which have been designated as hazardous to public health and the environment when not handled properly. This workbook provides guidance on how to identify and properly manage hazardous wastes at your site. Hazardous wastes have special storage, handling, labeling, emergency planning, and training requirements which are detailed in this workbook.

What types of businesses are likely to produce hazardous wastes?

- automobile maintenance and body shops
- electroplaters and metal fabricators or finishers
- printers
- photographic and x-ray processors
- dry cleaners
- chemical laboratories (including schools and universities)
- furniture manufacturers and strippers
- construction
- pest control
- chemical manufacturing
- textile manufacturing
- funeral services

1.1 Pollution Prevention (P2) - The First Step to Compliance



The first step on the road to environmental compliance is to look for opportunities to use fewer hazardous materials and to generate less waste, thus stopping pollution at its source. Why manage wastes when you can eliminate them? Pollution prevention techniques can help you reduce your compliance burdens, make your workplace cleaner and safer, increase your competitiveness and save you money. This section outlines some easy first steps for you to take to prevent pollution. After taking these steps and reducing your use of toxic materials and generation of wastes as

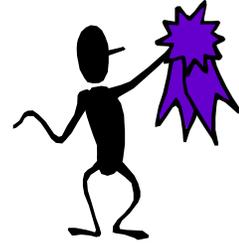
much as you can, move along in the workbook to find out how to properly manage your remaining wastes. If you need help with implementing pollution prevention techniques/technologies, feel free to contact us at DEM's Office of Technical and Customer Assistance (OTCA) at (401) 222-6822.

All Generators Should:

- Make one person (or a person in each department) solely responsible for chemical purchases and inventory control. Consider environmental and safety requirements in purchase decisions. Store chemicals in a central location.
- Conduct an annual inventory to reduce the number of chemical products used in the shop.
- Track chemical use and wastes to identify opportunities to both reduce waste and use less toxic alternatives.
- Implement best management practices for the storage and handling of stock and materials. Spoiled and obsolete materials should be removed. Use first-in, first-out management practices.
- Examine your use of materials by process. Are there new technologies that can replace your existing process and reduce toxics or waste? You may also be able to save money or provide a new customer service.
- Clean containers as much as practical. Recycle the used containers or return them to the supplier or a drum reconditioner.
- Give employees simple incentives to keep their work areas clean and minimize chemical use. Promote good housekeeping.
- Consider purchasing recycling equipment to allow your shop to reuse materials such as solvents and washwaters.



1.2 Top Ten Tips for Environmental Success



- 1. Pollution Prevention - Your first step to compliance.** P2 techniques should be used wherever possible to reduce wastes and emissions. Look for opportunities in your shop to employ pollution prevention techniques. If you need help with identifying or implementing pollution prevention techniques/technologies, feel free to contact OTCA at (401) 222-6822.
- 2. Actively and Aggressively Manage your Wastes.** Hazardous wastes should never be handled like regular trash, nor should they be disposed of in the regular trash. As a generator, you are responsible for the waste's identification and disposal. Accumulate these wastes in appropriate containers for proper disposal. There are also storage, labeling, emergency planning, and employee training requirements which are described in this manual. Also, non-hazardous materials such as cardboard, aluminum, paper, and scrap metal are recyclable. Feel free to contact OTCA for assistance with material identification, disposal and recycling.
- 3. Shop Towels Should Not be Used for Waste Disposal.** You should reduce the amount of material on your shop towels as much as possible. Shop towels *saturated* (dripping) with liquids that are considered hazardous wastes (such as solvents), must be handled as hazardous wastes. Towels with only minor contamination may also be classified as a hazardous waste if it contains a "listed hazardous waste" as described in Section 2.1.
- 4. Hazardous Waste Management - To Manage is to Control.** Nothing can get you into trouble faster than a disorganized waste storage area. Label drums and keep them clean and closed. Maintain aisle space, post warning signs, and keep hazardous wastes separated from non-hazardous wastes and virgin materials. Storage areas have specific requirements regarding ninety (90) day storage time limits, condition of containers, secondary containment and storage area inspection. These requirements can be found in Section 2.2.

5. **Prevent Trouble - Plan for Emergencies and Train Employees.** You must have emergency response procedures and equipment in place to ensure employee safety, along with a written plan known as a contingency plan. Post emergency phone numbers at each phone near the work areas. Designate an emergency coordinator and instruct employees on whom to contact and what to do during a spill or evacuation. Employees which handle or are otherwise involved with hazardous wastes must be trained annually in the proper procedures for safe handling of these materials. Further information can be found in Section 2.7-2.8.
6. **Records, Records, Records.** You must keep your material purchase or usage records, hazardous waste manifests, material safety data sheets (MSDSs), and other legally required records on file. The regulations generally require that you keep these records for at least three years, but it is good management practice to keep these records indefinitely.
7. **Internal Review - Continual Improvement.** Good environmental management does not end with a one-time review of your shop. Periodic reviews of your chemical usage can identify trends and problems which can help you minimize wastes - even if you are a small business. Regular meetings with employees to review these issues help begin a culture of environmental awareness which can save you headaches and possibly fines down the road. Consider providing incentives for employees who minimize chemical use and use personal protective equipment.
8. **What to Expect from an Inspection.** DEM's Office of Compliance and Inspection periodically and randomly inspects generators of hazardous waste. During an inspection, DEM officials look for company personnel to demonstrate knowledge of the hazardous waste regulations as well as a knowledge of all waste management practices in use at the facility. Personnel must be able to demonstrate their waste management practices using records such as hazardous waste shipment manifests, laboratory analyses, and training records.
9. **Most Common Difficulties/Violations found by DEM.** During inspections, DEM officials commonly find violations such as: lack of overall understanding of the regulations, lack of appropriate identification of wastes with supporting analyses or process knowledge, lack of

understanding of the satellite accumulation requirements, lack of understanding of the 90-day storage area and container requirements, lack of a written contingency plan, and lack of training and training documentation.

10. The Rhode Island Environmental Compliance Incentive Act. The Rhode Island Environmental Compliance Incentive Act was created to encourage regulated entities to perform voluntary self-evaluations of their compliance programs and management systems, and to thereby improve compliance with such statutes and/or regulations without fear of retaliation. If a regulated entity satisfies the conditions set forth in Sections 42-17.8-4 through 42-17.8-7 of the Act, the Department shall not: (1) assess gravity-based penalties for any violation of environmental laws reported by the regulated entity; (2) refer the regulated entity to the attorney general or other governmental authority for civil or criminal prosecution related to the violation(s) disclosed by the regulated entity; and (3) request or use a regulated entity's environmental audit report(s) as a regular means of investigation or as a basis for initiating administrative, civil, or criminal actions. As you audit your facility using this workbook, be aware of the Act as it applies to your activities. Contact OTCA at (401) 222-6822 if you have any questions regarding the Act.

1.3 Other Important Regulatory Responsibilities



Rhode Island businesses are responsible for all environmental impacts that the facility may have. Though this workbook covers only hazardous waste issues, you must be aware of other issues commonly found in facilities.

Air Emissions: Air emissions occur when air contaminants are discharged to the ambient environment. An air contaminant is any substance released to the air which includes sanding dusts, paint fumes, mists, odors, smoke, or combinations of these. One particular type of air contaminant common to many shops is volatile organic compounds (VOCs), which are generated when solvents, such as thinners, inks, and paints, evaporate into the air. VOCs play a major role in the formation of ground-level ozone (otherwise known as

"smog"). If you have any questions regarding permitting thresholds or other air pollution issues, feel free to contact OTCA at (401) 222-6822.

Industrial Wastewater Discharge: Industrial wastewater is any wastewater resulting from an industrial or manufacturing process, trade or business. Discharge is the release of the industrial wastewater into the waters of the State through pipes, sewers, or other means. Industrial wastewater requires permitting through a local sewer authority or the DEM depending on the discharge point. Stormwater issues apply as well. If you have any questions regarding your permitting authority or discharge limitations, feel free to contact OTCA at (401) 222-6822.

Worker Health and Safety: The Federal Occupational Safety and Health Administration (OSHA) regulates health and safety in the workplace. Issues such as chemical exposure, hazard communication, respiratory protection, lockout/tagout, hearing protection, personal protective equipment, forklift operation, confined space entry, blood borne pathogens, and emergency action plans are all strictly regulated by OSHA. The Rhode Island Department of Health provides compliance assistance in these areas. Should you need help, contact the OSHA Consultation Program at (401) 222-2438.

Underground and Aboveground Storage Tanks: DEM has specific regulations associated with both underground and above ground storage tanks. These include provisions for corrosion protection, testing, secondary containment, release prevention, and safety. These regulations are specific to the type of tank and its contents. Contact OTCA for more information. In general, aboveground tanks containing over 500 gallons of petroleum should have overfill protection and a secondary containment system. Stormwater needs to be kept out of the secondary containment, or it may overflow in the event of a spill from the primary container. A Spill Prevention, Control and Countermeasure (SPCC) Plan is needed for facilities that store over 660 gallons of petroleum (products or waste) in any one aboveground tank (or, in Rhode Island, over 500 gallons in a tank stored aboveground outdoors), or over 1,320 gallons total of petroleum aboveground across the whole facility, where a spill could be reasonably expected to reach a water body or wetland, via a storm drain or other drainage pattern.

Floor Drains: Floor drains in industrial facilities that discharge to a waterway or below the ground via a dry well, septic system, galley or other means, are strictly regulated and sometimes prohibited. Entities should know where their wastewater goes. If existing floor drains are connected to the local sewer system, you should be aware that sewer connections are subject to local permitting. If floor drains are connected to an underground tank, underground tanks are subject to permitting through the DEM Underground Storage Tank Program. If the floor drains discharge below ground, this discharge to the subsurface (underground through a drywell, galley, or other means) requires permitting through DEM's Underground Injection Control Program. Closure of existing floor drains requires proper procedures and must be undertaken in conjunction with DEM's Underground Injection Control Program. Be sure to contact the UIC program when closing floor drains that discharge to the subsurface. Contact OTCA for more information on this topic.

