

ATTACHMENT 9
CONTAINER STORAGE

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Attachment 9 of this permit application is being submitted in accordance with R315-270-15 and R315-270-27. This attachment provides specifications of the Clearfield facility. Engineering plans and specifications for the container storage unit (CSU) are prepared under the supervision of and sealed by a Registered Professional Engineer. Overall dimensions and materials of construction of the CSU are included in this Attachment 9. This attachment also identifies process information for the storage of waste in the hazardous waste CSU. The Clearfield facility stores customer and plant generated wastes in containers in this area until a truckload or partial truckload quantity is accumulated for shipment to a reclamation or permitted TSDF.

In addition, in accordance with R315-270-14(b)(8), this section includes a description of procedures, structures, or equipment used at the facility to:

- Prevent hazards in unloading operations, for example, ramps, special forklifts;
- Prevent run-off from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding, for example, berms, dikes, trenches;
- Prevent contamination of water supplies;
- Mitigate effects of equipment failure and power outages;
- Prevent undue exposure of personnel to hazardous waste, for example, protective clothing; and
- Prevent releases to the atmosphere.

Containers used for storage of hazardous wastes at this facility are portable containers that meet the requirements of 49 CFR Part 173. The layouts of the hazardous waste storage areas are shown in Appendix A of Attachment 11.

1.0 CONTAINERS WITH FREE LIQUIDS

Wastes are stored in the CSU at the facility. Hazardous wastes that may be stored at this facility are listed in Condition III.B.1. of this Permit. The chemical and physical characteristics of these wastes are described in the Waste Analysis Plan, Attachment 1. These hazardous wastes may contain free liquids; therefore, the CSU is designed with secondary containment for containers containing free liquids.

The CSU is made up of four distinct storage areas. Storage area 1 is located east of the tank farm and Storage areas 2, 3, and 4 are located north of the tank farm. The storage areas are underneath a roof. The locations of the storage areas are shown in Attachment 11.

2.0 DESCRIPTION OF CONTAINERS

Most of the containers stored in the CSU will be 55-gallon drums. However, to facilitate operations, it is necessary for the facility to be able to store wastes in containers other than 55-gallon drums. Because the types of containers to be stored will vary, it is not possible to provide a

maximum number of each type of container to be stored in the CSU. Regardless of container size or number, the maximum volume of waste stored shall not exceed 32,560 gallons.

The containers that are used for a particular waste must meet DOT requirements for the appropriate hazard. Facility personnel responsible for shipping and receiving hazardous waste containers are trained to inspect the containers upon receipt to assure compliance. A list of container types that may be received at the facility is included as Table 1 in this section. Container labeling requirements are satisfied by following DOT requirements (Title 49 CFR).

3.0 CONTAINER MANAGEMENT PLAN

The CSU shall store containerized wastes on pallets, stacked two high maximum in accordance with Condition III.E.3. The maximum volume of containerized hazardous waste which is allowed to be in storage at any one time is 32,560 gallons (equivalent to 592, 55-gallon drums) in containers that meet U.S. DOT requirements.

Hazardous waste containers shall always be closed when in storage unless removing or adding waste. Customer waste containers are not opened. The exception is if a container holding hazardous waste is not in good condition or if it begins to leak, the waste is transferred to a container that is in good condition or placed in an approved overpack drum. This facility serves only as temporary storage for customer generated wastes. Hazardous waste containers are marked with hazardous waste labels and labeled with the appropriate DOT hazard labels.

Both CSU concrete containment bays (Storage Area 1 and the combine Storage Areas 2, 3 and 4) are curbed on three sides. The fourth side is ramped to allow the forklifts to move in and out of the storage areas. All movement of containers in and out of the storage areas occurs from the ramped side. The drums are also removed from the ramped side of the container storage areas for shipment to the disposal or reclamation facility. The width of each pallet supporting waste containers is four feet, which is also the width of the forklift used to move palleted waste in and out of each storage area. This aisle space is adequate for inspections, equipment maneuvering and container handling, since all container handling is conducted from the ramped side of the storage area. Upon arrival, the containers are inspected in accordance with the Waste Analysis Plan as the containers are unloaded from the trucks.

