

APPENDIX K
CONTAINERS

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MANAGEMENT OF WASTE IN CONTAINERS

The information provided in this section meets the requirements of 40 CFR § 270.15 and the Vermont Hazardous Waste Management Regulations (VHWMR) and addresses the storage of containerized hazardous waste at the Barre Service Center (BSC).

K - 1.0 CONTAINER MANAGEMENT

The BSC is permitted to store containers of hazardous wastes received from off site and generated on site in hazardous waste management units (HWMUs) #3, #4 and #5; the containerized wastes may also be managed in these units on a 10-day transfer basis.

The following containerized waste types are received from off-site generators for storage or management on a 10-day transfer basis:

Parts Washer Service Wastes

- Immersion cleaner
- Aqueous cleaner
- Mineral spirits cleaner (only if not emptied into the Return and Fill unit by the end of the shift when the container was received)

Dry Cleaner Service Wastes

- Spent filter cartridges
- Powder residue
- Still bottoms
- Separator water

Paint-Related Service Wastes

- Paint wastes
- Spent lacquer thinner

Non-RCRA Regulated/Recyclable Materials Service Wastes

- Automotive Antifreeze
- Used Oil Filters
- Photographic film
- Lithography plates

The following containerized waste types are generated and stored on site:

- Branch debris (dumpster mud and sludge, debris, contaminated gloves, rags, paper, etc.)
- Used Oil and Vacuum Waste Retain Samples

HWMUs #3 and #4 are located within the warehouse building, and the metal shelter (HWMU #5) is a separate structure located at the BSC as shown on **Figure B - 1**.

Table K-1 identifies the three hazardous waste management units used for container storage (HWMU #3, #4 and #5), the storage capacity and available secondary containment volume (gallons) of each unit, and the waste types that may be stored in each unit. These units are designed, constructed, and managed under the assumption that all containers being stored hold free liquids and are full. As such, a procedure for determining if wastes contain free liquids is not required. The storage capacity of each unit (see **Section K-1.1** below) is determined based on the volume of secondary containment available for the unit.

TABLE K-1

Hazardous Waste Management Units for Storing Containerized Wastes

Storage Unit	Capacity (gallons)	Maximum Number of 55-Gallon Drum Equivalents	Secondary Containment (gallons)	Permitted Hazardous Waste Codes	Materials Stored
Container Storage Area (HWMU #3)	3,500	63	354	F001, F002, F003, F005, D002, D004 through D009, D011, D018, D019, D021 through D030, D032 through D043, VT02, VT03 and VT08.	Spent immersion cleaner, non-ignitable dry-cleaning waste, spent antifreeze, non-ignitable 10-day transfer waste, non-ignitable on-site generated waste, spent oil filters, non-hazardous waste, recyclable material, and universal waste.
Flammable Storage Area (HWMU #4)	1,800	32	218	F001, F002, F003, F005, D001, D004 through D009, D011, D018, D019, D021 through D030, D032 through D043, VT02, VT03 and VT08.	Ignitable waste, on-site generated waste, paint-related waste, and 10-day transfer waste; non-hazardous waste, and wastes exempt from regulation as hazardous waste may also be stored in this area.
Metal Shelter Storage Area (HWMU #5)	2,184	39	1,122	F001, F002, F003, F005, D001, D004 through D009, D011, D018, D019, D021 through D030, D032 through D043, VT02, VT03 and VT08.	Ignitable waste, on-site generated waste, paint-related waste, and 10-day transfer waste; non-hazardous waste, and wastes exempt from regulation as hazardous waste may also be stored in this area.

K - 1.1 Secondary Containment System Design and Operation

The container storage areas have secondary containment as follows:

Warehouse Container Storage Area (HWMU #3)

Secondary containment for HWMU #3 is provided by a concrete floor surrounded by a six-inch-wide by four-inch-high steel-reinforced concrete curb and two collection sumps. Containment capacity for the collection sumps is calculated as follows:

Collection Sump #1

$$142\text{in long} \times 12\text{in wide} \times 21\text{in deep} = 35,784\text{in}^3$$

$$35,784\text{in}^3 \times \text{ft}^3/1,728\text{in}^3 = 20.71\text{ft}^3$$

$$20.71\text{ft}^3 \times 7.48\text{gals/ft}^3 = 154.91\text{gals}$$

Total Containment Capacity = 155 gallons

Collection Sump #2

$$96\text{in long} \times 24\text{in wide} \times 20\text{in deep} = 46,080\text{in}^3$$

$$46,080\text{in}^3 \times \text{ft}^3/1,728\text{in}^3 = 26.671\text{ft}^3$$

$$26.671\text{ft}^3 \times 7.48\text{gals/ft}^3 = 199.74\text{gals}$$

Total Containment Capacity = 200 gallons

Steel grates cover each sump for safety purposes and to facilitate the movement of containers across them. The secondary containment area is sealed with an epoxy coating and is free of cracks and gaps, inspected daily, and maintained/repared as necessary. No more than 3,500 gallons of waste may be stored in the warehouse container storage area to ensure greater than 10% secondary containment capacity.

Warehouse Flammable Storage Area (HWMU #4)

Secondary containment for the flammable container storage area is provided by a sloped concrete floor and a concrete collection sump. Containment capacity for the collection sump is calculated as follows:

$$120\text{in long} \times 20\text{in wide} \times 21\text{in deep} = 50,400\text{in}^3$$

$$50,400\text{in}^3 \times \text{ft}^3/1,728\text{in}^3 = 29.17\text{ft}^3$$

$$29.17\text{ft}^3 \times 7.48\text{gals}/\text{ft}^3 = 218.17\text{gals}$$

$$\textbf{Total Containment Capacity} = 218 \text{ gallons}$$

Steel grates cover the trench for safety purposes and to facilitate the movement of containers across it. The secondary containment area has been sealed with an epoxy coating, to render it impermeable, and is free of cracks and gaps, inspected daily, and maintained/repared as necessary. No more than 1,800 gallons of waste material are stored in this storage area to ensure that greater than 10% secondary containment capacity is maintained.