Wetlands: Wetlands harbor specific species of plants and animals, help prevent flooding by absorbing heavy rains, and can clean rainwater and runoff water of pollution before it flows into streams and rivers. Because of the wetland's value to the environment, state regulations require any plans for construction near a wetland (wetland setbacks range from 50 to 200 feet) to be reviewed by the Department of Environmental Management. If you are planning construction or expansion at your site, be sure to contact DEM if wetlands are present.

Section 2.0 - Hazardous Waste Management

As a business owner, you must manage your hazardous wastes in a safe and environmentally responsible manner. Federal and State regulations place the burden on you, as the generator, to properly dispose of the waste. The generator has "cradle-to-grave" responsibility, i.e., you retain responsibility even when other companies handle and dispose of your waste. By choosing products that are less hazardous, and minimizing the amount that you generate, you reduce your cradle-to-grave liability. This section describes the rules and regulations for hazardous waste management.



2.1 Waste Identification

Your business probably generates hazardous waste if you use:

- flammable materials,
- solvents, hydrocarbon-based cleaning materials or thinners,
- printing inks, paints, or dyes,
- photo processing materials,
- materials that dissolve metals, wood, paper, cloth, or paint,
- materials that burn or itch when in contact with skin,
- materials that bubble or fume when in contact with water.



A common misconception regarding the hazardous waste regulations involves the definition of wastes vs. raw materials. Materials that you are using or intend to use are not considered a waste, and thus are not subject to the hazardous waste regulations. (Raw materials with health/safety hazards are regulated under OSHA Hazard Communication requirements, Personal Protective Equipment requirements, etc., and may even be subject to local regulations or fire codes.) As such, raw materials should be stored separately and not confused with waste materials. However, materials that are expired or that you do not intend to use anymore may automatically become wastes, and must be managed as such.

Waste materials (solid and liquid) are determined to be hazardous wastes because:

1. They are listed by the U.S. Environmental Protection Agency in 40 CFR 261 Subpart D (a listed waste). (Note that some wastes are defined as "acutely hazardous waste" and therefore the quantity which can be temporarily stored on-site is limited. Section 2.2 provides more information)
2. They demonstrate a characteristic of a hazardous waste as detailed in 40 CFR 261 Subpart C (a characteristic waste). The four characteristics are ignitability, corrosivity, reactivity, and toxicity.
3. They meet the description of a Rhode Island Hazardous Waste as listed in Section 3.67 of the Rhode Island Rules and Regulations for Hazardous Waste Management. Use the Federal definitions first, then use the State's definitions, if the Federal definitions do not apply. Do not mix the Federal with the State's definitions.

Note: The RI Regulations frequently refer to the Code of Federal Regulations for Protection of Environment (40 CFR) which can be obtained free of charge through the Internet at <http://www.gpoaccess.gov/cfr/index.html>. 40 CFR 262 details standards applicable to generators of hazardous wastes. OTCA attempts to identify sections of both the state and federal regulations which apply to the facility, and these are included with this workbook. **But, it is ultimately the generator's responsibility to read, understand, and comply with these regulations.**

As a generator, you are required to determine if your waste falls into any of these three categories. You can do this by using your knowledge of the process and materials, including available information like MSDSs, or by testing a representative waste sample. Your waste disposal facility or environmental lab can help you characterize your waste for proper disposal. But, it remains the generator's responsibility to properly characterize its wastes. Note also that testing must be carried out using approved methods which are set forth in 40 CFR 260.11 or 40 CFR 261 Subpart C. If changes in your materials or process cause your waste to change, then you are required

to reevaluate it to ensure proper handling and disposal. Some transporters and disposal facilities may also require you to reevaluate your wastes each year. You must keep records of waste analyses to confirm your identification of wastes.

Check for Exclusions

Some of the materials that would otherwise fit the definition of a solid or hazardous waste under hazardous waste identification are specifically excluded from the definition. EPA concluded that these materials should not be regulated as solid or hazardous waste for one or more of a number of reasons. These exceptions and exclusions are found in 40 CFR 261.4 and in Rhode Island's Rules & Regulations for Hazardous Waste Management. Items of interest to Rhode Island industries include:

- Reclamation in Enclosed Tanks [40 CFR 261.4(a)(8)],
- Spent Wood Preservatives [40 CFR 261.4(a)(9)],
- Excluded Scrap Metal [40 CFR 261.4(a)(13)],
- Shredded Circuit Boards [40 CFR 261.4(a)(14)],
- Used Oil Filters [R & R for Hazardous Waste Mgt, Rule 15.01 E],
- Waste Characterization Samples [40 CFR 261.4(d)], and
- Treatability Study Samples [40 CFR 261.4(e) and (f)].

If you as the generator determine that your waste meets any of these exemptions or exclusions, the hazardous waste regulations do not apply. If you have a question regarding exclusions, contact OTCA at (401) 222-6822.

Universal Wastes

The following commonly-generated wastes are considered universal wastes and thus are not fully regulated as hazardous wastes. Universal wastes are described in Rule 13.00 of the RI Rules and Regulations for Hazardous Waste Management, and include the following materials:

- A. Batteries (as described in 40 CFR 273.2);
- B. Pesticides (as described in 40 CFR 273.3);
- C. Thermostats (as described in 40 CFR 273.4);
- D. Cathode Ray Tubes, including the display devices containing the cathode ray tubes (as described in Rule 13.02 of the RI Hazardous Waste Regulations);

- E. Mercury-containing devices (as described in Rule 13.03 of the RI Hazardous Waste Regulations), and;
- F. Mercury-containing lamps (as described in Rule 13.04 of the RI Hazardous Waste Regulations).

The generator has the option of handling these wastes as universal waste in accordance with Rule 13 of the Hazardous Waste Regulations. If these wastes are not managed in accordance with Rule 13, they must be managed as hazardous waste. Items such as storage time limits and storage area requirements are relaxed for universal waste. Refer to Section 13.00 of the Hazardous Waste Regulations for more specific information. A fact sheet describing these requirements is also available. Contact OTCA at 222-6822 to obtain a copy.

Used Oil Management

Used oil is one of the common fluids removed from motor vehicles and equipment. Proper management of recovered oil is subject to a range of different regulations depending on individual situations. New used oil management regulations were adopted on March 4, 2007, as Rule 15.00, Used Oil Management Standards, in the Rhode Island Rules & Regulations for Hazardous Waste Management, which are found at <http://www.dem.ri.gov/pubs/regs/regs/waste/hwregs07.pdf>.

These regulations governing used oil management are not as restrictive as those related to hazardous waste, but the new rules have to be understood and complied with to avoid any regulatory problems. Under the new regulations, those who generate used oil only and do not generate hazardous waste would not be required to register with RIDEM (maintain an EPA Identification Number), unless the destination state receiving the used oil for recycling requires that a uniform hazardous waste manifest be used. See Appendix D for an overview and comparison of major used oil generator standards.

Common Hazardous Wastes

The following commonly-generated waste materials should be investigated for characterization as a hazardous waste (they are provided for example and should not be considered an all-encompassing list):

- waste automotive fluids, excluding used oil that is managed in accordance with Rule 15.00
- waste solvents and thinners
- waste machining oils, coolants, and hydraulic fluids
- waste paint (unused or expired paint)
- sludge or "bottoms" from a solvent recycling unit (still)
- waste methylene chloride paint stripper and sludge
- sludge from a wastewater treatment system at an electroplating shop

Table 1 is provided to help you characterize your wastes. It also provides the proper waste codes which are required for drum labeling and for inclusion on the shipping manifest (both described in later sections). This table is for example only and should not be considered an all-encompassing list. It is provided only to demonstrate the thought process used for waste characterization. The full definition of a characteristic (Subpart C) waste and the Subpart D list can be found in 40 CFR 261. Should you need assistance in characterizing your wastes, feel free to contact OTCA at (401) 222-6822.

Federal vs. State Requirements for "Small Quantity Generators"

The Rhode Island Rules and Regulations for Hazardous Waste Management apply to **all** generators of Hazardous Waste. Rhode Island **does not** recognize federal exemptions for small quantity generators (less than 1000 kg of waste per month). The federal small quantity generator provisions are found in 40 CFR 261.5, 262.20(e), 262.42(b), and 262.44. If your facility generates any amount of hazardous waste, the Regulations may apply to your facility. [Note that there are limited provisions for tank storage and biennial reporting. They are described where appropriate in this workbook, and in Rules 5.02(B) and (C), Rules 5.05, 5.06, and 13.06(B).]