When a section of the container storage areas is emptied, it is inspected. Spilled or leaked material is absorbed or neutralized, and the area is cleaned promptly in accordance with Condition III.J.4; therefore, any storage area and/or bay can be used for a particular waste type. This prompt cleaning of spilled or leaked material ensures that incompatible wastes will not come into contact with any spilled or leaked material. Container labels identify the waste types within the storage area at a particular time.

The basis for determining which wastes will be stored in a particular storage area is the known chemical and physical properties of the wastes. This information is obtained from the data, which the generator supplies on the Waste Profile Sheet (WPS). This information is confirmed by the waste analyses, which may be performed by the generator at the time that the waste stream is

initially qualified for acceptance. Shipments of waste are recorded on a RCRA Operating Log, which is maintained electronically to track each waste shipment received at the facility. A copy of the log is provided in Appendix E of Attachment 1. Hard copies are available upon request. The number and weight of containers accepted at the site is obtained from the accompanying manifests, rather than a scale, and is recorded on the log.

The facility shall meet the requirements for separation of incompatible wastes as specified in R315-264-177. Waste containers are elevated from the floor via pallets or other means, and the storage areas allow for segregation of incompatible waste types. Facility personnel are trained to separate acid/caustic corrosives and cyanide-containing waste from corrosives, for example. Also, solvent wastes are stored separately from corrosive wastes. Wastes are stored, and segregated if necessary, in accordance with the compatibility guidance included in Appendix A of Attachment 1.

The hazardous waste CSU is inspected weekly to ensure that containers are stored in a manner to prevent ruptures and leaks. Each storage area within the CSU is inspected to verify that containers are properly placed. An inspection schedule is included in Table 1 of Attachment 3 and an inspection log form is in Appendix A of Attachment 3.

Table 1 TYPICAL CONTAINER TYPES USED FOR HAZARDOUS WASTE STORAGE		
Type/DOT Spec.¹	Container Capacity	Container Construction Material
Small drums	5-gallon to 30-gallon	Metal (lined/unlined), polyethylene, fiber ⁴ , stainless steel composite
Drums	55-gallon (or larger if over-packed)	Metal (lined/unlined), polyethylene, fiber ⁴ , stainless steel composite
Portable Containers	100 gallons to 550 gallons	Carbon steel metal, stainless steel metal, wirebound-polyethylene liner, polyethylene, aluminum, poly-steel, metal (lined/unlined)
Intermediate Bulk Containers (IBC) ²	Flexible IBC: various sizes (‘SuperSacs’) 12 cu. ft. to 250 cu. ft.	Coated fabric
Boxes	Corrugated cartons: Various sizes up to 1500 pounds Capacity	Fiberboard
Bags ³	Multi Walled Kraft Bags: Various sizes up to 100 pounds capacity	Fiber (lined/unlined), paper (lined/unlined), polyethylene/aluminum lined, plastic
Miscellaneous	Misc. containers: 1-pint to 5-gallons	Metal (lined/unlined), glass (lined/unlined), plastic, polyethylene composite

¹All containers and liners used to manage hazardous wastes meet U.S. DOT specifications.

²No free liquid waste will be accepted in this type of container.

³Bags are not a D.O.T. authorized packaging for hazardous material liquids, and hazardous material solids in D.O.T. packing group I.

⁴Fiber drums are not a D.O.T. authorized single packaging for hazardous materials liquids. Packing group I liquids inside fiber drums must have inner receptacles. D.O.T. packing group II and III liquids inside fiber drums must have an internal liner.

