SECTION D - CONTAINER STORAGE AND CONSOLIDATION PLAN

CONTAINER STORAGE AND CONSOLIDATION PLAN

Heritage Environmental Services, LLC
284 East Storey Road
Coolidge, Arizona 85128

AZD 081 705 402

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1. INTRODUCTION

Heritage Environmental Services, LLC ("Heritage") owns and operates a commercial hazardous waste management facility in Coolidge, Arizona. This facility operates in accordance with a RCRA Part B permit issued by the Arizona Department of Environmental Quality (ADEQ). The on-going activities include management of hazardous and nonhazardous wastes in containers. This Process Information section focuses on the management of containerized hazardous waste and includes a Container Storage and Consolidation Plan.

The wastes received at the facility are characterized in accordance with the procedures specified in the Waste Analysis Plan (Section C). The wastes that Heritage is permitted to receive are listed in the Part A and characterized in the Waste Analysis Plan. Heritage does not manage the listed hazardous wastes F020, F021, F022, F023, F026, and F027.

Containerized wastes arriving at the Coolidge facility are accepted by Heritage in accordance with the procedures outlined in Section 5 (Pre-Acceptance Screening) and Section 6 (Wastestream Sampling and Analysis) of the Waste Analysis Plan. The containerized wastes may be staged and stored prior to consolidation or shipment offsite in accordance with this Container Storage and Consolidation Plan.

Lab packs are also received and managed in accordance with this Container Storage and Consolidation Plan, as described in Sections 2.1 and 3.5. Lab pack containers of hazardous wastes may be unpacked in the Lab Depack area or in other permitted container storage areas. The packing material is removed from the container and handled in accordance with applicable regulations. Compatible lab pack wastes (based on DOT standards and exemptions) may be bulked into a larger container for storage or off-site disposal.

2. GENERAL CONTAINER STORAGE AREA INFORMATION

2.1. Facility Overview

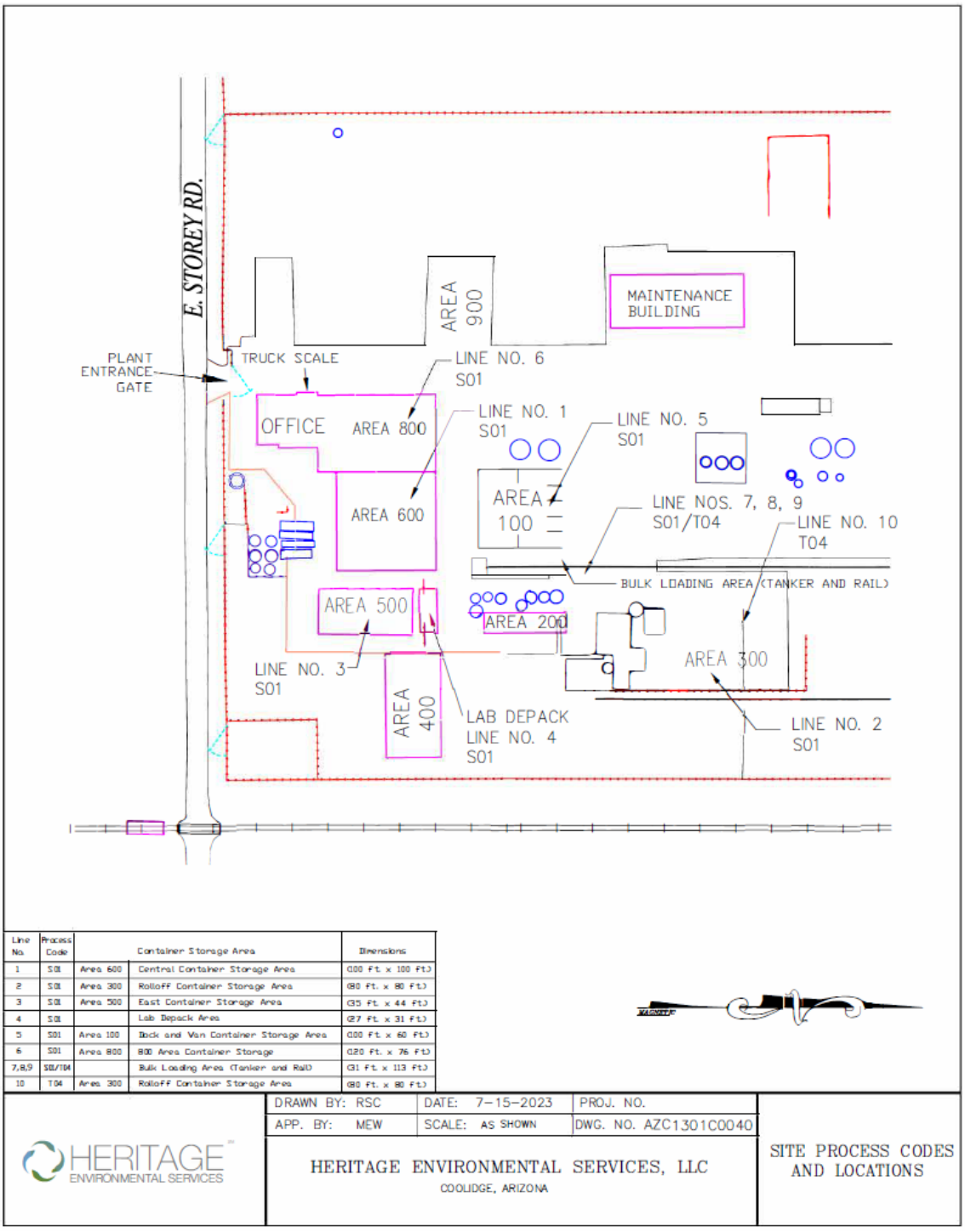
The facility has multiple permitted Container Storage Areas (CSAs) and consolidation areas. The hazardous waste Container Storage Areas include:

- Central Container Storage Area ("Central Area"),
- East Container Storage Area ("East Area"),
- Lab Depack Area ("Depack Area"),
- Hazardous Roll-off Storage Area ("Roll-off Area"),
- Dock and Van Container Storage Area ("DVSA"),
- Bulk Loading Area (Tanker and Rail), and
- 800 Area Container Storage Area ("800 Area")

The locations of the Container Storage Areas at the facility are shown in Figure D-1.

Hazardous and compatible nonhazardous wastes may be stored in the CSAs noted above. Waste solids are consolidated into roll-offs in the Roll-off Area, the Central Area, the DVSA, the East Area, or the 800 Area. Filter cake solids are blended into roll-offs in the Roll-off Area. Inert materials (e.g., diatomaceous earth, silica pellets) may be added to the filter cake solids. Liquid and solid wastes are bulked and consolidated into railcars at the Bulk Loading Area (Tanker and Rail). Liquid wastes are bulked into tanker trucks in the Bulk Loading Area (Tanker and Rail) and in the DVSA. Liquid and solid wastes are bulked into containers and totes in the Central Area, the East Area, and the 800 Area. Lab pack wastes are consolidated in the Depack Area and the Central Area

FIGURE D-1
LOCATIONS OF THE CONTAINER STORAGE AREAS



Line No.	Process Code	Container Storage Area		Dimensions
1	S01	Area 600	Central Container Storage Area	(100 Ft. x 100 Ft.)
2	S01	Area 300	Rolloff Container Storage Area	(80 Ft. x 80 Ft.)
3	S01	Area 500	East Container Storage Area	(35 Ft. x 44 Ft.)
4	S01		Lab Depack Area	(27 Ft. x 31 Ft.)
5	S01	Area 100	Dock and Van Container Storage Area	(100 Ft. x 60 Ft.)
6	S01	Area 800	800 Area Container Storage	(120 Ft. x 76 Ft.)
7,8,9	S01/T04		Bulk Loading Area (Tanker and Rail)	(31 Ft. x 113 Ft.)
10	T04	Area 300	Rolloff Container Storage Area	(80 Ft. x 80 Ft.)

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HERITAGE ENVIRONMENTAL SERVICES, LLC COOLIDGE, ARIZONA			SITE PROCESS CODES AND LOCATIONS

2.2. Control of Run-on and Run-off

All hazardous waste storage activities are conducted indoors, under roof with curbing, and in areas designed with adequate secondary containment. The facility has the following controls to prevent run-on/run-off of storm water.

General Facility Controls: The facility has a soil berm constructed on the north, east and west side of the perimeter fence with the exception of areas where access is required (e.g., the rail spur). A berm is also constructed along the fence line on a portion of the southern boundary of the facility (see Topographic Drawing AZC1301C0020 in Section B for reference). The berm is typically 1.5 feet (minimum) to 2 feet in height with a slope of about 3:1. The berm is structurally sound with no visible holes or gaps. These berms mitigate potential run-on and run-off from the facility. Based on visual observation, drainage conveyances are constructed along the railroad that runs north/south along the eastern edge of the property to prevent run-on from offsite sources. Ditches are also present along East Storey Road to prevent run-on to the facility from potential offsite sources.

Central Storage Area – The Central Storage Area is constructed of poured concrete walls up to approximately 4 feet above the surrounding grade, with the exception of door openings. Above the concrete wall, the Central Storage Area is a metal sided building with a roof to prevent precipitation from entering the Central Storage Area. These structures serve to mitigate potential run-on into the unit and prevent precipitation from accumulating in the secondary containment structures. Although located in an indoor structure under roof, the sloped floors coupled with blind sumps of the Central Storage Area serve to prevent run-off from the unit. Accumulated liquids found in the containment, including the sump and trench, are removed within one operating day of discovery.

Roll-Off Container Storage Area – The Roll-Off Container Storage Area is a contained area that consists of a block wall on the east and north side of the unit that is approximately eight feet in height. On the south side of the unit, a 6-inch concrete curb is present at the Roll-Off Container Storage Area. On the west side of the unit a 3-inch roll curb is installed at the Roll-Off Container Storage Area. The structures are constructed in a manner that they are sufficiently above the surrounding grade to prevent run-on/run-off at the unit. Additional detail concerning the construction of the curbs is provided in Appendix D-D. Any accumulated liquids are removed from the contained area within one operating day of discovery.

Dock and Van Container Storage Area (DVSA) – The DVSA secondary containment volume is sufficient to contain precipitation from a 25-year/24-hour storm event including any run-on into the unit which was based on land surveying conducted to determine the drainage area in the vicinity of the DVSA. Run-off from the unit is prevented as the DVSA is a sloped unit that drains into a blind trench. Appendix D-E provides additional information concerning estimated run-on at the unit. Accumulated precipitation or other liquids found in the containment are removed within one operating day of discovery.

East Container Storage Area – Run-on/run-off is prevented in the East Container Storage Area by curbing that is approximately 5.5 inches above the surrounding grade to prevent both run-on and run-off from the unit. In addition, the East Container Storage Area is also equipped with a canopy to minimize precipitation in the unit and prevent the accumulation of precipitation that could contribute to run-off. Accumulated liquids found in the containment are removed within one operating day of discovery.

Depack Area – The Depack Area is located inside a building with a roof and doors to prevent precipitation and run-off from the unit. The finished floor of the unit is above natural grade, and the unit is accessed by a concrete ramp which mitigates the potential for run-on at the unit. Storage of hazardous waste in the depack area is conducted in Portable Secondary Containment Pallets. These manufactured devices are typically constructed with sides of sufficient height to prevent contact from run-on/run-off at the unit. Accumulated liquids found in the containment are removed within one operating day of discovery. Appendix D-I provides technical information for typical secondary containment pallets.

Bulk Loading Area (Tanker and Rail) - The Bulk Loading Area (Tanker and Rail) secondary containment volume is sufficient to contain precipitation from a 25-year/24-hour storm event including any run-on into the unit which was based on land surveying conducted to determine the drainage area in the vicinity of the adjacent DVSA. Appendix D-E provides additional information. Metal grates over the sump minimize run-on into the sump. To the west of the rail spur, there is an 18-inch-high wall to minimize run-on into the unit. Where there is a gap in the wall and grating over additional containment for the rail area, that grating is raised, preventing run-on into the unit from the dock area. To the south of the rail spur, there is an end-loading dock for railcars. This dock is raised and sloped away from the rail area, preventing run-on or run-off. The tanker truck bay is sloped from the south and from the north toward the sump to minimize run-off from the area. To the east of the tanker truck bay, the unit is bordered by walls. Therefore, there is no run-on or run-off at the east side of the unit. Accumulated liquids found in the containment sump are removed within one day of discovery.

800 Area Container Storage – The 800 Container Storage Area is located inside a building with roof and doors to prevent precipitation and significantly limit the potential for run-off or accumulated precipitation that could contribute to run-off.