Table 1: Hazardous Waste Identification Assistance

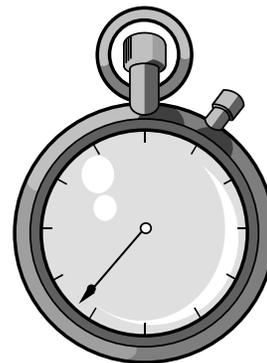
Waste	Is it Hazardous? Listed or Characteristic?	Why?	Waste Code
Sludge from a wastewater treatment system at an electroplating shop	Yes, a listed waste	Sludge from a wastewater treatment system at an electroplating shop is a listed waste. (See Section 2.2 for specific information about this waste.)	Listed: F006

Solvent/Paint Thinners	Yes, a listed & characteristic (ignitable) waste	Solvent blends are listed based on contents before use. The mixture may also have a flash point below 140°F	Listed: F003, F005 Char: D001
Sludge or "Bottoms" from Solvent Recycler or "Still", which Recycles Gun Cleaner or Thinner	Yes, a listed & possibly characteristic (ignitable) waste	Still bottoms from a still where the solvent blend contained, before use, ten percent or more of solvents such as xylene, toluene, and acetone. The mixture <i>may</i> also have a flash point below 140° F	Listed: F003, F005 Char: D001
Waste Methylene Chloride Paint Stripper	Yes, a listed & characteristic (ignitable) waste	The solvent blend contained, before use, ten percent or more of solvents such as methylene chloride, xylene, toluene, and acetone. The mixture may also have a flash point below 140° F	Listed: F002, F003, F005 Char: D001
Waste or Expired oil-(solvent) based Paint	Yes, a characteristic waste, and it <i>may</i> be a RI Haz. Waste	Waste paints will exhibit the characteristic of ignitability as defined in the Federal Regulations if they have a flash point below 140° F, and would carry the waste code D001. If waste paints exhibit a flash point between 73° F and 200° F, they would be characterized as a Slightly Flammable Waste under RI Regs., and would carry the waste code R003.	D001 or R003
Spent cyanide-based plating solution	Yes, a listed waste	Spent cyanide bath plating solutions are listed.	Listed: F007
Sludge or bottoms cleaned from plating tanks where cyanides are used	Yes, a listed waste	Sludge or bottoms cleaned from plating tanks where cyanides are used are listed wastes.	Listed: F008
Used Motor Oil (sent for disposal, not recycled)	Yes, it may be a characteristic waste, and it may be a RI Haz. Waste	Used oil may have levels of lead and/or benzene which fail the toxicity characteristic. If shop chooses <i>not</i> to test, it must be handled as a RI Haz. Waste.	Waste code depends on the trace materials found through testing, or will be R010 if defined as a RI Haz. Waste
Waste Anti-Freeze	No	It does not meet any of the definitions; recycling is strongly recommended	
Absorbent Materials, such as Speedi-Dry, Contaminated with Hazardous Waste	Yes, a characteristic waste	Absorbents soaked with materials that are considered hazardous waste also are considered hazardous waste.	Waste code depends on materials absorbed.
Shop Towels/Rags Contaminated with Hazardous Waste	Yes, a listed or characteristic waste	Absorbents soaked with materials that are considered hazardous waste also are considered hazardous waste. In the case of rags/towels, if they are not soaked (dripping) and they meet the following conditions: they are not considered hazardous waste: they were mixed with a characteristic waste and not longer exhibit the characteristics of a hazardous waste.	Waste code depends on materials absorbed.
Used Motor Oil (for recycling)	No	Must be managed in accordance with Rule 15.00 of the RI Rules & Regulations for Hazardous Waste Management.	

2.2 Waste Accumulation / Storage Time Limit

A generator may accumulate hazardous waste on-site for 90 days provided that the waste is placed in:

1. Containers,
2. Tanks,
3. Drip Pads, or
4. Containment Buildings.



Containers (drums) are, by far, the most common method of hazardous waste storage in Rhode Island. If containers are used, they must be managed according to 40 CFR 265 Subpart I - Use and Management of Containers. Subpart I lists seven criteria for proper container management and these are detailed in Section 2.3 - Hazardous Waste Storage - Containers. You can also accumulate up to fifty (55) gallons of waste (or 1 quart of acutely hazardous waste) in containers according to the "Satellite" Accumulation provisions described below. If your waste is stored in tanks, it must be managed according to 40 CFR 265 Subpart J - Tank Systems. These criteria are listed in Section 2.4 Hazardous Waste Storage - Tank Systems. Drip pads and containment buildings are not common and are not described in this workbook. If you need information on requirements for drip pads or containment buildings, feel free to contact OTCA at (401) 222-6822.

"Satellite" or Workstation Accumulation

The State and Federal Hazardous Waste Regulations (specifically Rule 5.02(A), and 40 CFR 262.34(c)(1)) allow a generator to accumulate up to fifty (55) gallons of hazardous waste (or 1 quart of acutely hazardous waste) **for each waste stream** with no storage time limit, provided that the container is:

1. At or near any point of generation where the waste initially accumulates;
2. Under control of the operator of the process generating the waste;
3. In good condition;
4. Kept closed except when adding or removing waste;
5. Handled or stored so as not to cause a rupture or leak;

6. Arranged to accommodate the storage of chemically incompatible wastes; and
7. Labeled with the words "*Hazardous Waste*," and other words that identify the contents of the container.

When filled, the generator must either ship the waste or move the 55-gallon container to a designated hazardous waste storage area within 3 days. The full containers then incur the 90-day time limit for proper disposition (i.e. the 90-day "clock" begins ticking) and must also meet the complete labeling requirements described in Section 2.5 - Container Labeling. Also, the Generator must then comply with all of the requirements outlined in Section 2 of this workbook.

Extended Accumulation Periods for Wastewater Treatment Sludges from Electroplating Operations (F006 Sludge)

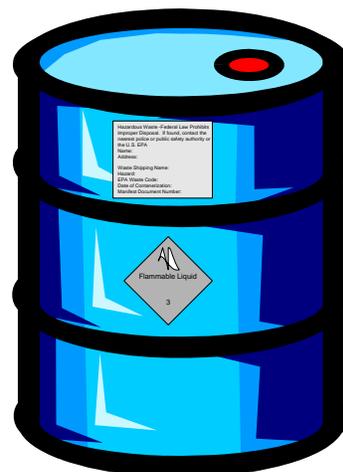
Wastewater treatment sludges from electroplating operations, (otherwise known as F006 waste) may be accumulated for 180 days under Rule 5.02(D) of the RI Hazardous Waste Regulations provided that:

1. The generator has implemented pollution prevention practices that reduce the amount of any hazardous substances, pollutants or contaminants entering the sludge or otherwise released to the environment prior to its recycling;
2. The F006 waste is legitimately recycled through metals recovery (i.e., on-site or off-site recovery of distinct metal component(s) from the electroplating sludge, as separate end product(s));
3. No more than 20,000 kilograms (44,000 pounds) of F006 waste is accumulated on-site at any one time;
4. The generator complies with proper storage and labeling requirements and all the provisions of Rule 5.02(D)(4) of the RI Regulations.

2.3 Waste Storage - Containers/ Containment

2.3.1 Containers

As described in the previous section, a generator may accumulate hazardous waste on-site for 90 days provided that the waste is placed in containers and these containers are managed according to 40 CFR 265 Subpart I - Use and Management of Containers. Subpart I lists seven criteria for proper container management. These criteria are listed below with specific references to actions that shops can take to remain in compliance.



1. **Condition of containers. § 265.171** -If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer

the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this part.

Generators should review the condition of their containers and ensure that the facility and employees are capable of containing a leak. Spill kits are readily available and should be considered. Salvage drums (drums which can be used to house an entire leaking drum) are an additional safety feature to consider for your site.

- 2. Compatibility of waste with container. § 265.172** -The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

Steel and plastic drums are generally used most frequently. Plastic drums are not compatible with solvents found in paints, paint thinners, cleaners, and strippers, so make sure that you are using steel drums for these fluids. Also, since these fluids are ignitable, you should be sure these drums are electrically grounded.

- 3. Management of containers. § 265.173** -(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste. (b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

Facilities should ensure that containers are closed except when it is necessary to add or remove waste. Items such as funnels with lids, or simply securing the drum cap (bung), etc. can be used. Consider posting instructions in the area.

Also, drums of material are sometimes observed stored in areas outside the facility or in far corners of the property. Outdoor storage is generally not recommended. Generators should consider moving containers inside. If left outdoors, shops should protect the storage area from the movement of cars/trucks within the yard. A storage shed or a fenced and covered area should be considered. Commercially available hazardous waste storage lockers are another option. A list of locker manufacturers is included in Appendix A.

4. **Inspections. § 265.174** -The owner or operator must inspect areas where less than 90-day accumulation containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors. [Comment: See § 265.171 for remedial action required if deterioration or leaks are detected.]

Generators should implement a weekly inspection of the storage area looking for leaks or deterioration of hazardous waste containers. This program must be documented. Consider hanging a clipboard on the wall with the checklist and inspection log. Included on the following page is a checklist of items for your use to perform the inspection. Record this inspection in an inspection log and keep these records for at least three (3) years from the date of inspection.

Hazardous Waste Storage Area Inspection Checklist

Weekly Inspection Checklist and Record for _____ (shop name)

Name/Title of Inspector: _____ Date and Time of Inspection: _____

Area(s) Inspected: _____ Number of Full Containers: _____

Are All Containers Closed: _____

Condition of Containers: _____

(Do containers show signs of leaking? Is there deterioration due to rust? Have containers been damaged?)

Condition/Integrity of Containment Area: _____

(Will the area effectively contain a spill or leakage? Have berms or other containment device deteriorated or been damaged?)

Is there sufficient aisle space between rows of drums? _____

(At least three (3) feet)

Are ground-wires in place for ignitable wastes? _____

(Note condition of wires as well.)

Is there evidence of spilled material? _____

If there was a spill, list remedial action taken: _____

(Example: Spill was cleaned and leaking drum was replaced.)

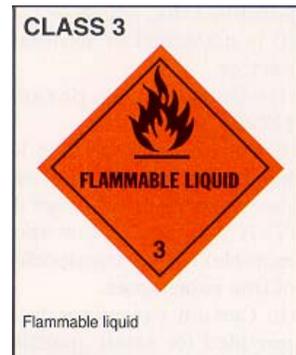
Are drum labeling requirements satisfied? _____

(Each container in the hazardous waste storage area must be labeled with the following information.)

EPA Label

<p>HAZARDOUS WASTE -Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.</p> <p>The Generator's Name and Address: _____</p> <p>Generic Waste Shipping Name: _____</p> <p>Hazard: _____</p> <p>EPA Waste Code: _____</p> <p>Date of Containerization: _____</p> <p>Manifest Document Number: _____</p>

DOT Hazard Label



Additional remarks or actions to be taken: _____

Record this inspection in an inspection log and keep these records for at least three (3) years from the date of inspection.

5. **Special requirements for ignitable or reactive waste. § 265.176** -Containers holding ignitable or reactive waste must be located at least 50 feet from the facility's property line. [Comment: See § 265.17(a) for additional requirements.]