Containers are not opened, handled, or stored in a manner that may rupture the container or cause it to leak. Containers may be stacked two high in the storage areas, which ensures stability. Containers are placed in storage with adequate aisle spacing maintained between rows of containers, which ensures safe management and access for purposes of inspection, containment, and remedial action with emergency vehicles. The storage configuration is depicted in Appendix A of Attachment 11 of this permit application.

The facility stores all containers on pallets, or on their own self-contained legs. The storage areas are away from sources of ignition. All ignitable wastes stored at this facility are compatible. All storage areas are located more than 60 feet from the nearest property line. Containers of incompatible wastes are segregated. Only wastes that are compatible with each other will be stored within a storage area in the curbed storage area. No reactive or explosive wastes are accepted at this facility. The maximum number of drums expected to be in storage at any one time is 32,560 gallons (equivalent to 592, 55-gallon drums).

Containers are moved and handled with forklift trucks, drum dollies, and or pallet jacks and are operated by trained personnel.

Procedures for Handling of Containers within the Facility

The Facility generates very little waste in containers. However, if a container of waste is generated it will be characterized, labeled and moved to the CSU. Container tracking and storage procedures will be followed. Prior to movement, the container will be inspected to ensure it is not leaking and that all bungs are in place and secure. The container will then be moved by fork truck or hand truck to the CSU. The location within the storage area is then recorded in the operating record. The procedures outlined in the waste analysis plan for the incoming waste will be adhered to for all incoming shipments of hazardous waste. Similar procedures are followed when a load of hazardous waste is shipped to the receiving facility. The applicable procedures described above in the procedures for moving containers within the container storage area will also be followed when containers are moved within the facility.

Management Practices for Locating Specific Containers of Waste At The Facility

All containers of waste will be stored within the permitted CSU in the container storage area shown on the configuration drawing in Appendix A of Attachment 11. The pallets of containers will be arranged in rows within the storage bays in accordance with the compatibility guidance included in Appendix A of Attachment 1. The 10-day transfer wastes will be stored in an area separate from the wastes covered under this Permit.

4.0 SECONDARY CONTAINMENT SYSTEM DESIGN AND OPERATION

Waste storage areas are concrete curbed areas, and meet the requirements for secondary containment. Storage Area 1 is curbed into one bay, and may store up to a total capacity of 1,760 gallons, equivalent to 32 - 55 gallon drums. Storage Areas 2, 3, and 4 are curbed separately in one bay, and may store up to a total capacity of 30,800 gallons, equivalent to 560 - 55 gallon drums. Storage Area 1 may store up to a total capacity of 1,760 gallons, Storage Area 2 may store up to a total capacity of 12,320 gallons, Storage Area 3 may store up to a total capacity of 9,240 gallons, and Storage Area 4 may store up to a total capacity of 9,240 gallons.

The CSU is equipped with a concrete floor that is approximately 6-inches thick. The design of the storage areas is provided in Attachment 12. A total of 12,320 gallons maximum can be stored in Storage Area 2; 9,240 each in Storage Areas 3 and 4; and 1,760 in Storage Area 1. The total area of Storage Areas 2, 3, and 4 is 1,824 square feet, and the total area of Storage Area 1 is 2,280 square feet. The storage areas allow for easy access for forklift trucks. With containers stacked two high, the waste CSU has secondary containment for at least 10 percent of the maximum storage amount.

The capacity of the secondary containment system is calculated as shown below.

The CSU for the storage area has sufficient capacity to contain a spill from the largest container to be stored in the area, or 10 percent of the volume of the stored containers, whichever is greater. The calculations which provide supporting data and conclusions for the secondary containment capacity are included below in Section 4.3. Storage area bases and curbs will be maintained free of cracks or gaps.

To ensure that the containment system is impervious to spills and leaks, a top coating has been applied to the concrete surface of the existing container pad and curbing. The sealant is compatible with all wastes which are stored in the CSU. Technical information and specifications for the specific material are contained in Attachment 11.