Storage of hazardous waste in the 800 Area Container Storage unit is conducted in Portable Secondary Containment devices. These manufactured devices are typically constructed with sides of sufficient height to prevent contact with hazardous waste from potential run-on/run-off. Accumulated liquids found in the containment are removed within one operating day of discovery. Appendix D-I provides technical information for typical secondary containment pallets.

Containers such as roll-offs are covered (closed) during precipitation events and at other times except during consolidation or bulking operations. Bulking into railcars or tank trucks outdoors will cease and the dome lids will be closed during rain events.

Any accumulated liquids found in secondary containment structures are removed within one operating day of discovery.

2.3. Description of Containers

Containers utilized at the facility are new, reused, or reconditioned containers including bulk railcars that meet applicable Department of Transportation (DOT) specifications or acceptable non-USDOT containers that are compatible with the waste and have the necessary physical and mechanical properties to ensure they suffer no damage during transportation, stacking, handling, and accidental falls.

HM-181 identifies the performance-oriented packaging that must be used for transportation of hazardous materials. HM-181 amends the regulations in 49 CFR 173.000, which provide specific information relative to the definition of hazard class, packing group assignment, general packaging requirements, and packing authorizations. Those regulations within HM-181/49 CFR 173.000, which pertain specifically to performance-oriented packaging, will be followed and incorporated.

2.3.1. Labeling

Each non-bulk container of hazardous waste must be properly labeled. Each non-bulk hazardous waste container received from an off-site facility must carry a hazardous waste label, label with date for land disposal restriction storage (if necessary), and a Heritage unique label that is generated either manually or electronically. Tanker trucks and railcars in storage must carry a hazardous waste label.

Non-bulk containers of hazardous wastes generated by Heritage shall carry a hazardous waste label and a Heritage unique label. Tanker trucks and railcars of hazardous wastes generated by Heritage that are placed in storage shall carry a hazardous waste label. All containers shall be labeled appropriately according to current DOT regulations before shipping to an off-site treatment or disposal facility.

2.3.2. Compatibility of Waste with Containers

(i) It is the responsibility of the generator of the waste to ensure compatibility of the waste material with the shipping container and liner.

If upon receipt (into the Heritage facility), it is determined that a container is incompatible with the waste and the integrity of the container is impaired, Heritage may return it to the generator after repackaging. It may be accepted for storage after repackaging into an appropriate container.

Once accepted by Heritage, it is the responsibility of Heritage to ensure the compatibility of the containers with the wastes and to maintain the integrity of the containers.

If a container is of questionable integrity or incompatible with the materials stored, the wastes must be immediately transferred to a container with a compatible construction material and/or liner/coating.

(ii) Materials generated by Heritage are compatible with the material of construction of the containers used and do not require containers that are provided with liners. However, if Heritage generates a material that is not suitable for the containers generally used, Heritage must store the waste

in containers that are coated or lined with a material that is compatible with the wastes to be stored.

(iii) Heritage ensures compatibility of containerized waste within storage and handling areas.

a. Each container is visually inspected before entering any area for storage.
b. If an inspection indicates that the integrity of a container is damaged (i.e. crack, dent, hole), the contents of the container must be immediately transferred to a container constructed of a compatible material.
c. Each container storage area is inspected daily for signs of deterioration of containers, leaks, etc.

2.4. Description of Central Container Storage Area

Refer to Drawing S0581327 in Appendix D-A for reference. The Central Storage Area is located indoors and is designated for storage of containers with or without free liquids.

The container storage area is approximately 100 feet wide by 100 feet long. The storage area is sufficiently designed to store in excess of the permitted 460 55-gallon drums, or the equivalent volume (25,300 gallons). Secondary containment is provided by the trench, sump, and sloped floor, as described below. Secondary containment calculations are included in Appendix D-A.

Incompatible wastes are segregated using containment pallets. Examples of polyethylene containment pallets and compatibility data are documented in Appendix D-I. Wastes not suited to the polyethylene pallets will be stored on fluorinated polyethylene pallets or carbon steel pallets.

Compatible wastes are placed directly on the floor or on pallets for material handling ease. Storage operations are overseen or reviewed by a Professional or Supervisor (see Section H) with a minimum of one year of facility experience.

The Central Storage Area floor is constructed of poured, steel-reinforced concrete with a 10-mil polyethylene under liner. The floor is 6-inches thick and was poured without construction joints. The floor is sloped to a trench that runs down the center of the entire north/south length of the building. The trench drains to a sump at the north end of the trench. The concrete base of the containment area is sufficiently impervious to contain any potential leaks and spills until the collected material is detected and removed. The floor is coated with an appropriate chemically resistant coating (Sikaguard 62, or equivalent). Representative catalog cut sheets are included in Appendix D-H. Heritage may utilize an equivalent coating following certification that the alternative coating is suitable by a qualified Profession Engineer registered in Arizona. Heritage will inspect and maintain the coating as described in the Procedures to Prevent Hazards (Section F). Coating repairs and reapplication are based on visual inspections. The floor of the Central Container Storage Area was most recently re-coated in 2019. The current condition of the coating is good.

2.5. Description of East Container Storage Area

Refer to Drawing S0681327 in Appendix D-B for reference. The East Storage Area is located under cover and is designated for storage of containers with or without free

liquids. The container storage area is approximately 44-feet long by 25-feet wide. Inside the containment area there are four concrete pads ("interior pads"). These pads are part of the original construction and will remain. The pads partially divide the containment area into five sections. The sections are connected at the north and south ends of the containment area. The area is sufficiently designed to store 120 55-gallon drums, or the equivalent (6,600 gallons). The sections will not be assigned to a specific type of waste, but incompatible wastes will not be stored in the same area. Secondary containment is provided by the containment walls and the sloped areas as described below. Secondary containment calculations are included in Appendix D-B.

Heritage will separate incompatible wastes using containment pallets (see Figure D-G-1 in Appendix D-G for compatibility chart). Examples of containment pallets are documented in Appendix D-I. Compatible wastes will be placed directly on the floor or on pallets for material handling ease.

The East Storage Area floor is constructed of poured, steel-reinforced concrete with a 10-mil polyethylene liner. The floor is 8-inches thick. Each of the five sections is sloped toward the center of the north containment wall. The containment wall on the south is a 4-inch roll curb. The other three walls are a minimum of 1-foot high and vary with the slope of the containment floor. The concrete base of the containment area is sufficiently impervious to contain leaks and spills until the collected material is detected and removed. The floor is coated with an appropriate chemically resistant coating (Sikaguard 62, or equivalent). Representative catalog cut sheets are included in Appendix D-H. Heritage may utilize an equivalent coating following certification that the alternative coating is suitable by a qualified Profession Engineer registered in Arizona. Heritage will inspect and maintain the coating as described in the Procedures to Prevent Hazards (Section F). The current condition of the floor coating in the East Container Storage area is good.

2.6. Description of Lab Depack Area

Refer to Drawing S0681327 in Appendix D-C for reference. The Lab Depack Area is located in a building and is designated for storage of containers with or without free liquids. The Lab Depack area is approximately 31-feet long by 27-feet wide. The area is sufficiently designed to store 20 55-gallon drums, or the equivalent (1,100 gallons). Secondary containment is provided by containment pallets or lab carts. Secondary containment information is included in Appendix D-C.

The Lab Depack Area floor is constructed of poured, steel-reinforced concrete with a 10-mil polyethylene under liner. The floor is 6-inches thick. Although the concrete base of the area is not used for secondary containment, it is sufficiently impervious to leaks and spills until the material is detected and removed. Labpack containers, before unpacking, may be placed on the same containment pallets. During the Depack / Repack operations, the drums will be opened and the items removed and segregated. These items will then be consolidated or repacked for disposal at another facility. Incompatible wastes, once unpacked, will be separated using different containment pallets or lab carts.

2.7. Hazardous Roll-off Storage Area (Roll-off Area)

Refer to Drawing S1481327 in Appendix D-D for reference. The Roll-off Area is located outside as noted on the site plan. The Roll-off Storage Area is approximately 80-feet wide by 80-feet long. The storage area is sufficiently designed to store approximately

five roll-off boxes (100 cubic yards or equivalent volume in roll-offs or other DOT-approved containers) with two feet of aisle space throughout. The roll-off boxes will be DOT approved 15- to 45-cubic yard metal roll-off boxes with tarps or hard covers. Secondary containment is not required because the containers stored in the area will have no free liquids. The roll-off boxes are constructed so that they will not sit directly on the pavement. Non-roll-off box containers will be placed on pallets or elevated (e.g., on legs) so they do not sit directly on pavement.

The Roll-off Area floor is constructed of poured concrete with a 10-mil polyethylene under liner. The floor is 10-inches thick and is sufficiently impervious to leaks and spills until the material is detected and removed. Concrete block walls that are 8-feet in height surround the Roll-off Storage Area on the north and east sides. The south and west sides are constructed with concrete curbing to prevent run-on and run-off from the unit. Construction details for the curbing are provided in Appendix D-D.

In the event of ponded or accumulated precipitation on the pad, the precipitation will be removed by sweeping or using a squeegee to remove the water. The accumulated water will be transferred into an accumulation container within one operating day of discovery of the precipitation.

Containers that are susceptible to potential damage from precipitation (e.g., corrugated cardboard Gaylord boxes) that are stored in the Roll-off Area (primary location) and all other outdoor container storage areas will be covered with clear plastic sheeting (or equivalent) whenever rain is forecast. Appendix D-J provides technical information for plastic sheeting.

2.8. Dock and Van Container Storage Area (DVSA)

Refer to Drawing SI881327 in Appendix D-E for reference. The DVSA is located north of the Central Container Storage Area. The DVSA consists of a sloped approach to a dock area. The slope and a blind trench provide secondary containment for the containers stored in the DVSA. The area is approximately 100-feet long by 60-feet wide. The storage area is sufficiently designed to store 10,250 gallons on containerized hazardous waste within the unit. Secondary containment calculations are included in Appendix D-E.

The DVSA floor of the secondary containment is constructed of poured, steel-reinforced concrete with a 30-mil HDPE under liner. The floor is 8-inches thick and was poured with construction joints. The floor is sloped to provide access for trailers to five self-leveling docks. The concrete base of the secondary containment area is sufficiently impervious to contain leaks and spills until the collected material is detected and removed. The floor is coated with an appropriate chemically resistant coating (Sikaguard 62, or equivalent). Representative catalog cut sheets are included in Appendix D-H. Heritage may utilize an equivalent coating following certification that the alternative coating is suitable by a qualified Profession Engineer registered in Arizona. Heritage will inspect and maintain the coating as described in the Procedures to Prevent Hazards (Section F). The floor of the DVSA was most recently re-coated in December 2023. The current condition of the coating is excellent.

Operationally, the DVSA is primarily utilized at the facility for loading/unloading of containers by the use of forklifts, pumps, bobcats, hand drum carts, pallet jacks, or other mechanical means. Hazardous wastes will be “staged” in the DVSA during the

time between arrival and acceptance into the facility or shipment from the facility within "staging" timeframes as described in Section 7.0. There will be a maximum of five trailers at any one time at the docks with an approximate maximum of 80 55-gallon drums or drum equivalents. Aisle space will not be required while the containers are in the trailers during staging or during loading/unloading operations.

Storage of hazardous waste containers may occur at the DVSA provided that the containers are not being stored inside vans and are being stored in the secondary containment structure for the DVSA. Containers that may be stored in the area include roll-off boxes (for holding non-liquid wastes), tanker trailers (for holding bulk liquid wastes), and other containers that are stored directly on the concrete secondary containment or on secondary containment pallets placed on the concrete secondary containment in accordance with the procedures described in this Container Storage and Consolidation Plan.

2.9. Bulk Loading Area (Tanker and Rail)

Refer to drawing 140030 – Spillage Containment Volumes and documents related to the Bulk Loading Area and associated containment structure and rail in Appendix D-E for reference. This area is located east of and adjacent to the Dock and Van Storage Area at the southern end of the rail spur #2 on the southeast side of the site. Liquid bulking is conducted within the sump boundary in this area and solids are bulked upon Rail Spur No. 2 within 50 feet of the sump boundary as described in Section 4. Hazardous and nonhazardous waste liquids in drums and totes are bulked to tank trucks and to railcars and hazardous waste liquids are bulked from tanker trucks into railcars in this area. Railcars are located on the tracks, and tank trucks are either near the rails or in one of the five docks at the Dock and Van Storage Area. Liquids are bulked using pumps, hoses, and vacuum pumps, which are attended at all times when in service. Containers of hazardous waste may be loaded onto boxcars for rail shipments at this location. No incompatibles are stored and/or staged in the area at the same time.