General requirements for ignitable, reactive, or incompatible wastes. § 265.17 -

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: Open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or re-active waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

Shops that generate ignitable waste should locate the 90-day storage area to comply with the above requirements. Note that the RI definition of ignitables is more stringent than the federal definition, (Flash point of up to 200 F vs. 140 F.) Generators should also separate the storage area from open flames, sparks, and other sources of ignition. Shops should post "No Smoking" signs in the storage area. Drums containing ignitable wastes must also be electrically grounded.

6. **Special requirements for incompatible wastes. § 265.177** -(a) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same container, unless § 265.17(b) is complied with. (b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material, unless § 265.17(b) is complied with. (c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device. [Comment: The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.]

§ 265.17 General requirements for ignitable, reactive, or incompatible wastes. (b) Where specifically required by other sections of this part, the treatment, storage, or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, must be conducted so that it does not: (1) Generate extreme heat or pressure, fire or explosion, or violent reaction; (2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health; (3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions; (4) Damage the

structural integrity of the device or facility containing the waste; or (5) Through other like means threaten human health or the environment.

Potentially incompatible materials should be stored separately to comply with this requirement. A list of potentially incompatible materials is included in Appendix B.

7. **Air emission standards. § 265.178** -The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subparts AA, BB, and CC of this part.

Small-quantity generators (less than 2,200 pounds (1000 kilograms) per month) should ensure that waste is stored in DOT-approved containers and that these containers remain closed when not being filled. Large quantity generators greater than 2,200 pounds (1000 kilograms) per month) should refer to the appropriate subpart for more specific requirements.

Note: A hazardous waste generator must package the waste in accordance with DOT requirements as well. They can be found in 49 CFR 172, 173, 178, and 179. These regulations are not reviewed in detail here. Basically, shops must ensure that they are using DOT-approved containers in good condition which are compatible with the material being shipped. There are many training seminars available which detail the specific requirements.

2.3.2 Containment

In addition to the container requirements listed above, if the wastes contain free liquids, the area in which hazardous wastes are stored (in less than 90-day storage areas or tanks pursuant to 40 CFR 265 Subpart J) must have a secondary containment system which is capable of containing a leak or spill. (If your wastes do not contain free liquids, this is not necessary.) The containment system must be designed and operated as follows:



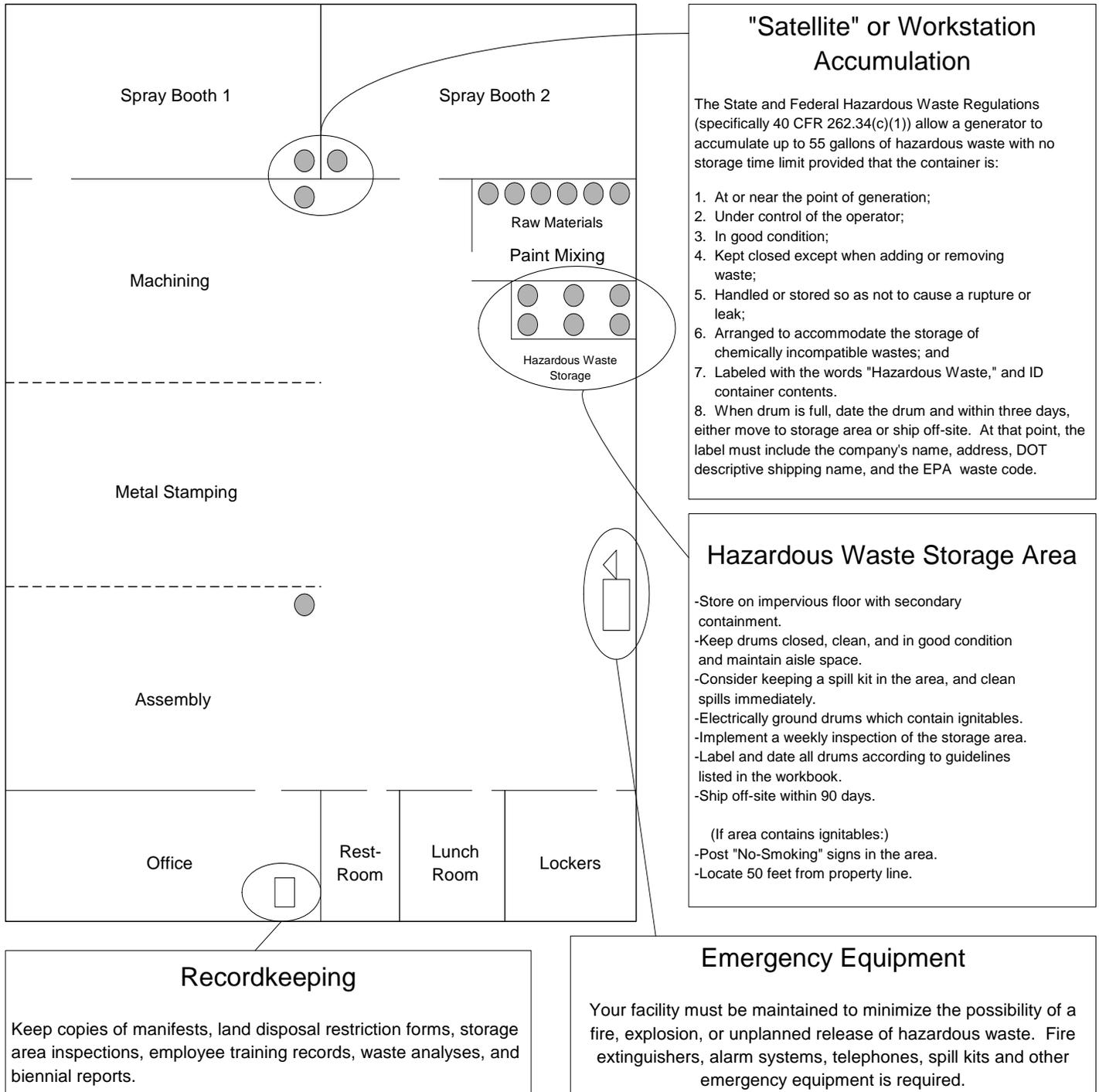
1. A base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;
2. The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;
3. The containment system must have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;
4. Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in #3 above to contain any run-on which might enter the system; and
5. Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system. (If the collected material is a hazardous waste, it must be managed as a hazardous waste in accordance with all applicable requirements.)

Generators should immediately purchase and/or construct a containment system, if needed, in accordance with the requirements listed above. Note that commercially available storage lockers are available which should comply with these requirements. Included in Appendix A is a list of locker manufacturers.

(Note that floor drains that discharge to the subsurface (underground through a drywell, galley, or other means) are prohibited in hazardous waste storage areas.)

Figure 1 on the following page provides a summary of hazardous waste storage requirements.

Figure 1: Summary of Hazardous Waste Storage Requirements



"Satellite" or Workstation Accumulation

The State and Federal Hazardous Waste Regulations (specifically 40 CFR 262.34(c)(1)) allow a generator to accumulate up to 55 gallons of hazardous waste with no storage time limit provided that the container is:

1. At or near the point of generation;
2. Under control of the operator;
3. In good condition;
4. Kept closed except when adding or removing waste;
5. Handled or stored so as not to cause a rupture or leak;
6. Arranged to accommodate the storage of chemically incompatible wastes; and
7. Labeled with the words "Hazardous Waste," and ID container contents.
8. When drum is full, date the drum and within three days, either move to storage area or ship off-site. At that point, the label must include the company's name, address, DOT descriptive shipping name, and the EPA waste code.

Hazardous Waste Storage Area

- Store on impervious floor with secondary containment.
- Keep drums closed, clean, and in good condition and maintain aisle space.
- Consider keeping a spill kit in the area, and clean spills immediately.
- Electrically ground drums which contain ignitables.
- Implement a weekly inspection of the storage area.
- Label and date all drums according to guidelines listed in the workbook.
- Ship off-site within 90 days.

(If area contains ignitables:)

- Post "No-Smoking" signs in the area.
- Locate 50 feet from property line.

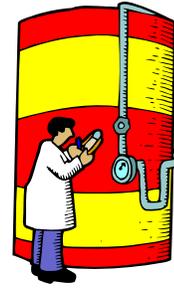
Recordkeeping

Keep copies of manifests, land disposal restriction forms, storage area inspections, employee training records, waste analyses, and biennial reports.

Emergency Equipment

Your facility must be maintained to minimize the possibility of a fire, explosion, or unplanned release of hazardous waste. Fire extinguishers, alarm systems, telephones, spill kits and other emergency equipment is required.

2.4 Waste Storage - Tank Systems



If your facility uses tank systems to store or treat hazardous wastes, there are special requirements for these tanks that are found in 40 CFR 265 Subpart J. These requirements do **not** apply if the tank holds waste that does **not** contain free liquids and the tank is located inside a building with an impervious floor. Also, generators of less than 1000 kg/month of hazardous waste that are accumulating hazardous waste in tanks, that also do not accumulate over 3000 kg on site at any time (90-day maximum storage), and that do not exceed the limits regarding generation of acute hazardous waste (set out in 40 CFR 261.5 (e) (1) and (2)), shall not be subject to 40 CFR 265, Subpart J (Tank Systems), *except* for 40 CFR 265.201.

Tanks can be of any size, but the waste must be removed every 90 days and facilities must comply with the following:

1. Each tank (existing or new) must be certified by a registered professional engineer with respect to design and installation of the tank and its components. This certification must be in the form of a written assessment kept on file at your facility which contains items such as the design standards by which the equipment was/will be constructed, the characteristics of the wastes stored, corrosion protection measures (if in contact with soil or water), foundation load bearing capacity, and tank tightness. Full provisions can be found in 40 CFR 265 Subpart J.
2. The tank must be clearly marked with the words "Hazardous Waste," the contents of the tank and its associated hazard, and the accumulation start date.
3. The tank must not be used to store hazardous waste if it may cause a rupture, leak, corrosion, or otherwise cause the tank to fail.
4. Tanks must have secondary containment equivalent to 100% of the tank volume.
5. The tank must be covered or have at least 2 feet of freeboard (space at the top of the tank) in uncovered tanks.