4.1 Requirement for the Base or Liner to Contain Liquids

The hazardous waste CSU at the facility has an approximately 6-inch thick poured concrete base. The base is of sufficient thickness and material to prevent container spills and leaks from migrating out of the storage areas. The base of the CSU is also free of cracks and gaps so that it is sufficiently impervious to contained materials, until such time as the accumulated material is detected and removed. In addition, Storage Area 1 is coated. The coating materials used are designed to resist impact, chemicals, and abrasion. As a matter of training and practice, any leak or spill is contained and cleaned up immediately upon discovery.

Storage Areas 2, 3, and 4 are under cover, including an over hang, to prevent rainfall or other precipitation from adversely impacting the storage area. Storage Area 1 is fenced in and has slats to minimize impact from rainwater. If there is no evidence of spills or leaks,

any water that collects in the storage areas will be treated as uncontaminated rain water. If there is reason to believe it may be contaminated, it will be characterized by the facility and shipped off-site for disposal, if necessary.

4.2 Containment System Drainage

The waste containers are stored on pallets, or on the container's legs, to elevate the containers above the floor, thereby protecting the bottoms of the containers from contact with any accumulated liquids within the storage area.

4.3 Containment System Capacity

CSU - Storage Area 1 - Hazardous Waste Storage Area Capacity and Containment

Capacity:

4 pallets x 2 high = 8 pallets x 4 drums/pallet = 32 drums
32 drums x 55 gal = 1,760 gal

Secondary containment:

28.5 ft x 6.5 ft = 185.25 sq ft x 0.167 ft ht = 30.9 cu. ft.
30.9 cu. ft. x 7.48 gal/cu. ft. = 231.1 gallons

Pallet displacement:

= 4 pallets x 1.3 cu. ft./pallet
= 5.2 cu. ft. x 7.48 gal/cu. ft.
= 38.9 gallons

Ramp Displacement:

3.5 ft. x 6.5 ft x .0833 ft. = 1.896 cu. ft.
1.896 cu.ft. x 7.48 gal = 14.2 gallons

Net containment = 231.1 - 38.9 - 14.2 = 178.5 gallons

10% of 1760 gallons is 176 gallons, therefore there is adequate containment.

CSU - Storage Areas 2, 3, and 4 - Hazardous Waste Storage Area Capacity and Containment

Storage Area 2

Capacity:

7 pallets/row x 4 rows = 28 pallets x 2 high = 56 pallets

56 pallets x 4 drums/pallet = 224 drums
224 drums x 55 gallons = 12,320 gallons

Secondary containment capacity:
23.5 ft. wide x 28 ft. long x 0.5 ft. curb = 329 cu. ft.
329 cu. ft. x 7.48 gal/cu. ft. = 2461 gal

Plus Ramp Area = 4 ft x 23.5 ft. x 0.25 (avg. hgt.) = 23.5 cu. ft.
23.5 cu. ft. x 7.48 gal/cu. ft. = 175 gallons

Minus pallet displacement 28 pallets x 2.6 cu. ft. = 72.8 cu. ft.
72.8 cu. ft. x 7.48 gal/cu. ft. = 545 gal

2461 + 175 - 545 gal = 2091 gallons containment
10% of 12,320 gallons = 1232 gallons, therefore containment is adequate.

Storage Areas 3 & 4

Capacity (each):

7 pallets x 3 rows = 21 pallets x 2 high = 42 pallets
42 pallets x 4 drums/pallet = 168 drums
168 drums x 55 gal/drum = 9240 gallons

Secondary Containment Capacity (each)
17 ft. wide x 28 ft. long x 0.5 ft. curb = 238 cu. ft.
238 cu. ft. x 7.48 gal/cu. ft. = 1780 gallons

Plus Ramp Area (each) = 4 ft. x 17 ft. x 0.25 = 17 cu. ft.
17 cu. ft. x 7.48 gal/cu. ft. = 127 gallons

Minus pallet displacement (3&4) 21 pallets x 2.6 cu. ft. = 54.6 cu. ft.
54.6 cu. ft. x 7.48 gal/cu. ft. = 408 gal

1780 + 127 - 408 gal = 1499 gallons containment (each cell)
10% of 9240 gallons = 924 gallons, therefore containment is adequate.