The Bulk Loading Area (Tanker and Rail) is approximately 31 feet by 113 feet. The area consists of a concrete padded, curbed area underlain by a 23,682-gallon concrete containment sump covered with a steel grating. A containment curb located at the easternmost sump provides an additional 2,165 gallons of containment, for a total of 25,847 gallons. Any precipitation that accumulates in the containment sump or containment area is removed within one operating day. The containment area is constructed of poured steel-reinforced concrete with a 10-mil polyethylene under liner. The monolithic floor of the consolidation area is 8-inches thick and sloped to the containment sump. The walls on the east and west sides are poured 6-inches thick and are 12- and 9-inches high, respectively. The structural steel elements of the bulk loading area are protected with an epoxy coating (Macropoxy, or equivalent). The concrete base of the containment area is sufficiently impervious to contain leaks and spills until the collected material is detected and removed. The concrete base is coated with an appropriate chemically resistant coating (Sikaguard 62, or equivalent). Representative catalog cut sheets are included in Appendix D-H. Heritage may utilize an equivalent coating following certification that the alternative coating is suitable by a qualified Profession Engineer registered in Arizona. Heritage will inspect and maintain the coating as described in the Procedures to Prevent Hazards (Section F). The floor of the Bulk Loading Area (Tanker and Rail) was most recently re-coated in 2016. The current condition of the coating is good.

2.10. 800 Area Container Storage

Refer to Drawing AZC1301C0030 in Appendix D-F for reference. The 800 Area Container Storage (800 Area) is located indoors and is designated for storage of containers with or without free liquids. Drawing AZC1301C0030 provides the anticipated configuration of containers being stored in the area on secondary containment pallets. The 800 Area floor is constructed of poured, steel-reinforced concrete. The floor is estimated at 6-inches thick and has been in service with fork trucks and other heavy equipment for many years and is deemed suitable for the anticipated loads. The walls of the building are constructed predominantly of corrugated metal siding and one portion of the building is constructed of masonry brick as shown on the drawing in Appendix D-F.

The container storage area is approximately 76 feet wide by 120 feet long. The 800 Area is designed for the storage of hazardous waste containing free liquids on secondary containment pallets. Containers of hazardous waste that do not contain free liquids may be stored on the concrete floor in the area. The storage area is sufficiently designed to store in excess of the permitted 371 - 55-gallon equivalent containers of hazardous waste or the permitted capacity of 20,451 gallons. Secondary containment is provided by secondary containment pallets for hazardous waste containing free liquids.

Incompatible wastes are segregated using containment pallets. Examples of polyethylene containment pallets and compatibility data are documented in Appendix D-I. Wastes not suited to the polyethylene pallets will be stored on fluorinated polyethylene pallets or carbon steel pallets.

Compatible wastes are placed on secondary containment pallets for material handling ease. Bulking or consolidation of hazardous wastes containing free liquids may be conducted on secondary containment structures (e.g., containment pallets or modular containment floors or spill decking constructed of polyethylene, steel, or fiberglass) within the 800 Area provided the containment structure has the capacity to contain the volume of the largest container present in the area and 10% of the total volume of containers being consolidated on any single containment structure. The containment structures are compatible with the wastes managed in the 800 Area. Examples of containment pallets and spill decking are provided in Appendix D-I. Storage operations are overseen or reviewed by a Professional or Supervisor (see Section H) with a minimum of one year of facility experience.

2.11. Containment System and Storage Volume

In accordance with 40 CFR 264.175(b)(3), the free-liquid container containment systems have sufficient capacity to contain 10% of the volume of the containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquid need not be considered in this determination. Table D-I summarizes the storage and containment volumes for each area.

TABLE D-1
SUMMARY OF STORAGE VOLUMES

Location	Volume Permitted	Containment Volume
Central Container Storage Area	25,300 gallons	10,522 gallons
East Container Storage Area	6,600 gallons	919 gallons
Depack Area	1,100 gallons	Containment pallets/lab carts
Hazardous Roll-off Storage Area	100 cubic yards	Not required (solids area)
Dock and Van Container Storage Area	10,250 gallons	41,201 gallons
800 Container Storage Area	20,451 gallons	Containment pallets/spill decking
Bulk Loading Area (Tanker and Rail)	20,900 gallons	25,847 gallons

3. CONTAINER MANAGEMENT PRACTICES

3.1. Container Handling Practices

In accordance with 40 CFR 264.173(b), containers holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

3.1.1. Closed Containers

In accordance with 40 CFR 264.173(a), containers holding hazardous waste will be closed during storage, except when it is necessary to add or remove waste.

3.1.2. Transporting Containers

Containers are transported within the Heritage facility utilizing various mechanical equipment such as tractors, forklifts, bobcats, drum dollies, and lab carts at various areas in the plant. The containerized wastes may be moved to the appropriate area prior to consolidation or shipment offsite.

Employees are trained in the proper techniques for moving containers to ensure that the containers are handled in a manner that would not cause the container to rupture or leak.

3.1.3 Railcars

Railcars will be managed in accordance with standard industry practice and Heritage written Standard Operating Procedures (See Section P for latest revision of Railcar SOP), including operation of railroad tank cars and bulking of organic liquids onto rail cars. Sufficient outage as specified by the US DOT and/or the Federal Railroad Administration (FRA) at 49 CFR 173.24(b) will be maintained in railcars storing liquids.

3.2. Inspection of CSAs

As required by 40 CFR 264.174, weekly inspections of the container storage areas (CSAs) for the presence of leaking containers and the deterioration of containers and the containment system caused by corrosion or other factors must be performed. If a container holding hazardous waste is not in good condition or if it begins to leak, the waste must be over packed, transferred to a container in good condition, or consolidated into a larger container. Inspection logs are maintained in the facility operating record. Details of the CSA inspection activities are incorporated in the Procedures to Prevent Hazards (Section F).

3.3. Spills and Leaks

Heritage will respond to container leaks and spills in accordance standard industry practice and written Standard Operating Procedures (see Section P for latest revision of SOP). In accordance with 40 CFR 264.175(b)(5), spilled or leaked waste must be removed from the sump, trench, or containment unit within one operating day. Accumulated liquids will be removed upon detection by pumps, vacuums, flex hoses, or absorbents. Spill control equipment is described in the Contingency Plan (Section G). All containment areas are accessible on at least three sides as well as above. The resulting waste will be characterized using the applicable original wastestream profile(s).

3.4. Storage Practices

3.4.1. Aisle Spacing

An inspection aisle space of at least two feet is provided between storage aisles in the permitted storage areas. Where required, aisle spacing may be greater than two feet to accommodate material handling equipment.

3.4.2. Container Stacking

Containers may be stacked provided the permitted container storage area volume is not exceeded, there is sufficient containment volume, and the lower containers are able to support the load of the upper containers. An example of an acceptable management practices is the stacking of 5-gallon containers on top of 55-gallon drums or overpacks. Stacking guidelines are detailed in Table D-2.

TABLE D-2
CONTAINER STACKING GUIDELINES

Configuration	Description[1]
1	1 5-gal on 1 15-gal
2	1 5-gal on 1 20-gal
3	1 5-gal on 1 30-gal
4	1 5-gal on 1 55-gal
5	1 5-gal on an overpack
6	2 5-gal
7	3 5-gal
8	1 15-gal on 1 55-gal
9	2 15-gal
10	1 20-gal on 1 55-gal
11	1 20-gal on an overpack
12	2 20-gal
13	3 20-gal
14	1 30-gal on 1 55-gal
15	1 cy box/pallet on 1 cy box/pallet
16	4 55-gal/pallet on 4 55-ga1/pallet
17	1 cy bag/pallet on 1 cy bag/pallet

[1] Container size/volume designation is based on bar-code description.

3.4.3. Ignitable and Reactive Wastes

Ignitable and reactive wastes will be stored greater than 50 feet from the property line. All container storage areas are greater than 50 feet from the property boundary. There will be no smoking or open flames in the areas in which ignitable or reactive wastes are stored. Any work involving open flames (i.e. welding) must be accompanied by a Heritage-issued safe work permit.

3.4.4. Waste Flammable Gases

Waste flammable gases that are managed include compressed gases, compressed liquids that are gases at ambient temperature and pressure, and liquids that are stored under pressure with an inert gas (excluding aerosol

cans). Waste flammable gases will be stored in permitted container storage areas located outdoors (Rolloff Area, East Area) based on the identified primary hazards and segregated by: flammables, pyrophorics, oxidizers and toxics. Non-flammable or inert gases may be stored in these areas as well. Waste flammable compressed gases are not required to have secondary containment in accordance with 40 CFR Part 264.175(c).

The Rolloff Area is located approximately 100 feet from the property boundary and is located greater than 20 feet from adjacent buildings. The East Area is located approximately 150 feet from the property boundary and separated greater than 20 feet from the closest adjacent building.

Waste flammable gases will be stored in outdoor storage locations at the facility. These devices may be stored as follows:

- Cylinders may be stored in outer packagings (e.g., drums, boxes, pails etc.) that provide support following the container stacking guidelines in Table 1 provided that there is a minimum of 2.5 feet of aisle space.
- Cylinders that are not stored in containers will be nested using walls as supports, nested and supported by other cylinders, chained to support structures, or secured in a manner to prevent falling or rolling in conformance with industry practices.
- Compressed gas cylinders that are not in containers may be secured two abreast to the walls of the building or secured two abreast to mounting racks (which will allow for inspection of both cylinders).
- Liquids stored under pressure with an inert gas must be stored in the east container storage area or in the roll off area with secondary containment pallets.

Gases, where the primary hazards are incompatible may be stored outdoors as follows:

- At least 20 feet separating the nearest container without a barrier wall.
- Separation by a non-combustible barrier wall at least 30 inches above the tallest cylinder with a 2-hour fire resistive rating.
- Protection by shading or canopy.

Waste flammable gases will be subject to the same container management practices described in this section as other containers of hazardous waste.

3.5. Compatibility

Incompatible wastes, or incompatible wastes and materials, must not be placed in the same container, or in an unrinsed container that previously held an incompatible waste. The analyses performed in accordance with the Waste Analysis Plan (Section C), knowledge of the waste, supplemental analyses, and compatibility information from chemical literature are reviewed as necessary prior to consolidation of wastestreams into containers. A compatibility chart for storing containers is included in Appendix D-G as Figure D-G-1. This figure is to be used as a guide in storing containers of different wastes sharing the same secondary containment. Figure D-G-1 will also be used as a

guide for consolidating different wastes into the same container. Incompatible materials will not be stored in a railcar and a tanker truck simultaneously in the Bulk Loading Area. Non-labpack containers of incompatible wastes will not be stored adjacent to each other or within the same secondary containment. Non-labpack containers of incompatible wastes will be separated by means of a berm, wall, containment pallet, or other appropriate device. Labpack containers inherently exhibit secondary containment and may be stored within the same containment structure. Once the Labpack containers have been unpacked, incompatible wastes will not be stored on the same lab cart.

Hazardous wastes will not be placed in an unrinsed container that previously held an incompatible waste or material. The waste must be placed in a container that is constructed of materials compatible with the waste to be stored.

3.6. Container Tracking System

3.6.1. Container Labeling

Containerized wastes stored within the permitted CSAs will have the following information affixed, where applicable:

Hazardous, non-hazardous waste, or other similar label,
An internal tracking label (e.g., barcode), except for railcars and tanker trucks,
A Land Ban date for storage purposes.

This information will typically be found on adhesive labels affixed to the container, although paints or other marking devices may be used.

Lab packs will have a packing list affixed to the outside container that indicates the contents of the lab pack.

Containers of hazardous waste shipped off-site are marked and labeled in accordance with DOT regulations and are manifested in accordance with Federal and State regulations.

3.6.2. Electronic Tracking System

Containers of hazardous waste entering the Heritage facility and the container storage areas are tracked through the entire storage, staging, consolidation, and/or off-site disposal process. This is accomplished using an electronic tracking and information system. If the electronic system is inoperable, the containers of hazardous waste will be tracked using manual record keeping methods.