6. The tanks system must have equipment such as; valves to provide automatic feed cutoff should a problem occur and for overfill protection; automatic leak detection equipment in secondary containment systems or double-walled tanks, and; alarms to notify personnel.
7. The tank and equipment must be inspected **each operating day** for leaks and proper operation of emergency equipment. A log must be maintained in the company records.
8. Use the National Fire Protection Association (NFPA) buffer zone requirements for tanks containing ignitable or reactive wastes. Call your local fire department if you need help.

2.5 Container Labeling Requirements

Each container in the 90-day hazardous waste storage area (less than 90-day accumulation holding) must be labeled with the following information:

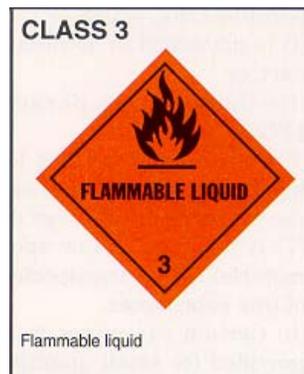


1. The words: "*HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.*"
2. The generator's name and address of generating facility.
3. The USDOT shipping name and the generic names of the principal hazardous waste components (if the proper USDOT shipping name is not conclusive in identifying the hazardous waste).
4. The EPA or Rhode Island waste code.
5. Date of containerization. (The date that the 90 day "clock" begins ticking.) The accumulation start date is the date that hazardous waste first begins accumulating in a container or tank, exclusive of satellite accumulation.

6. The uniform hazardous waste manifest document number (to be applied prior to being shipped off-site).
7. DOT hazard label.

<p>HAZARDOUS WASTE -Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.</p> <p>The Generator's Name and Address: _____</p> <p>Generic Waste Shipping Name: _____</p> <p>Hazard: _____</p> <p>EPA Waste Code: _____</p> <p>Date of Containerization: _____</p> <p>Manifest Document Number: _____</p>

EPA Label

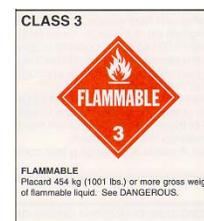


DOT Hazard Label

These labels are readily available from lab safety catalogs or from your waste transporter. DOT hazard labels depend on the material in the container. A full list of hazard labels can be found in Appendix C.

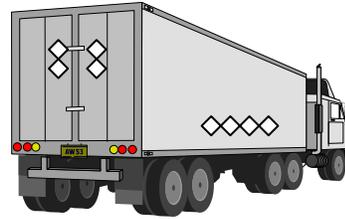
Each "Satellite" Accumulation container must be labeled with the words "*Hazardous Waste*," and other words that identify the contents of the container. However, if the container is ultimately moved to the storage area to become the shipping container, then it must have all of the items listed above (the company's name, address, DOT descriptive shipping name, and the EPA waste code) when in the 90-day accumulation area.

The hazardous waste generator is also responsible to ensure that the vehicle transporting its hazardous waste is licensed in RI and has the correct placards. Placards are similar in shape and color to the hazard labels, but are larger and must be on all four sides of the vehicle. If the vehicle does not have the correct placards, it is the generator's responsibility to placard the truck correctly, though this generally is not necessary with competent waste transporters.



Placard

2.6 Offering Hazardous Waste for Shipment - Licensed Transporters, EPA ID Numbers and Waste Manifests



You will need a licensed hazardous waste transporter to remove your hazardous waste. Your transporter will provide you with a manifest for each shipment, which may be preprinted, except for your signature. Make sure you check the manifest for accuracy with regard to your EPA ID number, amount and type of wastes. You, as the generator, will be held responsible for any errors contained on the manifest. A list of licensed Rhode Island Hazardous Waste Transporters is included in Appendix E. Also, an up-to-date list can always be found at DEM's web site at

<http://www.dem.ri.gov/programs/benviron/waste/transpor/hazwaste.pdf>

EPA Identification Numbers and Authorized Agents

Generators must not store, or offer for transportation, hazardous waste without having received an EPA identification number (Rule 5.01). Shops also must not offer its hazardous waste to transporters or to treatment, storage, or disposal facilities that have not received an EPA identification number, and the transporter must have a valid RI Hazardous Waste Transporter Permit as indicated by an official sticker on the vehicle. To obtain an EPA ID Number, contact DEM at (401) 222-1360 and indicate that you are requesting an EPA ID Number for Hazardous Waste Generation.

A generator must submit to DEM the names and signatures of all agents of the generator authorized to sign the manifest (Rule 5.09). If authorized agents change, this information must also be submitted.

Uniform Hazardous Waste Manifests/Waste Shipment

Effective on September 6, 2006, US EPA requirements to use a new federal Uniform Hazardous Waste Manifest, which will be consistent nationally, went into effect. All previous versions of the manifest are obsolete; there is no longer a Rhode Island manifest. The new manifest, now a six-copy document, is designed to track your hazardous waste shipment. It is the generator's responsibility to make

sure that the manifest is accurate, even if it is filled out by the transporter for you. You should keep the Generator copies of the manifests for three years.

There is a training video found at <http://www.pneac.org/hazwastemanifest/>, which introduces the new manifest form, highlights the differences between the new and the previous manifest form, and provides specific instructions.

For more information, contact the Office of Waste Management at (401) 222-2797.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number		2. Page 1 of		3. Emergency Response Phone		4. Manifest Tracking Number			
		5. Generator's Name and Mailing Address				Generator's Site Address (if different than mailing address)					
Generator's Phone:											
6. Transporter 1 Company Name						U.S. EPA ID Number					
7. Transporter 2 Company Name						U.S. EPA ID Number					
8. Designated Facility Name and Site Address						U.S. EPA ID Number					
Facility's Phone:											
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))				10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
			No.	Type							
	1.										
	2.										
	3.										
	4.										
14. Special Handling Instructions and Additional Information											
<p>15.0 GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.</p> <p>I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.</p>											
Generator's/Offeror's Printed/Typed Name						Signature		Month	Day	Year	
INT'L	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____										
	Transporter signature (for exports only): _____						Date leaving U.S.: _____				
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials										
	Transporter 1 Printed/Typed Name						Signature		Month	Day	Year
	Transporter 2 Printed/Typed Name						Signature		Month	Day	Year
DESIGNATED FACILITY	18. Discrepancy										
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection										
	Manifest Reference Number: _____										
18b. Alternate Facility (or Generator)						U.S. EPA ID Number					
Facility's Phone: _____											
18c. Signature of Alternate Facility (or Generator)						Signature		Month	Day	Year	
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)											
1.		2.		3.		4.					
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a											
Printed/Typed Name						Signature		Month	Day	Year	

Figure 2: Uniform Hazardous Waste Manifest

Land Disposal Restrictions

Land disposal restrictions (LDR) provide a second measure of protection from threats posed by hazardous waste disposal. LDR provides that a hazardous waste cannot be placed on the land until the waste is treated (or meets specific treatment standards) to reduce the mobility or toxicity of the hazardous constituents in the waste. Once listed or identified, a hazardous waste becomes restricted (or subject to LDR), when the Agency establishes treatment standards that the waste must meet before it can be land disposed.

EPA requires generators managing wastes that are subject to LDR (restricted wastes) to meet certain notification, certification, waste analysis, and recordkeeping requirements under 40 CFR 268.7. Much like a hazardous waste manifest, the LDR notification and certification paperwork helps hazardous waste handlers and EPA enforcers ensure that wastes are properly managed. A notification accompanies the initial shipment of each waste that is subject to LDR and includes such information as the waste code(s), the hazardous constituents present in the waste, and waste analysis data. EPA requires subsequent notification only when the waste or the receiving facility changes. Additionally, if a waste can be land disposed without further treatment, a certification to that effect must accompany the notification. EPA requires waste handlers to retain such paperwork in order to track wastes that are subject to LDR and to ensure that those wastes receive proper treatment prior to disposal.

Section 268.7(a) contains the tracking requirements for generators, §268.7(b) specifies the requirements for treatment facilities, §268.7(c) contains the regulations applicable to disposal facilities, §268.7(d) contains special notification and certification requirements that apply to hazardous debris, and §268.7(e) contains special notification requirements for contaminated soil.

Generators must determine if their hazardous waste is subject to LDR at the point of generation. They may make this determination by testing or applying knowledge. If a waste is subject to LDR and does not meet applicable treatment standards, generators must notify the treatment facility in writing (§268.7(a)(2)). This notice accompanies the manifest and must include the following information:

- EPA hazardous waste code(s)
- Identification of the waste as a wastewater or non-wastewater
- Manifest number associated with the waste shipment

- Waste analysis data (if available)
- For characteristic wastes, any additional hazardous constituents present
- When hazardous debris is to be treated by an alternative technology under §268.45, a statement to that effect and the contaminants subject to treatment
- For contaminated soil, a list of the constituents subject to treatment and a statement that the soil does or does not meet LDR standards.

If a generator's waste already meets applicable treatment standards, the generator, in accordance with §268.7(a)(3), must submit a signed certification stating that the waste meets the applicable treatment standards. This certification accompanies a copy of the notification statement described above.

2.7 Emergency Preparedness and Prevention/Contingency Plans



Equipment Required

If you store hazardous waste in 90-day storage area (less than 90-day accumulation containers), your facility must be maintained in order to minimize the possibility of a fire, explosion, or unplanned release of hazardous waste constituents. Your facility must have the following:

1. An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.
2. A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police and fire departments.
3. Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment.



4. Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems. (Adequate water pressure can be determined during the annual sprinkler test required by OSHA and local fire departments.)



5. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

6. Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee.



7. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

8. The owner or operator must attempt to make arrangements to familiarize local police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, and possible evacuation routes. (Note: Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority should be obtained.)



9. The owner or operator must attempt to make arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

10. With regard to #8 and #9, where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record of the facility.

Written Contingency Plan

Each facility that stores hazardous waste to 90-day storage areas (less than 90-day accumulation containers) or in tanks must have a written contingency plan designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned release of hazardous waste to air, soil, or surface water. The plan should outline specific steps that company personnel will take in response to emergencies. To help generators develop their contingency plans, a guidance document with fill-in sections has been included in Appendix E. Once developed, this plan is required to be submitted to local emergency response providers. Should the response providers be unwilling to make arrangements with you, document this in the operating record of the facility.