4.4 Control of Run-On

The waste CSU is covered with a roof canopy and curbed and ramped to prevent run-on from occurring.

4.5 Removal of Liquids from Containment System

Inspections of the CSU are recorded on a weekly basis. In addition, the facility maintains a spill control plan for removing spilled liquids. Any liquid spill or leak is cleaned up

immediately on discovery. A leaking container is placed in a recovery or overpack container. Spills are neutralized or absorbed with material kept in inventory for that purpose.

Spilled material is transferred to containers that are compatible with the spilled material and that meet DOT requirements for the hazard represented. The spilled material is transported off-site for disposal at a permitted treatment, storage, or disposal facility.

Based on the design of the storage area, the Clearfield facility does not anticipate an excessive amount of accumulated moisture. Storage areas 2, 3, and 4 are equipped with a roof. Storage area 1 is equipped with a roof and fence and slats on one side. All of the storage areas are surrounded by a curb which significantly reduces the amount of precipitation that enters the storage area. Any significant moisture accumulation will be evaluated to determine if it is hazardous. If there is no evidence of spills or leaks, the water will be treated as uncontaminated rain water. If there is reason to believe it may be contaminated, it will be characterized by the facility and shipped off-site for disposal, if necessary.

5.0 CONTAINERS WITHOUT FREE LIQUIDS

All hazardous waste containers stored at the facility are handled as though they may contain free liquids. These containers are stored in the hazardous waste CSU, which is designed for containers with free liquids.

APPENDIX A
SUBPART CC AIR EMISSION STANDARDS

Appendix A SUBPART CC AIR EMISSION STANDARDS

Each container opening will be maintained in a closed position at all times except when it is necessary to use the opening to add, remove, inspect, or sample the material in the container.

1.0 APPLICABILITY

The standards of R315-264-1080 apply to the Clearfield facility because the facility stores hazardous wastes in containers, and is subject to R315-264-179, relating to the Use and Management of Containers. The facility does not use tanks or surface impoundments for the management of hazardous waste.

2.0 EXEMPTIONS

The Clearfield facility is not pursuing an exemption from the Subpart CC regulations.

3.0 STANDARDS FOR CONTAINERS – LEVELS 1, 2, AND 3

The Facility stores containers holding wastes that are in both light and non-light material services and is required to meet Level 1 and 2 controls in accordance with R315-264-1086(b)(1)(i-iii), and R315-264-1086(c) and (d).

3.1 Container Level 1 Standards Apply to:

- 3.1.1 Containers with design capacity greater than 0.1 m³ (26 gallon) and less than or Equal to 0.46 m³ (121 gallon) that are holding any hazardous waste.

Hazardous wastes are stored in containers that have a design capacity of greater than 0.1 m³ (26 gallon) and less than or equal to 0.46 m³ (121 gallon).

- 3.1.2 Containers with design capacity greater than 0.46 m³ (121 gallons) that are holding any hazardous waste that ***is not in light material service***

Hazardous wastes that are not in light material service are stored in containers with a design capacity of greater than 0.46 m³.

3.2 Container Level 2 Standards Apply to:

- 3.2.1 Containers with a design capacity greater than 0.46 m³ (121 gallons) that are holding any hazardous waste that ***is in light material service***.

3.3 Container Level 3 Standards Apply to:

3.3.1 The Facility does not use any containers for the treatment of hazardous waste by a waste stabilization process; therefore, Container Level 3 standards do not apply.

4.0 IDENTIFICATION OF EACH CONTAINER AREA SUBJECT TO SUBPART CC

4.1 Container Level 1

4.1.1 Container that Meets Department of Transportation Regulations on Packaging

In order to comply with Level 1 control standards, the facility only accepts waste in containers that meet DOT regulations on packaging hazardous materials as specified in 40 CFR 264.1086(f).