Metal Shelter Storage Area (HWMU #5)

The metal shelter storage area (HWMU #5) has secondary containment in the form of a carbon steel collection pan at its base. Containment capacity for the collection pan is calculated as follows:

$$240\text{in long} \times 180\text{in wide} \times 6\text{in deep} = 259,200\text{in}^3$$

$$259,200\text{in}^3 \times \text{ft}^3/1,728\text{in}^3 = 150\text{ft}^3$$

$$150\text{ft}^3 \times 7.48\text{gals}/\text{ft}^3 = 1,122\text{gals}$$

$$\textbf{Total Containment Capacity} = 1,122 \text{ gallons}$$

No more than 2,184 gallons of waste material are stored in this unit at any given time to ensure that greater than 10% secondary containment capacity is maintained. The containment base is free of cracks and gaps and is maintained/repared as necessary.

HWMUs #3 and #4 are in the warehouse building and are therefore not susceptible to run-on. HWMU #5 is a separate enclosed structure and is also not susceptible to run-on.

K - 1.2 Description of Containers

Containerized material is managed by the BSC in USDOT-specification containers. All containers holding waste are of the proper USDOT specifications for the material contained in them to ensure compatibility of waste with containers.

K - 1.3 Container Management Practices

All waste transported to the BSC is managed in accordance with the VHWMR and the USDOT Hazardous Materials regulations found in 49 CFR §§ 171 through 178.

All materials placed in HWMUs #3, #4 and #5 are segregated according to the Segregation Table for Hazardous Materials in 49 CFR § 177.848 to ensure incompatible materials are not stored together.

Containerized ignitable wastes are only stored in HWMUs #4 and #5, which are located more than 50 feet from the BSC property line (see **Figure B-1**).

The contents from different waste containers are not mixed while on site. All containers of hazardous wastes are properly marked and identified using hazardous waste and USDOT labels, as appropriate (see **Attachment C-5, Hazardous Waste Label**). The label on each container of 10-day transfer waste identifies it as such.

Loading and unloading operations for the warehouse drum storage areas take place at the dock ramps shown on **Figure B - 1**. The loading and unloading operations for the metal shelter take place at the shelter entrance. Containers are typically unloaded using a handcart, or if on pallets, a forklift or pallet jack. Occasionally, containers are moved manually. Prior to moving a container, the condition of the container is visually checked to ensure it is in good condition and the lid securely closed.

Containers holding hazardous waste are not handled or stored in a manner that may rupture the container or cause it to leak, and containers of hazardous waste received from off-site generators are kept sealed while at the BSC.

Containers are stored on pallets in HWMU #3 and #4. A minimum of 2-foot aisle space is maintained between rows of pallets and double rows of containers in all storage areas. Given the design of HWMU #5 (i.e., elevated grating system positioned above secondary containment), containers are typically placed directly on the grated floor; containers may also be stored on pallets in HWMU #5.

Like-sized containers may be stacked as follows:

- 1) For storage purposes, 5-gallon containers may be stacked a maximum of two containers high, directly on top of each other, and must be secured with banding, strapping, or wrapping. When building loads for off-site shipment, within 24-hours of the scheduled shipment, 5-gallon containers may be stacked a maximum of four containers high, directly on top of each other, and must be secured with banding, strapping, or wrapping. Stacking of 5-gallon containers must occur on a pallet that measures a minimum of 42" x 42" and stacked containers must be secured with banding, strapping, or wrapping.
- 2) 30-gallon containers may be stacked a maximum of two containers high, directly on top of each other, and must be secured with banding, strapping, or wrapping. Stacking of 30-gallon containers may only occur on a pallet that measures a minimum of 42" x 42" and stacked containers must be secured with banding, strapping, or wrapping.
- 3) 55-gallon containers may be stacked a maximum of two containers high, directly on top of a cluster of four 55-gallon containers that are of equal height and of sufficient structural integrity to support the containers on the second tier. Each tier must be on an individual pallet that measures a minimum of 42" x 42", and stacked containers must be secured with banding, strapping, or

wrapping.

- 4) Intermediate Bulk Containers (i.e., cubic yard box, tote) may be stacked a maximum of two containers high, directly on top of another Intermediate Bulk Container or a cluster of four 55-gallon containers that are of equal height and of sufficient structural integrity to support the containers on the second tier. Each tier must be on an individual pallet that measures a minimum of 42" x 42" and must be secured with banding, strapping, or wrapping.
- 5) 85- or 95-gallon overpack containers or salvage drums may be stacked a maximum of two containers high, directly on top of a cluster of four 55-gallon containers that are of equal height and of sufficient structural integrity to support the containers on the second tier. Each tier must be on an individual pallet that measures a minimum of 42" x 42" and must be secured with banding, strapping, or wrapping.

Inspections of the container storage areas are conducted each operating day in accordance with **Appendix E** (Inspection Schedule). If liquid is discovered within secondary containment for a container storage area, it shall be collected immediately and properly characterized using knowledge of the material and/or laboratory analysis. If the removed material is hazardous waste, Safety-Kleen shall accept generator status for the waste.

An inventory that identifies all waste being stored and managed on a 10-day transfer basis is maintained for each HWMU.