In the development of this plan, you should consider designating an emergency coordinator. Should an emergency situation arise, the emergency coordinator must be prepared to act quickly to protect employees, emergency response personnel, and the environment. Also, evacuation routes should be posted along with exit signs in areas where hazardous wastes are handled or stored.

2.8 Annual Personnel Training

Personnel handling or managing hazardous waste at the facility of a generator engaging in 90-day accumulation must successfully complete a program of classroom instruction or on-the-job training that teaches them hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed. The program must be directed by a person already trained in hazardous waste management procedures, and must include instruction which teaches employees dealing with hazardous waste the following:



- Knowledge of what a hazardous waste is;

- Knowledge of which wastes are hazardous at the facility;
- Management procedures which include all applicable types of hazardous waste storage and accumulation;
- Labeling;
- Accumulation start dates;
- Storage area inspections;
- Manifesting;
- Preparedness and prevention, and;
- Contingency plan implementation.

The training program must also be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including:

1. Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
2. Communications or alarm systems;
3. Response to fires or explosions;
4. Response to groundwater contamination incidents;
5. Operation of any waste feed cut-off systems, and;
6. Shutdown of operations.

Facility personnel must successfully complete the program within six months after the date of their employment or assignment to the facility, or to a new position at the facility, whichever is later. Employees must not work in unsupervised positions until they have completed the training requirements. In addition, facility personnel must take part in an annual review of the initial training. With regard to this training, the generator must maintain the following documents and records at the facility:

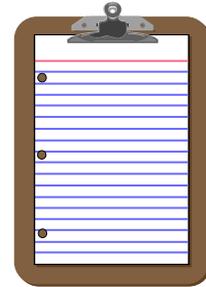
1. The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;
2. A written job description for each position;
3. A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position.
4. Records that document that the training or job experience required has been given to, and completed by, facility personnel.

Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

In order to comply with these requirements, and depending on given facility situations, the generator may also be obligated to ensure that employees are also trained pursuant to Title 29 (OSHA) of the Code of Federal Regulations for emergency hazardous waste and/or hazardous material handling and exposure (HAZWOPER). Be advised that USEPA Hazardous Waste Training and OSHA HAZWOPER Training, although similar and complementary, are **not** considered equivalent and may **not** be mutually substituted.

2.9 Recordkeeping and Reporting

Generators of hazardous waste need to record the following:



1. A generator must keep a copy of each signed manifest for three years, including a signed copy from the designated facility which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter. (LDRs must be kept for five years)
2. A generator who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter must contact the transporter and/or the owner or operator of the designated facility to determine the status of the hazardous waste. If the generator has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 45 days of the date the waste was accepted by the initial transporter, the generator must file an Exception Report with the RI DEM. The Exception Report must include:
 - (i) A legible copy of the manifest for which the generator does not have confirmation of delivery;

- (ii) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

Copies of Exception Reports must be kept for three years.

3. A generator must keep records of any test results, waste analyses, or other determinations made in accordance with its identification of hazardous waste for at least three years from the date that the waste was last sent to an on-site or off-site treatment, storage, or disposal facility.
4. In each even-numbered year, RI DEM sends a Biennial Report to be filled out by large quantity generators (LQG's). RIDEM may also require small quantity generators (SQG's) to complete a biennial report on a periodic basis. The report requests information such as:
 - The EPA identification number, name, and address of the generator.
 - The EPA identification number, name, and address for each off-site treatment, storage, or disposal facility in the United States to which waste was shipped during the year.
 - The name and EPA identification number of each transporter used during the reporting year for shipments to a treatment, storage or disposal facility within the United States.
 - A description, EPA hazardous waste number (from 40 CFR part 261, subpart C or D), DOT hazard class, and quantity of each hazardous waste shipped off-site for shipments to a treatment, storage or disposal facility within the United States.
 - A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.
 - A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years.

A generator must keep a copy of each Biennial Report for a period of at least three years from the due date of the report.

5. Spill Reporting

In the event of an actual or threatened spill or release of hazardous waste or material which presents any risk of injury to health or the environment, or during an emergency event where the facility must implement its contingency plan, the generator must notify the Department (401-222-1360 during business hours, and after hours at 401-222-3070), and the National Response Center (1-800-424-8802) immediately. The generator must also immediately take steps to prevent, contain and/or clean up the spill or release.

After such notification, the generator must note in the operating record of the facility the date, time, and details of the incident, and also must submit a written report on the incident to the Regional EPA Administrator within 15 days of the incident. The report must include:

1. Name, address, and telephone number of the owner or operator;
2. Name, address, and telephone number of the facility;
3. Date, time, and type of incident (e.g., fire, explosion);
4. Name and quantity of material(s) involved;
5. The extent of injuries, if any;
6. An assessment of actual or potential hazards to human health or the environment, where this is applicable, and;
7. Estimated quantity and disposition of recovered material that resulted from the incident.

3.0 Hazardous Waste Self-Audit Checklist

1. Does your facility generate hazardous wastes? o Yes o No
[See Section 2.1 (pg. 8) of the workbook.]
If no, then the state and federal hazardous waste regulations do not apply to your current operations, but may apply in the future.
2. What is your facility's hazardous waste identification number? _____ #
[If you do not currently have one, refer to Section 2.6 (pg. 28) of the workbook.]
3. How much hazardous waste did you ship from _____ gallons
your facility in the last 12 months?
4. Do you have appropriate documentation which shows where hazardous waste is being shipped? [See Section 2.6 (pg. 28) and Section 2.9 (pg. 37) of the workbook.] o Yes o No
5. Is all hazardous waste stored in either a satellite accumulation area and/or a separate hazardous waste storage area?
[See Section 2.2 (pg. 14) of the workbook.] o Yes o No
6. Regarding the satellite accumulation area: [See Section 2.2 (pg. 14) of the workbook.]
 - a) Is the area clearly marked and the container properly labeled? o Yes o No
 - b) Is the container under the control of an operator at or near the point of generation? o Yes o No
7. Regarding the hazardous waste storage area: [See Section 2.3 (pg. 16) of the workbook.]
 - a) Are all containers in good condition? o Yes o No
 - b) Are containers labeled with the words "Hazardous Waste?" o Yes o No
 - c) Are containers labeled with name of the waste, and its waste code? o Yes o No
 - d) Are containers labeled with the hazard classification? o Yes o No
 - e) Are containers labeled with the date that it was placed in the storage area? o Yes o No
 - f) Is the area itself secure and protected from stormwater? o Yes o No
 - g) Is there adequate aisle space between drums? o Yes o No
8. Does your hazardous waste storage area meet the criteria for secondary containment? [See Section 2.3.2 (pg. 22) of the workbook.] o Yes o No
9. Is the area inspected weekly for signs of spills or container deterioration, and is this inspection documented?
[See Section 2.3 (pg. 16) of the workbook.] o Yes o No

4.0 Important Phone Numbers for Hazardous Waste Issues

Rhode Island Department of Environmental Management
235 Promenade Street
Providence, RI 02908

(401) 222-6800 Central Information
(401) 222-6822 Office of Technical and Customer Assistance
(401) 222-3070 24-hour emergency number
(401) 222-1360 Office of Compliance and Inspection - EPA ID numbers
(401) 222-1360 Office of Compliance and Inspection - Aboveground Tanks
(401) 222-2797 Office of Waste Management
(401) 222-2797 Office of Waste Management - Underground Tanks
(401) 222-6820 Office of Water Resources - Wetland and ISDS Permitting
(401) 222-2771 DEM Ombudsman
Website: <http://www.dem.ri.gov>

U.S. Environmental Protection Agency
Region 1, New England
1 Congress Street
Boston, MA 02114-2023
(617) 918-1111

U.S. Department of
Transportation Information
Line (Federal Motor Carrier
Safety Administration)
(800) 832-5660

U.S. Department of Transportation
Federal Highway Administration
380 Westminster Mall
Providence, RI 02903
(401) 528-4541

RI Department of Health,
OSHA Consultation Program
(401) 222-2438

EPA Small Business Ombudsman Hotline
SBO Hotline (800) 368-5888

U.S. Government Printing Office
(617) 720-3680

Appendix A -Commercial Hazardous Waste Storage Lockers & Cabinets

Gilmore-Kramer Company 50 Sprague Street Providence, RI 02907	Telephone: (401) 331-4149 Fax: (401) 454-1391 Website: www.gilmorekramer.com E-mail: contact@gilmorekramer.com
Haz-Mat Containment Corporation 511 Wilbur Avenue, Bldg. B Antioch, CA 94509	Telephone: (800) 943-6510 Fax: (925) 944-7601 Website: www.haz-mat.com E-mail: susanh@haz-mat.com
Hazmat Chemical Storage 1225 Wakeham Santa Ana, CA 92705	Telephone: (800) 401-5877 Fax: (714) 542-6338 Website: www.hazmatstorage.com E-mail: info@hazmatstorage.com
HAZ-STOR 855 North 5 th Street Charleston, IL 61920	Telephone: (800) 727-2067 Fax: (847) 298-9716 Website: www.hazstor.com E-mail: info@hazstor.com
Safety Storage, Inc. 2301 Bert Drive Hollister, CA 95023	Telephone: 800) 344-6539 Fax: (831) 637-7405 Website: www.safetystorage.com E-mail: info@safetystorage.com

Note: This information is intended as advisory guidance only in developing approaches for pollution prevention and environmental compliance. Any and all products and companies identified (through the manufacturer's supplied product literature) in this report are for example only. No endorsements are implied nor should any be inferred. The Office of Technical and Customer Assistance advises that prior to implementation of any suggestion or recommendation, the company should consult with proper Federal, State, and Local regulatory agencies.