Pertinent information is recorded in the facility operating record for each container of hazardous waste. This information includes certain items that are not required by regulations. Such items may be eliminated at Heritage's discretion. The following is a list of information items in the Heritage Electronic Tracking System:

1. Heritage-Assigned Container Number
2. Heritage Shipment-Specific Document Numbers
3. Heritage Generator Identification Number
4. Heritage Generator Wastestream Number
5. Uniform Hazardous Waste Manifest Number (Incoming)

6. Hazardous Waste Codes (may not be all inclusive on container tracking documents; all codes are included on TSD manifests)
7. Date of Acceptance
8. Sample Date
9. Process Date
10. Type of Container
11. Size/Volume or Weight of Container
12. Free Liquids Present? Yes or No (if applicable to storage conditions)
13. Container Storage Area

3.7. Determination of Free Liquids in Container

Containerized wastes that are represented as containing no free liquids based on the information contained in the Heritage Wastestream Survey or that appear to contain no free liquids based on a visual inspection may be sampled to verify that, in fact, no free liquids are present. The test method used for determination of free liquids in a container is the Paint Filter Test (SW-846 9095) as noted in Appendix A of the Waste Analysis Plan (Section C). The sampling and analysis are conducted in accordance with the procedures discussed in the Waste Analysis Plan (Section C).

4. CONSOLIDATION OPERATIONS

Heritage consolidates both liquid and solid hazardous wastes into DOT-approved containers including but not limited to tanker trucks, roll-off boxes, dump trailers, railcars (both tanker and gondola type), and larger containers (i.e., tote tanks or drums). Consolidation operations are performed under the supervision of a qualified professional and the Environmental Compliance manager. All material transfer operations are attended by personnel trained in proper material transfer practices and response to spills in accordance with the Personnel Training Program (Section H) and the Contingency Plan (Section G). Personnel approved to attend materials transfer include those trained as a Professional, Supervisor, or Hazardous Waste Technician.

Heritage conducts consolidation and/or bulking activities for non-free liquid wastes in the Roll-off Area, the Central Container Storage Area, the Dock and Van Storage Area (DVSA), the 800 Area Container Storage, the Lab Depack Area, the Bulk Loading Area (Tanker and Rail) and the East Container Storage Area.

Heritage conducts consolidation and/or bulking activities for hazardous waste containing free liquids within the Bulk Loading Area (Tanker and Rail), the Dock and Van Storage Area, the East Container Storage Area, the Central Container Storage Area, the 800 Area Container Storage, and the Lab Depack Area

Filter cake solids are blended into roll-offs in the Roll-off Area, typically for off-site metals reclamation (see Section 5). Wastes are bulked into tanker trucks and railcars, including Fuel Blending (see Section 6), at the Bulk Loading Area (Tanker and Rail). Liquid wastes are bulked into railcars over the secondary containment system using a stationary pump at the pumping station. Solid wastes are consolidated into railcars either over the sump or north of the Bulk Loading Area, in areas covered with concrete. Liquid wastes are bulked into tanker trucks in the Bulk Loading Area or the DVSA using the pump on the tanker truck or a stationary pump at the pumping station.

As part of consolidation operations, phase separation may also be performed where solids are separated from liquids, liquids are separated from liquids, or solids are separated from solids. Phase Separation–Liquid and Phase Separation–Solid refer to the process of emptying a container of liquid by pouring, with a minimal amount of solids remaining in the container. Container contents are poured during consolidation operations manually (typically 5-gallon containers and smaller) or with the use of a forklift drum-tipper attachment. Phase separation can occur in any size container, but, when present, most commonly occurs in 55-gallon drums.

Table D-3 summarizes consolidation operations at the facility. Waste consolidation is a process performed to transfer liquids from small containers into larger containers. This process occurs in a variety of different ways and consists of the following at the Heritage facility:

1. Transferring containers from one container to another without removing the waste from the container. An example of this is the transfer of aerosol cans from a 5-gallon pail to a 55-gallon container, moving an organic liquid in a lab pack into a larger lab pack, or transferring one-gallon cans of paint into a larger receptacle.

2. Transferring the contents of small containers into a large container by pouring the organic liquids into the large container. The process consists of opening of the

smaller receptacle and transferring the contents into a larger container. An example of this would be the transfer of one-gallon containers of flammable liquids into a 55-gallon container.

3. Transferring the contents of containers typically 55-gallons or higher in volume into a tanker trailer or railcar. This process involves the transfer of the materials by pumping from the smaller container into the larger container.

The location(s) where waste consolidation may be performed is within the permitted container storage areas where secondary containment is present (including use of secondary containment pallets or spill decking, see Appendix D1 for reference) or in an area such as the dock provided that secondary containment pallets or spill decking is used for the containers holding the consolidated materials. The dock area is an area that is constructed of coated concrete, and the containment pallets or spill decking provides adequate containment for leaks or spills.

Containers being consolidated at the Bulk Loading Area into tankers or railcars would be moved to the area at the time of bulking and would not remain in the Bulk Loading Area for longer than the end of the work day in accordance with Section 7.3. If the facility is unable to empty a container, the container will be returned to an indoor permitted storage area at the end of the operating day.

Depending on the consolidation being performed, the equipment that may be used could include the following:

- Personal protective equipment intended to prevent direct contact with the waste depending on the transfer that is being performed
- Equipment to perform waste compatibility testing when removing the contents of the containers and transferring into a larger container
- Equipment necessary to physically move the containers depending on their weight or volume (e.g., fork trucks, drum dollies, etc.)
- A suitable pump, submerged remove/fill wands, hoses, catch pans, and similar equipment
- Grounding/bonding equipment for transferring containers (e.g., 55-gallon volume and higher into a tanker or railcar) when appropriate for the material being pumped.

Worker protection will consist of eye protection (safety glasses, goggles etc.), foot protection, dermal protection (aprons, suits, uniforms, etc.), and breathing protection (e.g., air purifying respirators) selected for the task being performed as part of the consolidation process.

The facility has spill response equipment, fire protection equipment, containment devices, and other equipment necessary to accomplish the task.

As described in the Waste Analysis Plan, Heritage has a comprehensive process that starts with waste approval to ensure that incoming wastes are appropriate for consolidation. Each waste stream is evaluated in accordance with the Waste Analysis Plan based on information compiled prior to approving the waste at the facility. The wastestream is assigned to a waste management system which designates to facility employees where the materials need to be managed. The wastestream approval process considers the regulatory requirements (e.g., PCB's, dilution prohibition, etc.), the physical aspects of the material, the chemical aspects of

the materials, and potential for incompatibility (e.g., organic peroxides), or potential for reactions detrimental to the consolidation process (e.g., polymerization, solidification). Wastes are not managed in the process unless they are greater than a pH of 2.5.

Prior to consolidating at the facility, Heritage verifies compatibility by conducting a real-time evaluation of the materials being consolidated as described in the Waste Analysis Plan depending on the type of consolidation being performed (see Appendix A of the Waste Analysis Plan which provides compatibility procedures depending on the type of consolidation). Other than incidental mixing of the materials when the container is being filled, mixing is not being performed in the process.

During consolidation activities, it may be necessary to place the liquid portion of a drum in one consolidation container and the solid portion in another consolidation container. The wastes will be consolidated by pumping, pouring, dumping, or scooping the waste into two separate containers. Liquid-liquid consolidations will be preceded by compatibility tests. Solid-solid consolidations will be preceded by first consulting the compatibility chart and then by performing a solid-to-solid compatibility test, if needed. Compatibility testing shall be performed in the plant laboratory.

The wastes will be tracked into both consolidation containers by Heritage's container tracking system. Heritage will use a combination of the following procedures to ensure compatibility; the procedures are included in the Waste Analysis Plan (Section C).

- RECEIVING UNIT COMPATIBILITY TEST – LIQUIDS
- CONSOLIDATION COMPATIBILITY DETERMINATION – SOLIDS AND LABPACKS

TABLE D-3
SUMMARY OF CONTAINER CONSOLIDATION ACTIVITIES

Location	Type of Container Activity
Central Container Storage Area	Packaging and Repackaging of Containers Consolidation of Containers Overpacking of Containers Phase Separation
East Container Storage Area	Packaging and Repackaging of Containers Consolidation of Containers Overpacking of Containers Phase Separation
Laboratory Depack Area	Packaging and Repackaging of Containers Consolidation of Containers Overpacking of Containers Phase Separation
800 Area Container Storage	Loading and Unloading of Containers from or to Transportation Equipment Packaging and Repackaging of Containers Consolidation of Containers Overpacking of Containers Phase Separation
Hazardous Roll-off Storage Area	Loading and Unloading of Containers from or to Transportation Equipment Packaging and Repackaging of Containers Consolidation of Containers Blending of Solids (Filter Cakes) and Addition of Inert Material (if necessary) Overpacking of Containers Phase Separation
Dock and Van Container Storage Area	Loading and Unloading of Containers from or to Transportation Equipment Packaging and Repackaging of Containers Consolidation of Containers Overpacking of Containers Phase Separation
Bulk Loading Area (Tanker and Rail)	Loading and Unloading of Containers from or to Transportation Equipment Packaging and Repackaging of Containers Consolidation of Containers, including Fuel Blending Overpacking of Containers Phase Separation

Notes:
1) Packaging and Repackaging includes but is not limited to transfer from one container to another, placement of waste into a container, transfer to the same type of container, transfer to a different type of container, or similar activity.
2) Consolidation is the process of transferring waste from a smaller container to a larger

container in a manner that allows easier transport.

3) Blending is the process of combining similar wastes (e.g., filter cakes, organic liquids with suitable fuel/BTU value), typically from smaller containers into one larger container.
4) Overpacking is the process of placing a smaller container inside a larger container.
5) Loading and unloading is the operation that transfers waste to or from equipment that is used for the waste transport.
6) Container activities in the Hazardous Roll-off Storage Area do not include containers with free liquids.
7) Movement of containers at the facility may be performed in any part of the facility.
8) Consolidation, bulking, or phase separation of hazardous waste containing free liquids in the 800 Area will be conducted on secondary containment structures (e.g., containment pallets or spill decking).

5. SOLIDS (FILTER CAKE) BLENDING OPERATIONS

The consolidation of copper-containing filter cakes, typically for off-site metals reclamation, is performed in 10- or 20-cubic yard rolloff boxes in approximately 10- or 20-cubic yard batches in the Rolloff Container Storage Area. The filter cakes are dumped from 1-cubic yard containers into the consolidation rolloff using a bobcat or are scooped from a rolloff and then transferred to the consolidation rolloff using the bucket of a backhoe. Inert materials (diatomaceous earth or silica pellets, added to absorb the moisture content to meet the specification of the reclamation facility), if necessary, are dumped from 1-cubic yard containers (typically supersacks) using a bobcat or are scooped from a rolloff box and transferred to the consolidation rolloff using the bucket of a backhoe. The "product" in the consolidation rolloff is mixed with the bucket of the backhoe until uniform consistency is achieved; typical mixing time is about 15 to 20 minutes. On average, no more than 1 cubic yard of inert material (diatomaceous earth or silica pellets) is added per batch. As part of solids (filter cake) blending operations, phase separation may also be performed where solids are separated from solids. Table D-3 summarizes consolidation operations at the facility.

Paint filter liquids testing is conducted at the time of acceptance for wastestreams managed in the solids (filter cake) blending program, as described in the Waste Analysis Plan (Section C). In addition, wastestreams intended for solids (filter cake) blending are screened for VOCs and cyanide prior to consolidation (see Section C). Cyanide results are typically obtained during the wastestream approval process.

Solids (filter cake) blending operations are performed under the supervision of a Professional or a Supervisor (see Section H) with at least one year of experience at the facility. All solids (filter cake) blending is conducted in accordance with the compatibility requirements detailed in the Waste Analysis Plan (Section C). Material transfer operations are attended by personnel trained in proper material transfer practices and response to spills in accordance with the Personnel Training Program (Section H) and the Contingency Plan (Section G). Personnel approved to attend materials transfer include those trained as a Professional, Supervisor, or Hazardous Waste Technician.

Solid-solid consolidations will be preceded by first consulting the compatibility chart and then by performing a solid-to-solid compatibility test, if needed. The wastes will be tracked into consolidation containers by Heritage's container tracking system. Heritage will use the following procedures to ensure compatibility; the procedures are included in the Waste Analysis Plan (Section C).

