Zero is Good for Green

Spill containment products made of recycled content conserve resources and reduce waste going to landfills — a good step in the direction of zero waste.

BY GLEN CARTER

The Environmental Protection Agency, OSHA, and the Department of Transportation provide regulatory and enforcement functions for laws promulgated by the U.S. Congress that are designed to protect the environment from contamination and reduce risks to human health and worker safety. These regulations are codified in the Code of Federal Regulations: 40 CFR Protection of the Environment, 29 CFR Labor, and 49 CFR Transportation, respectively.

Environmental Law

"Use and Management of Containers" regulations under 40 CFR part 264 set forth requirements for containment to protect the earth and groundwater from pollution from spills or leaks of hazardous wastes that are normally stored in 55-gallon steel drums. Incoming stocks of hazardous chemicals are subject to OSHA regulations at 29 CFR part 1910, subpart H.

The "zero waste" concept — the idea that everything we no longer want or need gets made into something else — is gaining traction. An auto manufacturer boasted in a TV commercial that its Indiana plant sent nothing to the landfill. At least one of the nation's largest retailers has endorsed the idea of zero waste. Anyone who shops in a grocery store, even occasionally, has seen the widespread use of reusable bags. The concept is slowly changing the landfill business, but the generator of hazardous waste has the same concerns he or she has had for years.

The storage of hazardous materials is regulated in most communities by fire prevention and building codes. Approvals for inside or outside storage of waste and the procedures for management of the same are the responsibility of and should be referred to the local building inspector or fire chief.

Under RCRA, hazardous wastes may be temporarily stored on site at accumulation points called satellite accumulation areas, in tanks or containers, prior to transport to a permitted treatment, storage, or disposal facility. To comply with RCRA regulations, the accumulation or satellite accumulation site and its design should minimize threats to human health or the environment in the event of accidental release.

- Place containers on an impervious concrete surface, free from cracks and gaps. Avoid placing containers on dirt, sand, gravel, or grass surfaces.
- Containers must not be located near any floor drains leading to sanitary or storm sewers.
- Install a containment system designed to contain the volume of the largest container or 10 percent...
To comply with RCRA regulations, hazardous waste accumulation sites should minimize threats to human health or the environment in the event of accidental release.

of the volume of all containers, whichever is greater, in the event of a spill or leak.

- Slope the base of the containment system so the liquids resulting from leaks, spills, or precipitation are drained and removed, or place all containers on pallets.
- Design the containment system to prevent run-on into a containment area, or design it with enough excess capacity to contain any run-on.
- Remove spilled or leaked waste and accumulated precipitation from the system as soon as it is identified to prevent container corrosion.
- Inspect the container area and containers weekly to ensure safe storage practices and determine whether drums are in good condition.

- Handle drums and other containers with equipment designed for the task. Drum grapple attachments may be purchased to securely grab and move containers. Containers should be secure on pallets. Use special pallets with secondary containment, rather than wooden pallets that cannot contain a leak.

An EPA-compliant spill containment pallet should be used to store 55-gallon drums that contain hazardous liquids. This pallet is designed with a leak-proof sump that captures leaks from a damaged drum or a spill that might occur when filling or pumping out of the drum. It prevents hazardous liquid from going down to a factory floor drain, protecting against groundwater contamination and keeping waterways clean.

- The sump is designed to meet the EPA requirements referenced above and found in 40 CFR 264.175: "A containment system must have sufficient capacity to contain 10% of the volume of containers or the volume the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination."

**SPCC Compliance**

SPCC is short for Spill Prevention, Control, and Countermeasure. The rule was developed under the authority of the Federal Water Pollution Control Act and the Clean Water Act. It mandates compliance for facilities with 1,320 gallons of aboveground storage or 42,000 gallons of buried storage of petroleum oils and non-petroleum oils, animal fat and oils and greases, fish and marine mammal oils, and vegetable oils.

The rule outlines the requirements of an

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Glen Carter, chief technology officer of Justrite Manufacturing Company (Des Plaines, Ill.), is a recognized authority on flammable liquids storage and handling. He is currently on the following UL Standards Committees: 30, Metal Safety Cans; 32, Metal Waste Cans; and 1275, Flammable Liquids Storage Cabinets. He has served as a member of the NFPA 30 Technical Committee, Flammable and Combustible Liquids Code since 2008.

Joining the ‘Green Culture’

Both EPA and DOT regulate the condition of containers used to accumulate hazardous waste. The containers must be in good condition, meaning that the drums should have no severe rusting, no bulging heads caused by overpressure, and no structural defect. For storage outdoors, weather-resistant drum sheds holding up to four 55-gallon drums may be used to protect the containers. They, too, feature a leak-proof sump and meet EPA 40 CFR 264.175 for spill control. Safety features include grounding capability, integral anchor bolt locations for wind resistance, and molded-in lugs that accept padlocks for security.

- Containment equipment manufacturers have been searching for ways to be even more helpful while enhancing environmental objectives, such as by using recycled resin in molding spill control products. Not only does the equipment protect against groundwater contamination, but also the material of construction offers additional benefits to the environment. Why is the use of recycled resin good for the environment? Consider that one ton of recycled resin saves:
  - 16.3 barrels of oil
  - 5,774 kilowatt-hours of electricity
  - 30 cubic yards of landfill space

- Recycled resin is a prime example of the zero waste concept. It is a good way for end users to join containment equipment manufacturers on the cutting edge of "green culture." Choose the size of containment device that best complements your primary storage and make sure it’s molded of recycled resin. Spill control pallets are available in capacities to store one, two, three, or four drums. Square or linear designs are available; select the style that works in your storage area.

When needed, IBC spill pallets constructed of recycled polyethylene are another option. Spill containment products made of recycled content conserve resources and reduce waste going to landfills — a good step in the direction of zero waste.

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