Appendix B -EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE (APPENDIX V TO 40 CFR PART 265)

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases. Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit-granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components. This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze their wastes so that they can avoid creating uncontrolled substances or reactions of the type listed below, whether the wastes are listed below or not. It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator). In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Group 1-A

Acetylene sludge
 Alkaline caustic liquids
 Alkaline cleaner
 Alkaline corrosive liquids
 Alkaline corrosive battery fluid
 Caustic wastewater
 Lime sludge and other corrosive alkalines
 Lime wastewater and other corrosive acids
 Lime and water
 Spent caustic

Group 1-B

Acid sludge
 Acid and water
 Battery acid
 Chemical cleaners
 Electrolyte, acid
 Etching acid liquid or solvent
 Pickling liquor
 Spent acid
 Spent mixed acid
 Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

Group 2–A

Aluminum
Beryllium
Calcium
Lithium
Magnesium
Potassium
Sodium
Zinc powder
Other reactive metals and metal hydrides

Group 2–B

Any waste in Group 1–A or 1–B

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

Group 3–A

Alcohols
Water

Group 3–B

Any concentrated waste in Groups 1–A or 1–B
Calcium
Lithium
Metal hydrides
Potassium
SO₂Cl₂, SOCl₂, PCl₃, CH₃SiCl₃
Other water-reactive Waste

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4–A

Alcohols
Aldehydes
Halogenated hydrocarbons
Nitrated hydrocarbons
Unsaturated hydrocarbons
Other reactive organic compounds and solvents

Group 4–B

Concentrated Group 1-A or 1–B wastes
Group 2–A wastes

Potential consequences: Fire, explosion, or violent reaction.

<u>Group 5–A</u>	<u>Group 5–B</u>
Spent cyanide and sulfide solutions	Group 1–B wastes
Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.	

<u>Group 6–A</u>	<u>Group 6–B</u>
Chlorates	Acetic acid and other organic acids
Chlorine	Concentrated mineral acids
Chlorites	Group 2–A wastes
Chromic acid	Group 4–A wastes
Hyphochlorites	Other flammable and combustible wastes
Nitrates	
Nitric acid, fuming	
Perchlorates	
Permanganates	
Peroxides	
Other strong oxidizers	
Potential consequences: Fire, explosion, or violent reaction.	

SOURCE: “Law, Regulations, and Guidelines for Handling of Hazardous Waste.” California Department of Health, February 1975.

Appendix C -DOT Hazard Labels & DOT Hazard Placards

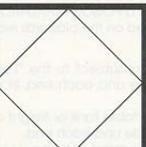
HAZARDOUS MATERIALS LABELING CHART

<p>CLASS 1 Explosive 1.1, 1.2, 1.3</p> <p>*Include appropriate division number and compatibility group.</p>	<p>CLASS 1 Explosive 1.4</p> <p>*Include appropriate compatibility group.</p>	<p>CLASS 1 Explosive 1.5</p> <p>*Include appropriate compatibility group.</p>	<p>CLASS 1 Explosive 1.6</p> <p>*Include appropriate compatibility group.</p>	<p>CLASS 1 Subsidiary</p> <p>No compatibility group letter or Class/Division number may be displayed.</p>	<p>CLASS 2 Division 2.1</p> <p>Flammable gas</p>
<p>CLASS 2 Division 2.2</p> <p>Non-flammable gas</p>	<p>CLASS 2 Division 2.2</p> <p>Oxygen</p>	<p>CLASS 2 Division 2.3</p> <p>Poison gas</p>	<p>CLASS 3</p> <p>Flammable liquid</p>	<p>CLASS 4 Division 4.1</p> <p>Flammable solid</p>	<p>CLASS 4 Division 4.2</p> <p>Spontaneously combustible</p>
<p>CLASS 4 Division 4.3</p> <p>Dangerous when wet</p>	<p>CLASS 5 Division 5.1</p> <p>Oxidizer</p>	<p>CLASS 5 Division 5.2</p> <p>Organic peroxide</p>	<p>CLASS 6 Division 6.1 Packing Groups I & II Inhalation Hazard</p> <p>Poison inhalation hazard</p>	<p>CLASS 6 Division 6.1 Packing Groups I & II (not Inhalation Hazard)</p> <p>Poison The word "TOXIC" may be used in place of the word "POISON".</p>	<p>CLASS 6 Division 6.1 Packing Group III</p> <p>Keep away from food A POISON label may be used in place of a KEEP AWAY FROM FOOD label.</p>
<p>CLASS 6 Division 6.2</p> <p>Infectious substance</p>	<p>CLASS 6 Division 6.2</p> <p>The Etiologic Agent label may be required (42 CFR 72.3).</p>	<p>CLASS 7</p> <p>Radioactive I</p>	<p>CLASS 7</p> <p>Radioactive II</p>	<p>CLASS 7</p> <p>Radioactive III</p>	<p>CLASS 8</p> <p>Corrosive</p>
<p>CLASS 9</p> <p>Miscellaneous</p>	<p>SUBSIDIARY RISK</p> <p>The hazard class or division number may not be displayed on a subsidiary label.</p>	<p>EMPTY</p> <p>For Class 7 packagings that meet the requirements in §173.428.</p>	<p>FOR AIRCRAFT</p> <p>Cargo aircraft only</p> <p>Magnetized material</p>		

GENERAL GUIDELINES ON USE OF HAZMAT LABELS

1. The shipper must attach the appropriate label(s) to each package of hazardous material offered for shipment unless excepted from labeling requirements. (§172.400)
2. If the material in a package has more than one hazard classification, the package must be labeled for each hazard. (§172.402)
3. When two or more hazardous materials of different classes are packed within the same packaging or outer enclosure, the outside of the package or enclosure must be labeled for each class of hazardous material involved. (§172.404)
4. Radioactive materials requiring labeling, must be labeled on two opposite sides of the package. (§172.403)
5. A label should only be applied to a package containing a hazardous material if it represents the hazard inside. (§172.401)
6. No one may offer or transport a package bearing any marking or label which by its color, design, or shape could be confused with a hazardous materials label. This does not prohibit the use of labels in conformance with U.N. recommendations, IMO requirements, ICAO Technical Instructions, or TDG Regulations. (§172.401)

HAZARDOUS MATERIALS PLACARDING CHART

<p>CLASS 1</p>  <p>EXPLOSIVES 1.1, 1.2, & 1.3 *The Division number 1.1, 1.2 or 1.3 and compatibility group are in black ink. Placard any quantity of Division number 1.1, 1.2 or 1.3 material.</p>	<p>CLASS 1</p>  <p>EXPLOSIVES 1.4 *The compatibility group is in black ink. Placard 454 kg (1001 lbs.) or more of 1.4 Explosives.</p>	<p>CLASS 1</p>  <p>EXPLOSIVES 1.5 *The compatibility group is in black ink. Placard 454 kg (1001 lbs.) or more of 1.5 Blasting Agents.</p>	<p>CLASS 1</p>  <p>EXPLOSIVES 1.6 *The compatibility group is in black ink. Placard 454 kg (1001 lbs.) or more of 1.6 Explosives.</p>	<p>CLASS 2</p>  <p>OXYGEN Placard 454 kg (1001 lbs.) or more aggregate gross weight of either oxygen compressed or oxygen, refrigerated liquid. See §172.504(f)(7).</p>	
<p>CLASS 2 Division 2.1</p>  <p>FLAMMABLE GAS 2</p> <p>FLAMMABLE GAS Placard 454 kg (1001 lbs.) or more of flammable gas. See DANGEROUS.</p>	<p>CLASS 2 Division 2.2</p>  <p>NON-FLAMMABLE GAS 2</p> <p>NON-FLAMMABLE GAS Placard 454 kg (1001 lbs.) or more aggregate gross weight of non-flammable gas. See DANGEROUS.</p>	<p>CLASS 2 Division 2.3</p>  <p>INHALATION HAZARD 2</p> <p>POISON GAS Placard any quantity of Division 2.3 material.</p>	<p>CLASS 3</p>  <p>FLAMMABLE 3</p> <p>FLAMMABLE Placard 454 kg (1001 lbs.) or more gross weight of flammable liquid. See DANGEROUS.</p>	<p>CLASS 3</p>  <p>GASOLINE 3</p> <p>GASOLINE May be used in the place of FLAMMABLE on a placard displayed on a cargo tank or a portable tank being used to transport gasoline by highway. See §172.542(c).</p>	
<p>CLASS 3</p>  <p>COMBUSTIBLE 3</p> <p>COMBUSTIBLE Placard a combustible liquid when transported in bulk. A FLAMMABLE placard may be used in place of a Combustible placard on a cargo tank or portable tank or a compartmented tank car which contains both flammable and combustible. See §172.504(f)(2).</p>	<p>CLASS 3</p>  <p>FUEL OIL 3</p> <p>FUEL OIL May be used in place of COMBUSTIBLE on a placard displayed on a cargo tank or portable tank being used to transport by highway fuel oil not classed as a flammable liquid. See §172.544(c).</p>	<p>CLASS 4 Division 4.1</p>  <p>FLAMMABLE SOLID 4</p> <p>FLAMMABLE SOLID Placard 454 kg (1001 lbs.) or more gross weight of flammable solid. See DANGEROUS.</p>	<p>CLASS 4 Division 4.2</p>  <p>SPONTANEOUSLY COMBUSTIBLE 4</p> <p>SPONTANEOUSLY COMBUSTIBLE Placard 454 kg (1001 lbs.) or more gross weight of spontaneously combustible material. See DANGEROUS.</p>	<p>CLASS 4 Division 4.3</p>  <p>DANGEROUS WHEN WET 4</p> <p>DANGEROUS WHEN WET MATERIAL Placard any quantity of Division 4.3 material.</p>	
<p>CLASS 5 Division 5.1</p>  <p>OXIDIZER 5.1</p> <p>OXIDIZER Placard 454 kg (1001 lbs.) or more gross weight of oxidizing material. See DANGEROUS.</p>	<p>CLASS 5 Division 5.2</p>  <p>ORGANIC PEROXIDE 5.2</p> <p>ORGANIC PEROXIDE Placard 454 kg (1001 lbs.) or more gross weight of organic peroxide. See DANGEROUS. Placard any quantity of 5.2, ORGANIC PEROXIDE, TYPE B, LIQUID OR SOLID, TEMPERATURE CONTROLLED.</p>	<p>CLASS 6 Division 6.1 Packing Groups I & II Inhalation Hazard</p>  <p>INHALATION HAZARD 6</p> <p>POISON INHALATION HAZARD Placard any quantity of Division 6.1, Inhalation Hazard, Zone A or B Material.</p>	<p>CLASS 6 Division 6.1 Packing Groups I & II (other than Inhalation Hazard)</p>  <p>POISON 6</p> <p>POISON Placard 454 kg (1001 lbs.) or more gross weight of Packing Groups I & II. See DANGEROUS. The word "TOXIC" may be used in lieu of the word "POISON."</p>	<p>CLASS 6 Division 6.1 Packing Group III</p>  <p>HARMFUL 6</p> <p>KEEP AWAY FROM FOOD Placard 454 kg (1001 lbs.) or more gross weight of Packing Group III. See DANGEROUS. A POISON placard may be used in place of a KEEP AWAY FROM FOOD placard.</p>	
<p>CLASS 7</p>  <p>RADIOACTIVE 7</p> <p>RADIOACTIVE Placard any quantity of packages bearing the RADIOACTIVE YELLOW III label. Certain low specific activity radioactive materials in "exclusive use" will not bear the label, but the RADIOACTIVE placard is required.</p>	<p>CLASS 8</p>  <p>CORROSIVE 8</p> <p>CORROSIVE Placard 454 kg (1001 lbs.) or more gross weight of corrosive material. See DANGEROUS.</p>	<p>CLASS 9</p>  <p>MISCELLANEOUS 9</p> <p>MISCELLANEOUS A Class 9 placard is not required. However, you may placard 454 kg (1001 lbs.) or more gross weight of a material which presents a hazard during transport, but which is not included in any other hazard class. See DANGEROUS.</p>	<p>DANGEROUS</p>  <p>DANGEROUS</p> <p>Placard 454 kg (1001 lbs.) gross weight of two or more categories of hazardous materials listed in Table 2. A freight container, unit load device, transport vehicle, or rail car which contains nonbulk packages with two or more categories of hazardous materials that require different placards, as specified in Table 2, may be placarded with a DANGEROUS placard instead of the separate placarding specified for each of the materials in Table 2. However, when 1,000 kg (2,205 pounds) aggregate gross weight or more of one category of material is loaded therein at one loading facility on a freight container, unit load device, transport vehicle, or rail car, the placard specified in Table 2 for that category must be applied.</p>		
<p>SUBSIDIARY RISK PLACARD</p>  <p>DANGEROUS WHEN WET</p> <p>Class or division numbers do not appear on subsidiary risk placards.</p>	<p style="text-align: center;">SQUARE BACKGROUND</p>  <p>The white square background is required for the following placards when on rail cars: EXPLOSIVES 1.1 or 1.2; POISON GAS (Division 2.3, Hazard Zone A); POISON INHALATION HAZARD (Division 6.1, PGI, Hazard Zone A) and for DOT 113 tank cars FLAMMABLE GAS. The white square background is required for placards on motor vehicles transporting highway route controlled quantities of Class 7 materials.</p>			<p style="text-align: center;">DISPLAY OF IDENTIFICATION NUMBER</p>  <p>1090 3</p> <p>The display of an identification number on a placard is allowed, except for Class 1, Class 7, DANGEROUS, or subsidiary hazard placards.</p>  <p>1993 3</p> <p>For a COMBUSTIBLE placard used to display an identification number, the entire background below the identification number must be white for transportation by rail and may be white for transportation by highway.</p>	