- CONSOLIDATION COMPATIBILITY DETERMINATION – SOLIDS AND LABPACKS

6. LAB DEPACK OPERATIONS

The following summarizes the standard operating procedures for the bulking of lab depack wastes, which is performed only under the supervision of a qualified individual (e.g., a Field Chemist with at least one year of facility experience): Confirm that the secondary containment area is free of obstruction, with adequate space to work safely. Suit up in safety apparel (personal protective equipment) appropriate for the materials being depacked and bulked (i.e., “poured off”). Place a clean 55-gallon metal drum in the secondary containment area and inspect for dents and/or holes. Obtain a consolidation container number and label the container with the proper DOT label (one on the side of drum and one on the lid) and hazardous waste label (on the side of drum). Identify materials to be bulked, being certain of hazard class compatibility. Use a compatibility beaker with thermometer to observe for reactions and/or incompatibility. Pour a small amount of material into the beaker prior to bulking into the consolidation container, allowing adequate time to ensure that there is no reaction. If any change occurs within the beaker, immediately stop and reevaluate the material’s compatibility and consider an alternative method of management. If the compatibility beaker remains within the parameters for safe management (i.e. not hardened, etc.) continue compatibility testing in beaker. Fill the consolidation container to approximately 75% of capacity. Place a lid with a gasket on the drum and tighten the rings and bungs. Decontaminate the exterior of the drum and place all materials used for decontamination into a fiber pack for proper disposal. Mark the hazardous waste label with all of the EPA hazard codes applicable to the material bulked into the container. Use a container cart to move the consolidation drum into the proper storage area.

7. CONTAINER STAGING

This section describes the management of containers that are considered to be staged at the facility which can generally be described as the processes that are necessary to operate the facility through the movement and processing of containers entering the facility, leaving the facility, or being transferred within the facility for processing or storage.

An operating day is a day when the facility is in operation and facility personnel are conducting normal waste management activities at the facility associated with treatment and storage of hazardous waste at the facility. Operating days do not include company recognized holidays, Saturday, and Sunday unless normal waste management activities are being conducted at the facility. Hazardous waste present at the facility that is part of the inbound or outbound container staging management activities will follow DOT segregation practices, compatibility requirements for the transportation of hazardous materials, and placarding of the bulk container as part of the transportation functions. Consistent with normal shipping practices, aisle space will not be required on trailers that are within the inbound and outbound staging timeframes.

7.1. Inbound Container Staging

Heritage will stage inbound containerized hazardous waste (hazardous waste where Heritage Environmental Services, LLC is the Designated Facility on the manifest) at the DVSA, on concrete parking areas at the facility, or in permitted storage units. Incoming hazardous waste containers will be placed in permitted storage areas within 3 operating days of entering the facility boundary unless Heritage rejects all or part of the shipment prior to acceptance. In the case of rejected loads, Heritage shall have an additional 60 days to ship the hazardous waste off-site to an alternate TSDF or to the generator, in accordance with the requirements of 40 CFR Part 264.72. During this timeframe, Heritage will ensure that the rejected hazardous waste is maintained in a secure location (including permitted storage) and clearly identified.

The Bulk Loading Area (Tanker and Rail) is a permitted storage area and also serves as an environmentally protective loading and unloading area that is necessary for receiving and shipping waste from the facility. At the Bulk Loading Area (Tanker and Rail), permitted storage related to the maximum allowable capacity for inbound shipments will commence after a railcar or tanker truck is present in the Bulk Loading Area (Tanker and Rail) for 3 operating days. All other permit conditions shall be met upon arrival. Smaller containers (e.g., totes, drums, etc.) shall comply with the permit immediately upon arrival in the Bulk Loading Area (Tanker and Rail).

The Bulk Loading Area (Tanker and Rail) is permitted for the storage of 20,900 gallons in containers. Hazardous waste being stored will not exceed 20,900 gallons. It is possible that the actual volume within the unit exceeds 20,900 gallons as a result of the loading and unloading processes. For example, a tanker truck is received at the facility and parked in the Bulk Loading Area (Tanker and Rail). The tanker may be present in the area for 3 operating days or less, and the volume of the tanker would not be used for comparing to the permitted capacity of the unit. After 3 operating days, the tanker would be considered “in storage,” and the volume would be counted toward the permitted capacity for the unit. If the tanker is unloaded into another container (e.g., a railcar), shipped, or moved to another permitted unit within 3 operating days, the volume of the tanker would not be counted toward the permitted storage volume of the Bulk Loading Area (Tanker and Rail) unit. Facility operating records would be used to determine the 3 operating days for the tanker, and the 3-day allowable time

limit would only apply once for a particular tanker truck or railcar that enters the facility. If a tanker truck must be moved back into the Bulk Loading Area (Tanker and Rail) to complete the waste transfer, then it may not remain in the unit past the close of the business day.

For tracking the volume stored in the Bulk Loading Area (Tanker and Rail) to ensure it meets the capacity requirements, Heritage will use the Inventory Management System for all containers. For managing the volumes in the railcars and tanker trucks, Heritage scans the smaller containers (e.g., drums, etc.) to determine how many may be assigned to a railcar or tanker truck. The volume of the waste in the railcars and tanker trucks is monitored in accordance with US DOT and/or the Federal Railroad Administration (FRA) at 49 CFR 173.24(b) (e.g., gauging stick based on the railcar or tanker type, etc.).

7.2. Outbound Container Staging

Hazardous waste being loaded onto van trailers in the DVSA staging area for shipment outbound must be shipped off the TSD facility property within 3 operating days of initiating loading of the van trailers. Tankers and waste in containers that are not stored on vans may be stored at the DVSA up to 10,250 gallons following the container storage practices. This amount is exclusive to the volume of containers that may be on vans in the DVSA.

The Bulk Loading Area (Tanker and Rail) is a permitted storage area that serves a dual purpose as an environmentally protective loading and unloading area that is necessary for efficiently shipping waste from the facility. The facility is equipped with adequate secondary containment for managing bulk liquids. The Bulk Loading Area (Tanker and Rail) is permitted for the storage of 20,900 gallons in containers (e.g., railcars, tanker trucks, totes, drums, etc.). Hazardous waste being stored will not exceed 20,900 gallons. It is possible that the actual volume within the unit exceeds 20,900 gallons as a result of loading processes which could occur over three operating days. For example, at the Bulk Loading Area (Tanker and Rail), the outbound shipment process for a railcar (i.e., railcar loading completed, order for pick-up placed with rail road company, and railcar moved off TSD facility property and onto rail siding outside the perimeter fence) will be completed within 3 operating days after the volume in the container storage area exceeds 20,900 gallons. Outbound railcars will be staged within the TSD perimeter fence until picked up by the railroad. The exception would be where the railroad is scheduled to pick up the railcar after normal operating hours. The outbound loading process for tanker trucks also will be completed and shipped off of the property from the area within 3 operating days after the 20,900-gallon permit limit is reached. In the event that a loading process is delayed after achieving the 20,900-gallon permit limit, the facility may transfer tanker trucks to other permitted units for storage within 3 operating days of exceeding the 20,900-gallon permitted capacity. Smaller containers (e.g., drums, totes, etc.) will be transferred to other permitted storage units at the end of each day. Facility operating records would be used to determine the 3 operating days after exceeding the 20,900-gallon permitted capacity, and the 3-day allowable time limit would apply only once for a particular tanker truck or railcar that enters the facility. If a tanker truck must be moved back into the Bulk Loading Area (Tanker and Rail) unit to complete the transfer, then it may not remain in the unit past the close of the business day.

7.3. Intrafacility Transfer and Staging of Containers

Containerized hazardous waste that has been accepted by the facility (i.e., intrafacility transfer of hazardous waste) being transferred from one permitted unit to another, being prepared for transportation, being consolidated or bulked into a larger container (e.g., roll-off box, tanker, etc.), undergoing the pre-acceptance activities, or other similar function may

remain outside of a permitted unit for the time necessary to move containers, prepare packaging, transfer the hazardous waste, or other similar function. The intrafacility transfer period must not exceed a timeframe longer than one shift (including overtime) or for any period of time when facility personnel are not present at the facility, unless the containers are associated with Inbound or Outbound Container Staging activities.

7.4. Exceptions

If an inbound or outbound container staging limitation is exceeded due to unforeseen circumstances due to equipment failure, logistical problems, human error, or similar unforeseen circumstance, Heritage will note an exception in the operating record with the reason for exceeding the staging time limitation. Exceptions will be noted in facility records along with the manifest tracking records maintained by the facility.

APPENDIX D – A

Central Storage Area Secondary Containment Calculations

Building interior dimensions: Overall length 98.5'
Overall width 98'
Trench interior width 1'
Trench interior length 98.5'
Trench depth 1' sloping to 2' at sump
Sump located adjacent to trench at north end of trench
Sump dimensions 3' x 3'x 2'
Elevation at wall 100'
Elevation at top of trench 99'8"
Centerline of trench to east interior wall 46'9"
Centerline of trench to west interior wall 51'3"
Roof support piers maximum 3' diameter (total of 5 piers)
Building wall supports maximum 3' x 3' (total of 17 supports)
Room in northwest corner 14'8" x 15'4" (use 15' x 15.5')

Drum dimensions: Diameter 2'
Number of drums stored in building: 460 55-gallon drums (25,300 gallons)

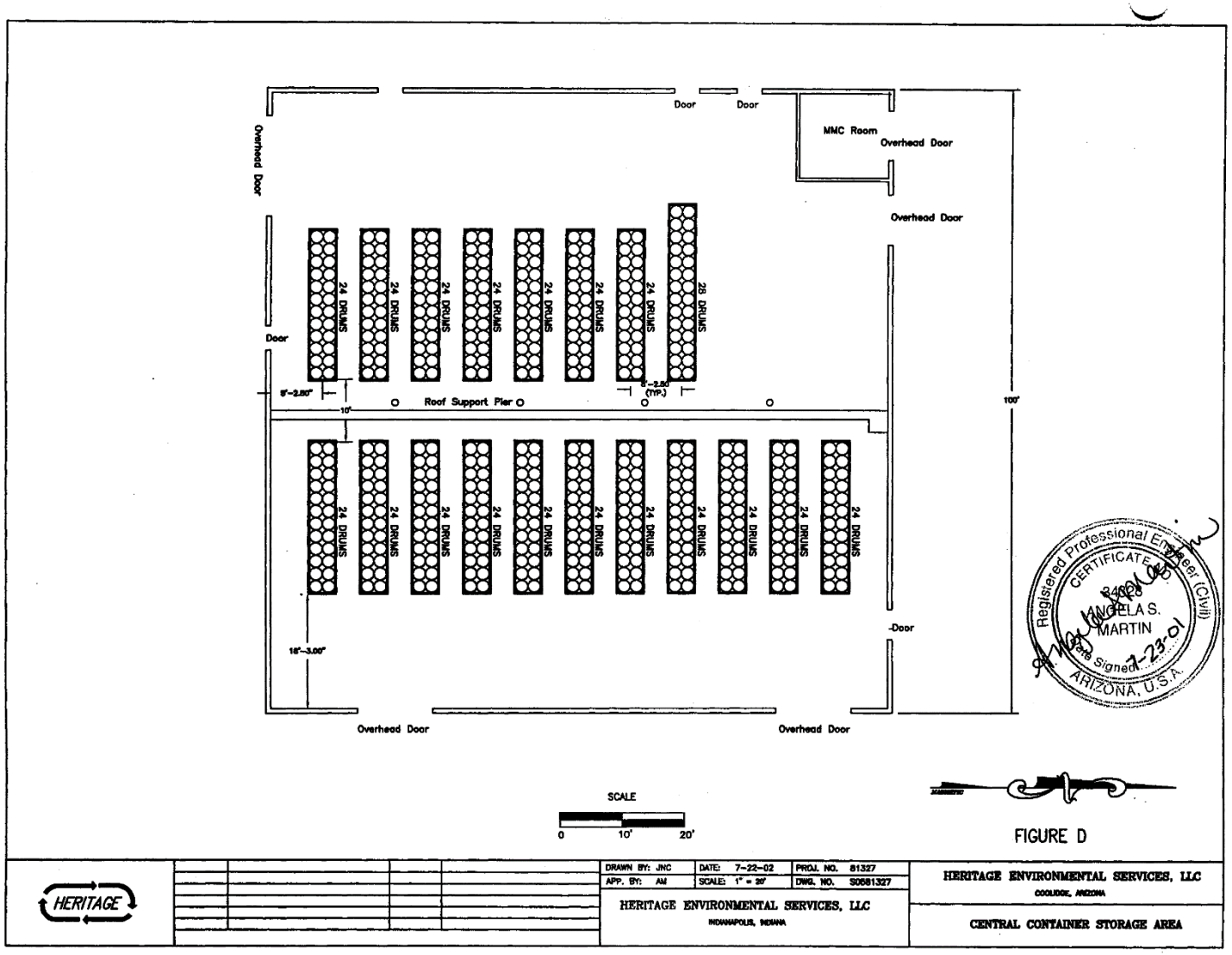
Total volume in Central Container Storage Area 39,380 gallons

Total containment volume = volume on east side + volume on west side + volume of trench + volume of sump – volume of piers – volume of supports – volume of drums on floor – volume of room