4.1.2 Container Equipped with Cover and Closure Devices

Containers are equipped with closure devices, such as lids, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and that maintain equipment integrity. The closure device forms a continuous barrier over the container opening so that when closed, there are no visible holes, gaps, or other open spaces into the interior of the container.

4.1.3 Open-Top Container Equipped with Organic-Vapor Suppressing Barrier

The facility does not accept open-top containers; therefore, this section is not applicable.

4.2 Container Level 2

In order to comply with Level 2 standards, the facility only accepts waste in containers that meet DOT regulations on packaging hazardous materials as specified in 40 CFR 264.1086(f). Containers are equipped with closure devices, such as lids, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and maintain equipment integrity. The closure device forms a continuous barrier over or around the container opening so that when closed, there are no visible holes, gaps, or other open spaces into the interior of the container.

4.3 *Container Level 3*

The facility does not store hazardous wastes in containers subject to Level 3 controls.

5.0 CONTAINER COVER AND CLOSURE DEVICES

5.1 *Container Level 1*

Waste containers are always kept closed when in storage. The driver inspects the containers and their cover and closure devices at the time of pick-up, and inspects the containers to verify that they are intact. Trailers arriving at the Clearfield facility with hazardous waste containers for storage will be unloaded onto a loading dock. Facility personnel visually inspect the containers to ensure they are labeled and intact in accordance with R315-262-17, before moving them to the hazardous waste CSU. The hazardous waste CSU is inspected weekly to ensure that containers are stored in a manner to prevent ruptures and leaks.

When a defect is detected for the container, the first efforts to repair the defect will begin no later than 24 hours after detection, and the repair will be completed as soon as possible, but no later than 5 calendar days after the detection. If the repair of a defect cannot be completed within 5 days, then the defective container will be transferred to a new overpack container.

5.2 *Container Level 2*

Waste containers are always kept closed when in storage. No transfer, commingling, blending, repackaging (closed drums are sometimes placed in over packs), or other waste management activities occur at the Clearfield facility. The driver inspects the containers and their cover and closure devices at the time of pick-up. The driver inspects the containers to verify that they are intact. Trailers arriving at the Clearfield facility with hazardous waste containers for storage will be unloaded onto a loading dock. Facility personnel visually inspect the containers to ensure they are labeled and intact in accordance with R315-262-17, before moving them to the hazardous waste CSU. The hazardous waste CSU is inspected weekly to ensure that containers are stored in a manner to prevent ruptures and leaks.

When a defect is detected for the container, cover, or closure device, the first efforts to repair the defect will begin no later than 24 hours after detection, and the repair will be completed as soon as possible, but no later than 5 calendar days after the detection. If the repair of a defect cannot be completed within 5 days, then the defective container will be transferred to a new over pack container.

5.3 *Container Level 3*

The facility does not store hazardous wastes in containers using Level 3 controls.

6.0 INSPECTION AND MONITORING REQUIREMENTS

The Facility will inspect Level 1 or 2 containers as specified in R315-264-1086(c)(4) (Level 1 Controls), R315-264-1086(d)(4) (Level 2 Controls) and R315-264-1088. These inspections are incorporated into the facility inspection plan required by R315-264-15, which is included in Attachment 3 of this permit.

Additionally, Univar will ensure that a copy of the procedure referred to in R315-264-1086(c)(5) is available for review at the Facility. This procedure outlines how the Facility determines that containers with a capacity of larger than 0.46 m³ (121 gallons) that do not meet DOT regulations as specified in R315-264-1086(f) are not managing hazardous wastes in light material service.

7.0 RECORDKEEPING REQUIREMENTS

The facility only manages Level 1 or 2 containers and does not utilize a closed vent system or control device. Container inspections are documented on inspection logs and are maintained at the facility for at least three years from the time of inspection.