Appendix D - Used Oil Management Regulations
Rule 15.00 of the Rules & Regulations for Hazardous Waste Management
Generator Standards (as revised 3/4/07)

This Rule, effective March 4, 2007, is intended to provide businesses that generate used (or waste) oil an alternative method for managing their used oil that is less restrictive than managing it as a conventional hazardous waste. Some of the key differences of Generator standards between a Generator of Used Oil only, and a Hazardous Waste Generator, are outlined below:

<u>Used Oil Generator (only)</u>	<u>Hazardous Waste Generator</u>
<ul style="list-style-type: none">• Not required to register w/DEM• May store up to twenty-four 55 gallon drums without a time limit (1,320 gal.)• Must ship excess drums (>10) offsite within 180 days of accumulation• Not required to provide hazardous waste management training to employees• Not required to develop a hazardous waste contingency plan• Allowed to burn specification and off-specification used oil on-site as an alternative fuel in burners with less than 500,000 BTU capacity, or to send off-site for burning as an alternative fuel• Allowed to self-transport up to 55 gallons of used oil per shipment to a used oil burning or processing facility• Not required to ship used oil on a hazardous waste manifest	<ul style="list-style-type: none">• Required to register w/DEM• May store one 55 gallon drum (per waste stream)• Must ship excess drums (>1) off-site within 90 days of accumulation• Required to provide hazardous waste management training to all employees that handle HW• Required to develop and maintain a hazardous waste contingency plan• Not allowed to burn hazardous waste on-site• Not allowed to self-transport• Required to ship hazardous waste using a hazardous waste manifest

This information provided above is only a summary of some of the major key differences between the old regulatory system for used oil management, and the new system. It is not intended as an all-inclusive summary to outline all of the requirements. The regulation should be viewed in its entirety for complete regulatory requirements.

<http://www.dem.ri.gov/pubs/regs/regs/waste/hwregs07.pdf>

Appendix E

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF COMPLIANCE AND INSPECTION

HAZARDOUS WASTE CONTINGENCY PLAN GUIDANCE

Rule 5.02 (*Storage*) of the Rhode Island Rules and Regulations for Hazardous Waste Management requires that all hazardous waste generators prepare a formal written plan outlining specific steps that company personnel will take in response to spills, fires, and explosions or any unplanned release involving hazardous wastes or hazardous waste constituents which could threaten human health or the environment. This rule references 40 CFR 265 Subparts C and D of the Code of Federal Regulations (enclosed). This guidance was developed by the Department to assist companies in developing a good, thorough, and easy-to-read plan for use during an emergency involving hazardous waste. Although contingency plans are site-specific and can be of various levels of detail, this information may be useful as a general guide. Please note that the contingency plan guidance is not necessarily all-inclusive, and that the Department requires that your company address all of the items required in 40 CFR Subparts C and D.

Please contact the Office of Compliance & Inspection at (401) 222-1360 if you have specific questions regarding this guide or any other questions related to hazardous waste management.

INDEX/CONTENTS OF PLAN

1. Introduction
2. Index
3. Emergency Coordinators
4. Emergency Procedures
5. Emergency Equipment
6. Evacuation Routes
7. Facility Site Diagram
8. Arrangements with Local Authorities

EMERGENCY COORDINATORS

The emergency coordinators listed in this section are authorized to act as on-scene coordinators and to commit the necessary resources during an emergency. At all times, there is at least one coordinator (primary or alternate) either on the company premises or on-call. The coordinators must be familiar with all aspects of the contingency plan, all operations and activities at the company, the locations and characteristics of wastes handled, the location of all company records, and the physical layout of the company. The emergency coordinator will take all reasonable measures to ensure that fires, explosions, and/or releases do not occur, recur, or spread to other areas in the company. These measures shall include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

The coordinators are as follows:

Primary Coordinator:

Name:

Address:

Phone number (work/ home):

Alternate Coordinator:

Name:

Address:

Phone number (work / home):

Note: Qualifications of the emergency coordinators should be included in a separate enclosure.

EMERGENCY PROCEDURES

During an emergency, the emergency coordinator shall perform the necessary actions to insure a timely and appropriate response. The coordinator shall choose the order and applicability of the following actions, based upon the situation and the hazardous waste or hazardous waste constituents involved:

1. Identify and assess the situation (source, health, and environmental impact),
2. Activate alarm to notify all company personnel,
3. Evacuate the company, if necessary,
4. Determine action to be taken (e.g. containment, absorption),
5. Oversee the cleanup throughout its entirety.
6. Within 15 days after the incident, emergency coordinator must submit a written report on the incident to the DEM and Regional EPA Administrator.

Note: Emergency procedures should be a step-by-step, site-specific plan which would be implemented in the event of an emergency. A detailed description of actions to be taken by company personnel during an emergency should be included.

EMERGENCY EQUIPMENT

The following equipment should be found in good condition at the company. Include the physical description and capabilities of each item:

EQUIPMENT PHYSICAL DESCRIPTION AND CAPABILITIES

Alarm system

Communication Systems

Fire Extinguishers

Sprinkler Systems

Spill Control

Personnel Protection

Other

Note: Location of emergency equipment should be indicated on site diagrams.

EVACUATION ROUTES

In the event an emergency arises involving hazardous waste where an evacuation of company personnel becomes necessary, the following evacuation plan would be implemented. Include a description of the signal that would be given to begin evacuation and both primary and secondary evacuation routes personnel would utilize.

Note: Indicate evacuation routes on facility site plan.

FACILITY SITE DIAGRAM

Note: Indicate location of emergency equipment, hazardous waste storage area(s), and both primary and secondary evacuation routes.

ARRANGEMENTS

The following local authorities have been sent copies of the contingency plan:

Police

Fire

Hospital

Response Contractor

Other

Note: Identify the primary emergency authority where more than one police or fire department may respond. Describe arrangements agreed to and provide documentation of local authority notifications.

**I have read and understood the Contingency Plan and
Emergency Procedures.**

Employee's Name (Print)

Signature

Date

Appendix F

LICENSED HAZARDOUS WASTE TRANSPORTERS

To find the most recent listing of RI permitted Hazardous Waste Transporters see:

<http://www.dem.ri.gov/programs/benviron/waste/transpor/hazwaste.pdf>