Volume on east side	½ b x h x w, where b = 46'9", h = 4", w = 98.5' (0.5)* 46.75'*0.33'*98.5' = 759.8 cf
Volume on west side	½ b x h x w, where b = 51'3", h = 4", w = 98.5' (0.5)* 51.25'*0.33'*98.5' = 832.9 cf
Volume of trench	volume of rectangular top + volume of triangular bottom (h x w x l) + (1/2 b x h x w), where h=1', w=1', l=98.5', b=98.5' (1'*1'*98.5') + (.5*98.5'*1'*1') = 147.8 cf
Volume of sump	h x w x l, where h=2', w=3', l=3' 2'*3'*3'=18 cf
Volume of piers	Π*r^2*h, where r=1.5', h=4" (Π*1.5'^{2}*0.33')=2.33 cf for 5 piers, 11.7 cf
Volume of supports	h x w x l, where h=2"(avg ht liquid on entire floor), w=3', l=3' 0.17'*3'*3'=1.53 cf for 17 supports, 26.1 cf
Volume of drums on floor	Π*r^2*h, where r=1', h=2.4"(avg ht liquid in area of drums) (Π*1'^{2}*0.2')=0.63 cf for 460 drums, 290 cf
Volume of room	h x w x l, where h=1.24" (east side of room), w=15.5', l=15' 0.1'*15.5'*15'=24 cf

Total containment volume = 759.8 cf + 832.9 cf + 147.8 cf + 18 cf – 11.7 cf – 26.1 cf – 290 cf – 24 cf = 1,407 cf @ 7.48 gallons/cf containment volume = 10,522 gallons

Required volume is 10% of drum volume stored or, in this case 2,530 gallons. The Central Container Storage Area has sufficient containment capacity and meets the requirements of 40 CFR 264.175.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MMC Room
Overhead Door
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100'
Door
16'-3.00"
Overhead Door
Overhead Door
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Date Signed 7-23-01
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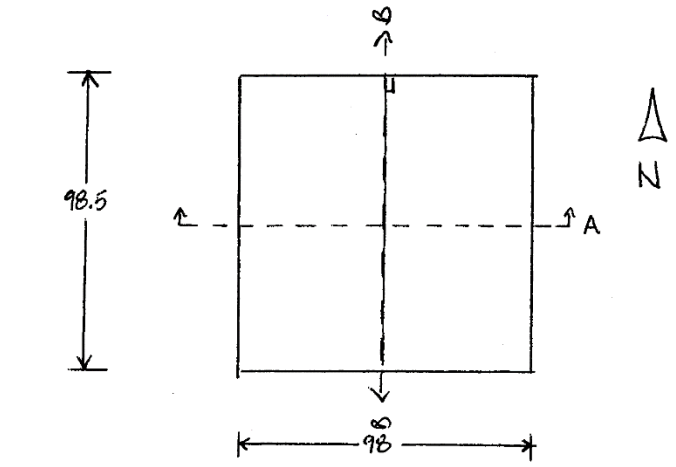
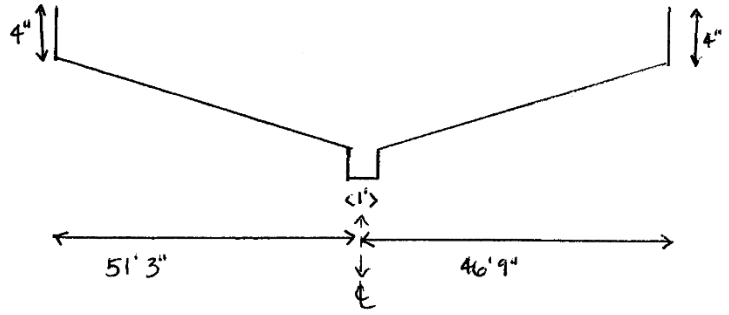
HERITAGE ENVIRONMENTAL SERVICES, LLC
INDIANAPOLIS, INDIANA
HERITAGE ENVIRONMENTAL SERVICES, LLC
COOLIDGE, ARIZONA
CENTRAL CONTAINER STORAGE AREA

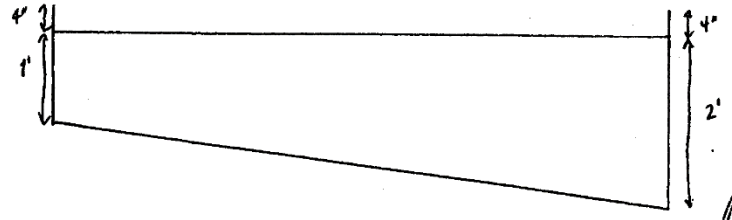
Central Container Storage Area | ASM 8-10-01



Section AA NTS



SECTION BB NTS



APPENDIX D – B

East Container Storage Area Secondary Containment Calculations

General Description: Containment area contains 4 interior pads. Each pad is a different thickness, but of the same length and width. The pads partially segregate the containment area into 5 sections. The sections are connected on the north and south ends. Each section is sloped toward the center of the north containment wall.

Area interior dimensions:
Overall length of area 41'4"
Overall width of area 32'4"
Interior pad width 2'
Interior pad length 29'2"
Inside containment area from west to east,
- Interior pad 1 avg height 4.75" or 0.40'
- Interior pad 2 avg height 4.63" or 0.39'
- Interior pad 3 avg height 4.25" or 0.35'
- Interior pad 4 avg height 3.5" or 0.29'
- Slope section A (between west wall & pad 1) 1% or 0.34'
- Slope section B (between pad 1 & pad 2) 1.5% or 0.52'
- Slope section C (between pad 2 & pad 3) 2% or 0.69'
- Slope section D (between pad 3 & pad 4) 1.5% or 0.52'
- Slope section E (between east wall & pad 4) 1% or 0.34'

Elevation at wall 101
Elevation at slab (floor) 100 (highest point – south wall)
Height of curb (south wall) 4" (all other walls 1^{+} feet)
Roof support maximum 2'X3' (total of 4 supports)

Drum dimensions: Diameter 2'

Number of drums stored area: 120 55-gallon drums (6,600 gallons)
drums per section - 24

Pallet dimensions: 46" x 48" 4 drums per pallet; 6 pallets per section

Pallet construction:
Bottom: ½" x 6" x 46" (2 boards total)
½" x 3 ½" x 46" (3 boards total)
Middle: 2" x 4" high x 48" (3 boards total)
Top: ½" x 48" x 46" x 80% (contains 20% open area)

Total containment volume = volume of flat area + volume of sloped area - volume of interior pads – volume of roof supports –volume of pallets – volume of drums

Volume on flat area: l x h x w, where l = 41'4", h = 4", w = 32'4"
41.33'*0.33'*32.33' = 74 cf

Volume of sloped area: ½ b x h x w, for each section where
Section A: b=34.33', h=0.34', w=6.17'
0.5*34.33'*0.34'*6.17'=36 cf
Section B: b=34.33', h=0.52', w=7.0'
0.5*34.33'*0.52'*7.0'=62.48 cf
Section C: b=34.33', h=0.69', w=7.0'
0.5*34.33'*0.69'*7.0'=82.91 cf
Section D: b=34.33', h=0.52', w=7.0'
0.5*34.33'*0.52'*7.0'=62.48 cf

Section E: b=34.33', h=0.34', w=6.17'
0.5*34.33'*0.34'*6.17'=36 cf
Total volume of sloped area = A+B+C+D+E=279.87cf

Volume on interior pads: l x h x w, for each pad where l = 29.17', w = 2' and for
Pad 1: h=0.40'; 29.17'*0.4'*2' = 23.3 cf
Pad 2: h=0.39'; 29.17'*0.39'*2'= 22.75 cf
Pad 3: h=0.35'; 29.17'*0.35'*2'= 20.42 cf
Pad 4: h=0.29'; 29.17'*0.29'*2'= 16.92 cf
Total volume of interior pads = P1+P2+P3+P4=83.39 cf

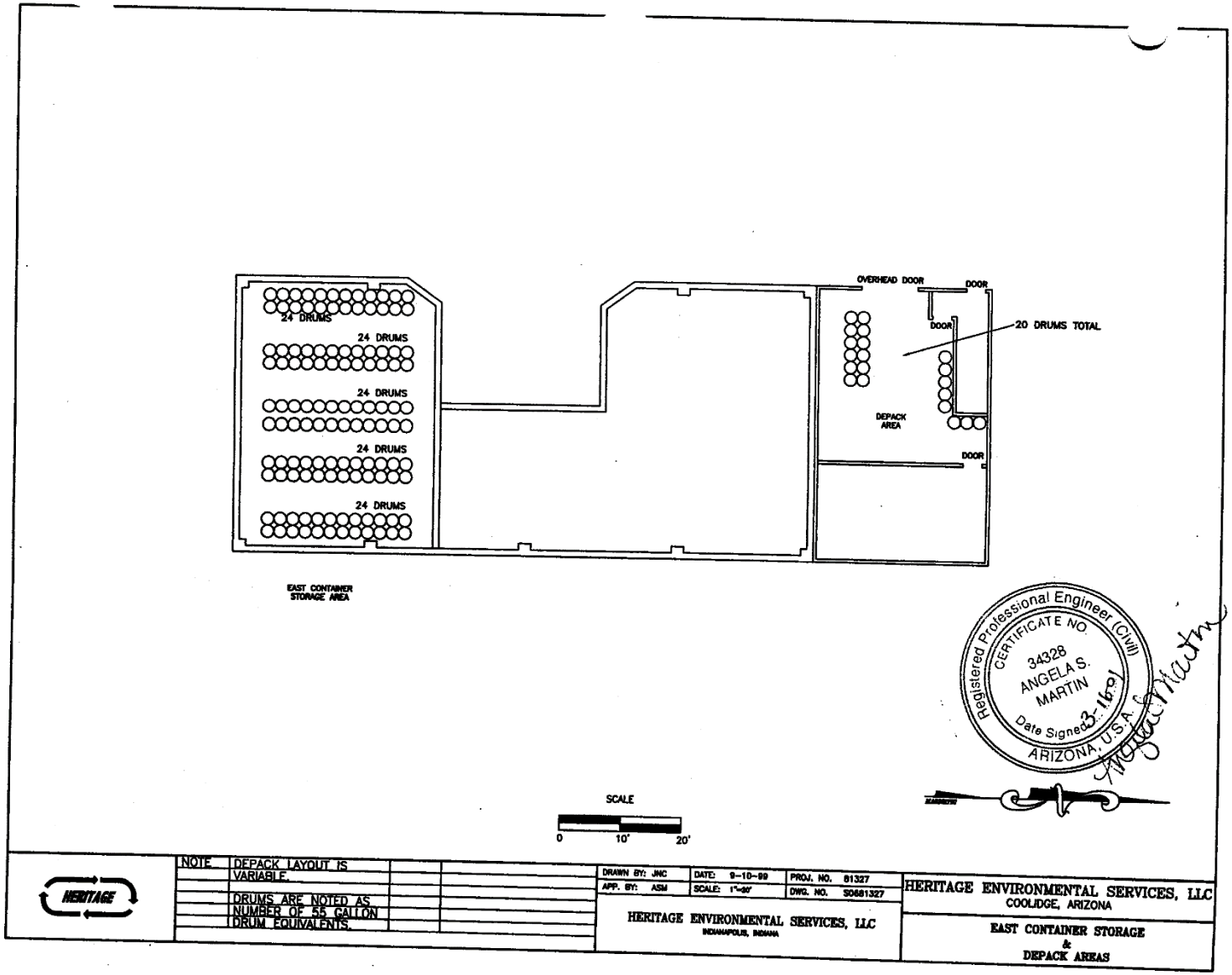
Volume of roof supports: h x w x l, where average h=(0.33'+0.67')/2=0.5, w=2', l=3'
0.5'*2'*3'=3.0 cf for 4 supports, 12.0 cf

Volume of pallets: assume entire pallet volume reduces available containment volume because of the sloped area
volume of bottom: (1/2"*6"*46"*2)+(1/2"*3 ½"*46"*3)=517.5 ci
volume of middle: (2"*4"*48"*3)=1152 ci
volume of top: (1/2"*48"*46"*0.8)=883.2 ci
Total volume of 1 pallet=bottom +middle+top=2552.7 ci = 1.48 cf
Volume of 30 pallets = 30*1.48 cf = 44.4 cf

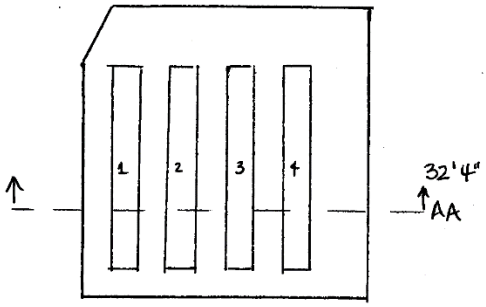
Volume of drums: Because of the slope, a small part of each drum will sit in the containment area, thereby reducing the containment area volume $\Pi * r^2 * h$, where r=1', and h is the average liquid height above the 4" pallet
Section A: h=0.34'/2=0.17'
(Π*1'^{2}*0.17')=0.53 cf for 24 drums, 12.72 cf
Section B: h=0.52'/2=0.26'
(Π*1'^{2}*0.26')=0.82 cf for 24 drums, 19.68 cf
Section C: h=0.69'/2=0.35'
(Π*1'^{2}*0.35')=1.10 cf for 24 drums, 26.4 cf
Section D: h=0.52'/2=0.26'
(Π*1'^{2}*0.26')=0.82 cf for 24 drums, 19.68 cf
Section E: h=0.34'/2=0.17'
(Π*1'^{2}*0.17')=0.53 cf for 24 drums, 12.72 cf
Total volume of drums = 91.2 cf

Total containment volume = 74 cf + 279.87 cf – 83.39cf - 12 cf – 44.4 cf – 91.2 cf = 122.88 cf
@ 7.48 gallons/cf containment volume = 919 gallons

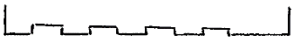
Required volume is 10% of drum volume stored or, in this case 660 gallons. The East Container Storage Area has sufficient containment capacity and meets the requirements of 40 CFR264.175.


24 DRUMS
24 DRUMS
24 DRUMS
24 DRUMS
24 DRUMS
EAST CONTAINER STORAGE AREA
OVERHEAD DOOR
DOOR
DOOR
20 DRUMS TOTAL
DEPACK AREA
DOOR
Registered Professional Engineer (Civil)
CERTIFICATE NO.
34328
ANGELA S. MARTIN
Date Signed 3-16-01
ARIZONA, U.S.A.
SCALE
0
10'
20'
HERITAGE
NOTE
DEPACK LAYOUT IS VARIABLE.
DRUMS ARE NOTED AS NUMBER OF 55 GALLON DRUM EQUIVALENTS.
DRAWN BY: JNC
DATE: 9-10-99
PROJ. NO. 81327
APP. BY: ASM
SCALE: 1"=20'
DWG. NO. 30681327
HERITAGE ENVIRONMENTAL SERVICES, LLC
INDIANAPOLIS, INDIANA
HERITAGE ENVIRONMENTAL SERVICES, LLC
COOLIDGE, ARIZONA
EAST CONTAINER STORAGE
&
DEPACK AREAS

East Container Storage Area | 8-10-01 ASM



Section AA



Slight slope variations not shown

APPENDIX D – C

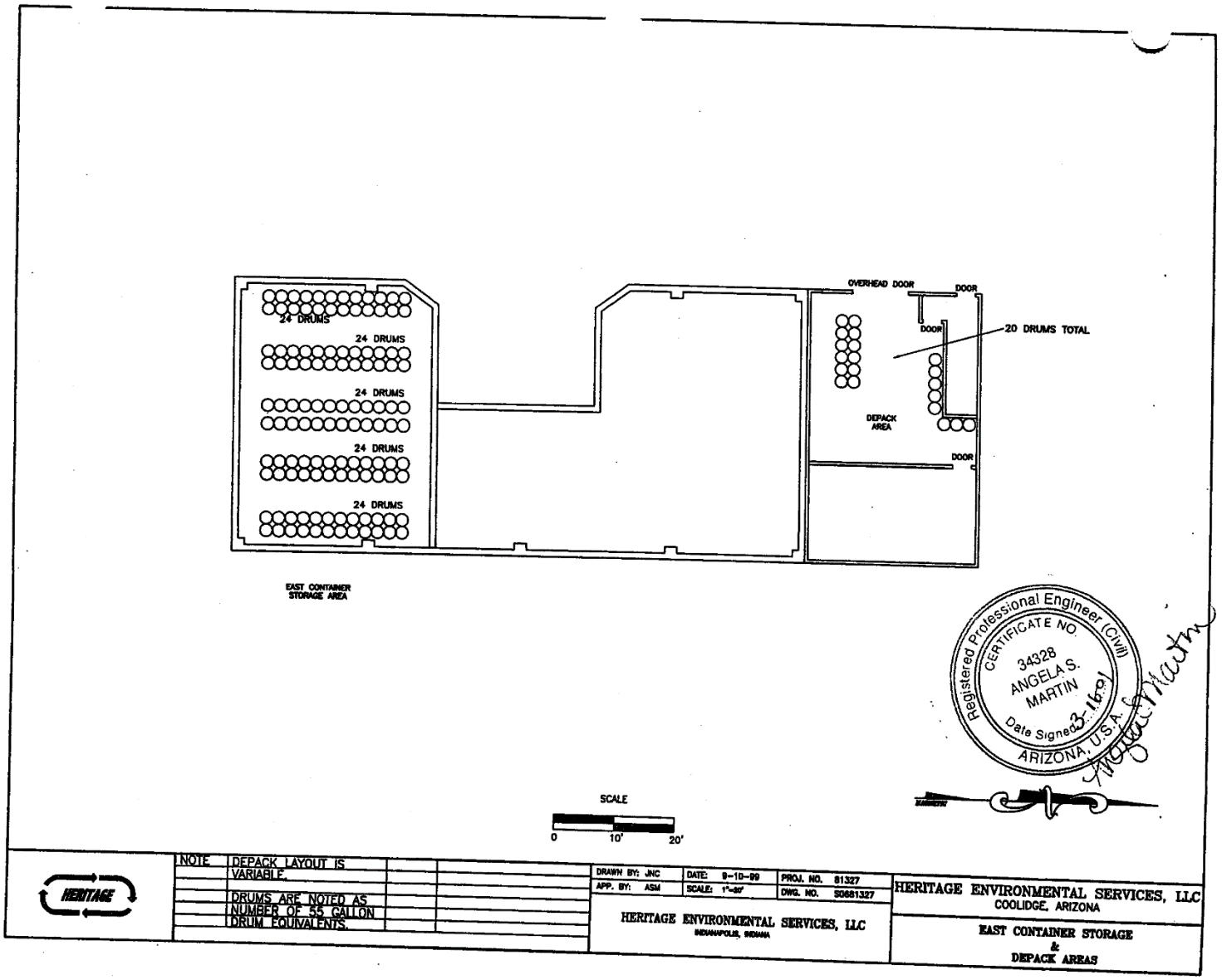
Depack Storage Area Secondary Containment Calculations

The unpacked drums in the Depack area that contain free liquids will be stored on containment pallets. Below is a table listing minimum capacities of each containment pallet based on the number of drums stored.

Size	Total gallons of waste/pallet	Minimum spill capacity (gal/pallet)
4 drum	220 gallons	55 or largest single container size
3 drum	165 gallons	55 or largest single container size
2 drum	110 gallons	55 or largest single container size

Once unpacked, the individual containers may be stored on lab carts with “containment shelves” which provide more than the required containment volume.

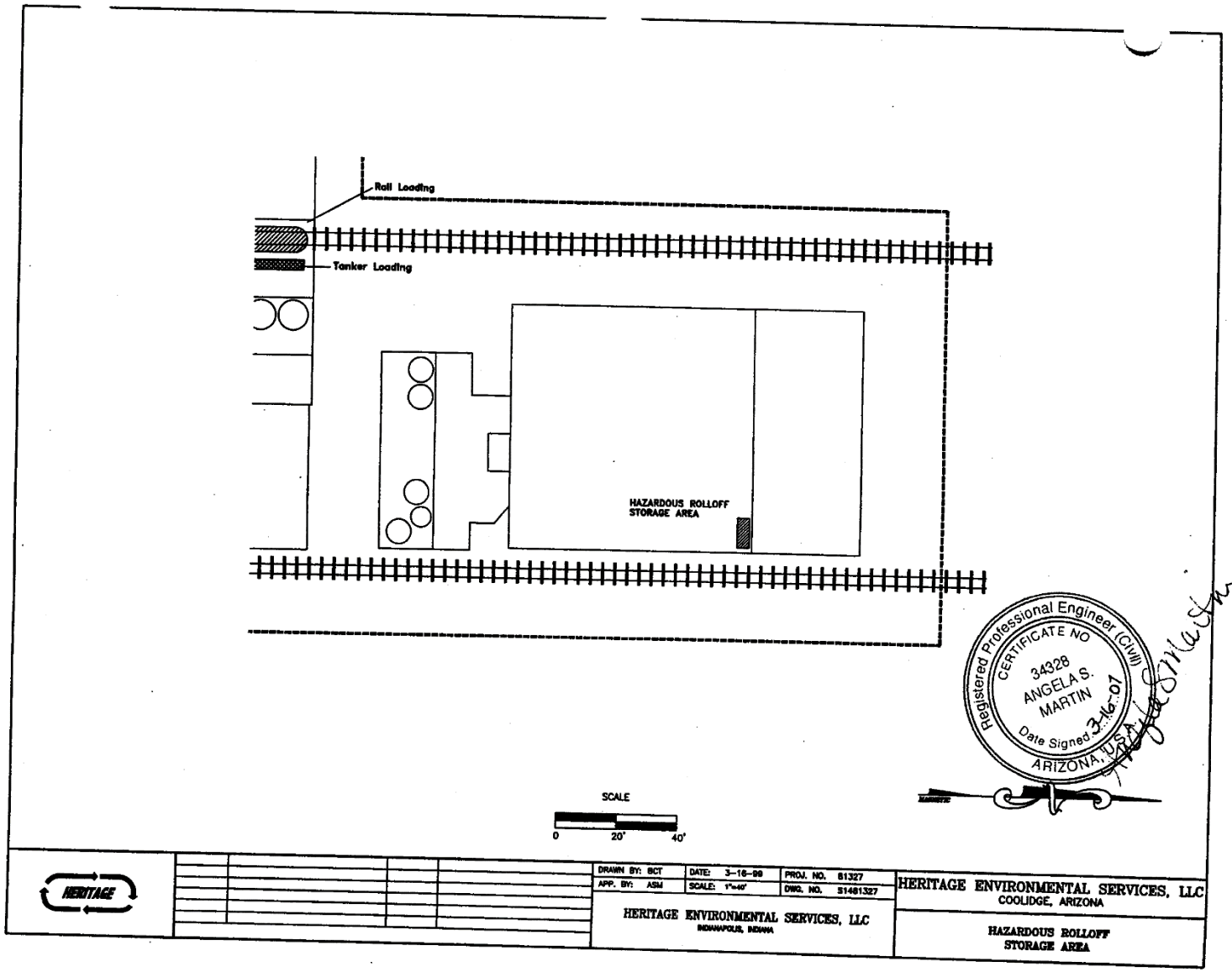
The volume of the containment pallet/lab cart will always be, at a minimum, equal to 10% of the waste volume stored on the pallet or the volume of the largest single container, whichever is greater.


24 DRUMS
24 DRUMS
24 DRUMS
24 DRUMS
24 DRUMS
EAST CONTAINER STORAGE AREA
OVERHEAD DOOR
DOOR
DOOR
20 DRUMS TOTAL
DEPACK AREA
DOOR
Registered Professional Engineer (Civil)
CERTIFICATE NO
34328
ANGELA S. MARTIN
Date Signed 3-16-01
ARIZONA, U.S.A.
SCALE
0
10'
20'
NOTE
DEPACK LAYOUT IS VARIABLE.
DRUMS ARE NOTED AS NUMBER OF 55 GALLON DRUM EQUIVALENTS.
DRAWN BY: JNC
DATE: 9-10-99
PROJ. NO. 81327
APP. BY: ASM
SCALE: 1"=20'
DWG. NO. S0681327
HERITAGE ENVIRONMENTAL SERVICES, LLC
INDIANAPOLIS, INDIANA
HERITAGE ENVIRONMENTAL SERVICES, LLC
COOLIDGE, ARIZONA
EAST CONTAINER STORAGE
&
DEPACK AREAS

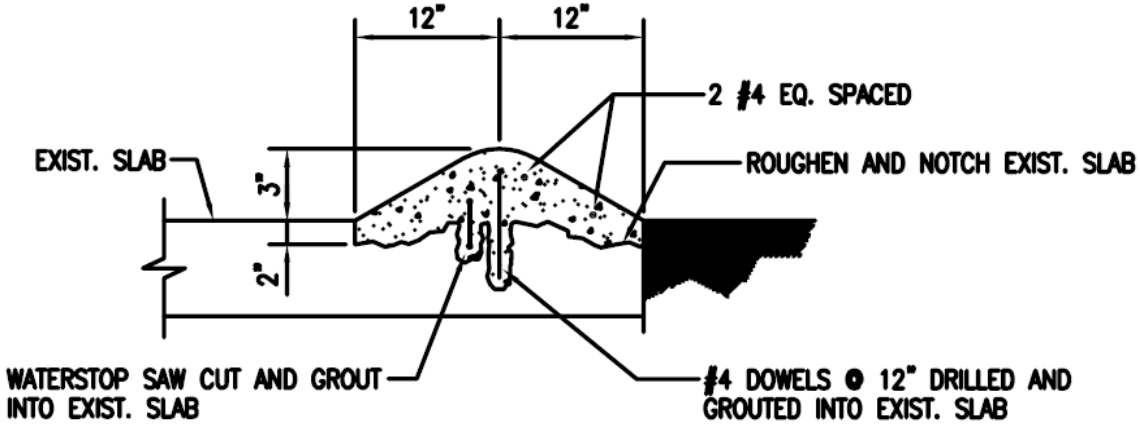
APPENDIX D – D

Roll-off Storage Area Secondary Containment

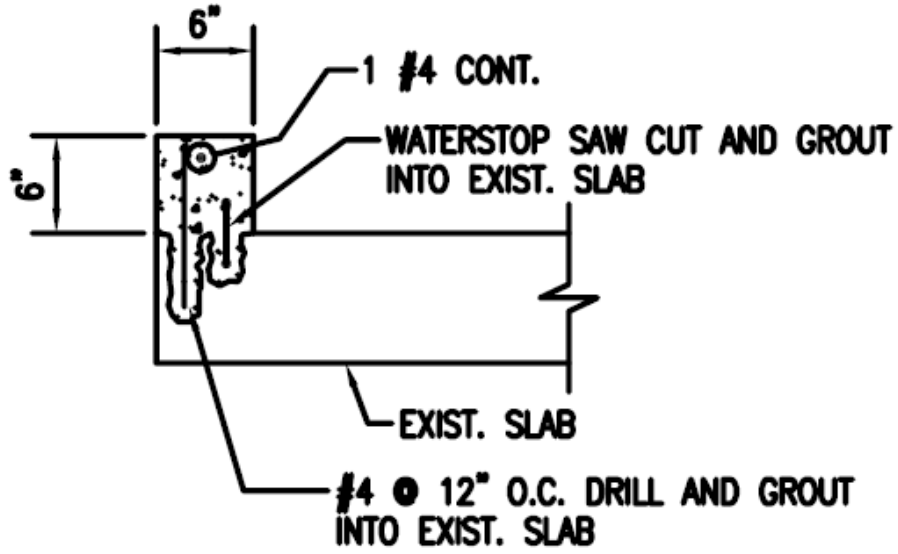
The material stored in the Roll-off Storage Area does not contain free liquids. The area is coated concrete. The area meets the requirements of 40 CFR 264.175(c)(2).


Rail Loading
Tanker Loading
HAZARDOUS ROLLOFF
STORAGE AREA
Registered Professional Engineer (Civil)
CERTIFICATE NO
34328
ANGELA S.
MARTIN
Date Signed 3-16-01
ARIZONA, USA
SCALE
0
20'
40'
HERITAGE
DRAWN BY: BCT
DATE: 3-16-99
PROJ. NO. 81327
APP. BY: ASM
SCALE: 1"=40'
DWG. NO. 81481327
HERITAGE ENVIRONMENTAL SERVICES, LLC
INDIANAPOLIS, INDIANA
HERITAGE ENVIRONMENTAL SERVICES, LLC
COOLIDGE, ARIZONA
HAZARDOUS ROLLOFF
STORAGE AREA

Typical Roll Curb –West Side of Hazardous Rolloff Area



Typical Curb South Side of Hazardous Rolloff Storage Area



APPENDIX D – E

Dock and Van Trailer Storage Area Secondary Containment Calculations

Area dimensions:	Overall length 100'; divided into 2 section based on slope
	Overall width 60'
	Trench interior width 10"
	Trench interior length 60'
	Trench depth 6" sloping to 10" at sump
	Section 1: length 30'; change in elevation 3" (not including curb)
	Section 2: length 70'; change in elevation 3'9" (not including curb)
25 yr/24 hr Rainfall:	3.4"
	The area is surrounded by curbs to prevent run-on.
Van displacement:	Back tires area: 2 per van- roughly 6' x 2'
	Front supports: 2 per van – roughly 1' x 1'

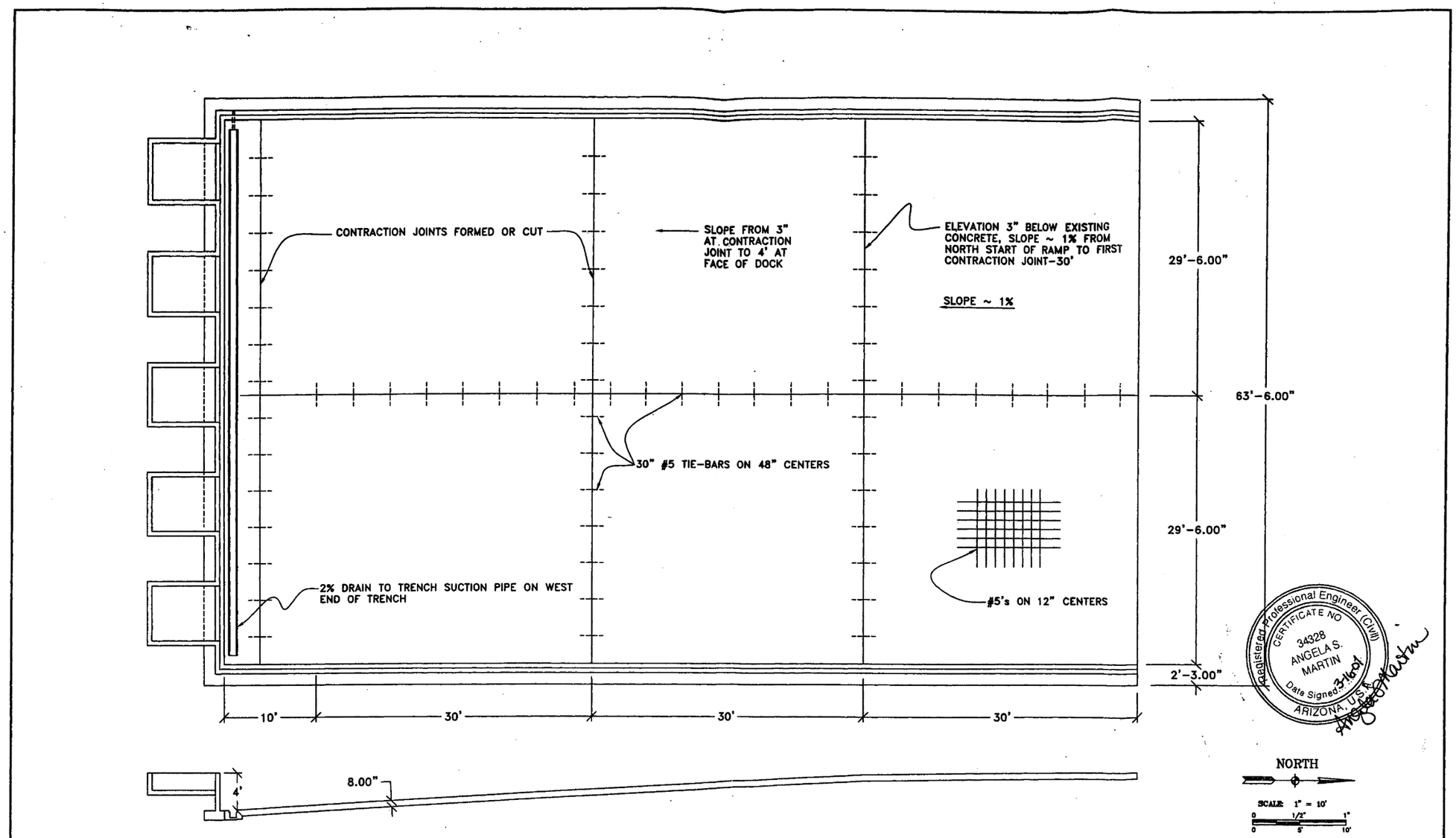
Number of drums stored in vans: 400 – 55 gallon drums (22,000 gallons)

Total containment volume = volume of section 1 + volume of section 2 + volume of trench – volume of rainfall - volume of back tires – volume of front supports

Volume of Section 1	½ b x h x w, where b = 30', h = 3", w = 60'
	(0.5)* 30'*0.25'*60' = 225 cf
Volume of Section 2	½ b x h x w, where b = 70', h = 3'9", w = 60'
	(0.5)* 70'*3.75'*60' = 7,875 cf
Volume of trench	volume of rectangular top + volume of triangular bottom
	(h x w x l) + (1/2 b x h x w), where h=6",w=10",l=60';b=60',h=4"
	(0.5'*0.83'*60') + (.5*60'*0.33'*0.83') = 33.1 cf
Volume of rainfall	h x w x l, where h=3.4", w=60', l=100'
	0.28'*60'*100'=1,680 cf
Volume of back tires	h x w x l, where h=4', w=2', l=6'
	4'*2'*6'=48 cf for 5 vans 240cf
Volume of front supports	h x w x l, where h=4', w=1', l=1'
	4'*1'*1'=4 cf for 5 vans 20cf

Total containment volume = 225 cf + 7,875 cf + 33.1 cf – 1,680 cf – 240 cf – 20 cf = 6,193.1 cf
@ 7.48 gallons/cf containment volume = 46,324 gallons

Required volume is 10% of drum volume stored or, in this case 2,200 gallons. The Van Trailer Storage Area has sufficient containment capacity and meets the requirements of 40 CFR 264.175.



Registered Professional Engineer (Civil)
CERTIFICATE NO
34328
ANGELA S. MARTIN
Date Signed 3/6/24
ARIZONA, U.S.A.

SPECIFICATIONS:
1. OVEREXCAVATE AREA & PROOF ROLL AREA BEFORE PLACING FILL.
2. ALL CONCRETE 3000 PSI.
3. ALL STEEL GRADE 50.
4. EXPANSION JOINTS BETWEEN WALLS AND PAVEMENT.
5. ALL STEEL AND CONCRETE WORK IN ACCORDANCE WITH ACI CODES.
6. CONCRETE SLUMP MAX = 3in, MIN = 1".
7. 4" ABC COMPACTED TO 95% MAX DENSITY OF STD. PROCTOR, UNDER PAVEMENT ONLY.
8. HDPE 30 MIL LINER UNDER ENTIRE PROJECT (TYPICAL).
9. GEOTEXTILE, NON WOVEN AMOCO 45.53 UNDER LINER (TYPICAL) OR EQUIVALENT.

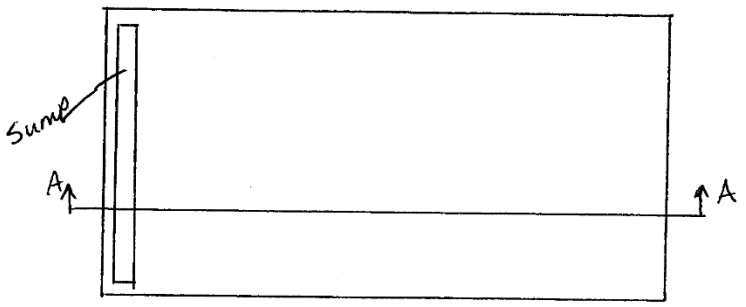
HERITAGE ENVIRONMENTAL SERVICES, LLC.
INDIANAPOLIS, INDIANA

HERITAGE ENVIRONMENTAL SERVICES, LLC.
COOLIDGE, ARIZONA

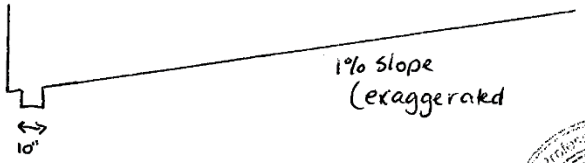
TRUCK DOCK/TRAILER STORAGE AREA

DRAWN BY SCT	DATE 9-17-99	PROJ. NO. 81622	DWG. NO. S1881327
APPROVED BY DM	SCALE 1" = 10'		

Truck Dock / Trailer Storage Area | 8-10-01 ASM



Section AA NTS



Estimate of Potential Run-On Into Dock and Van Storage Area

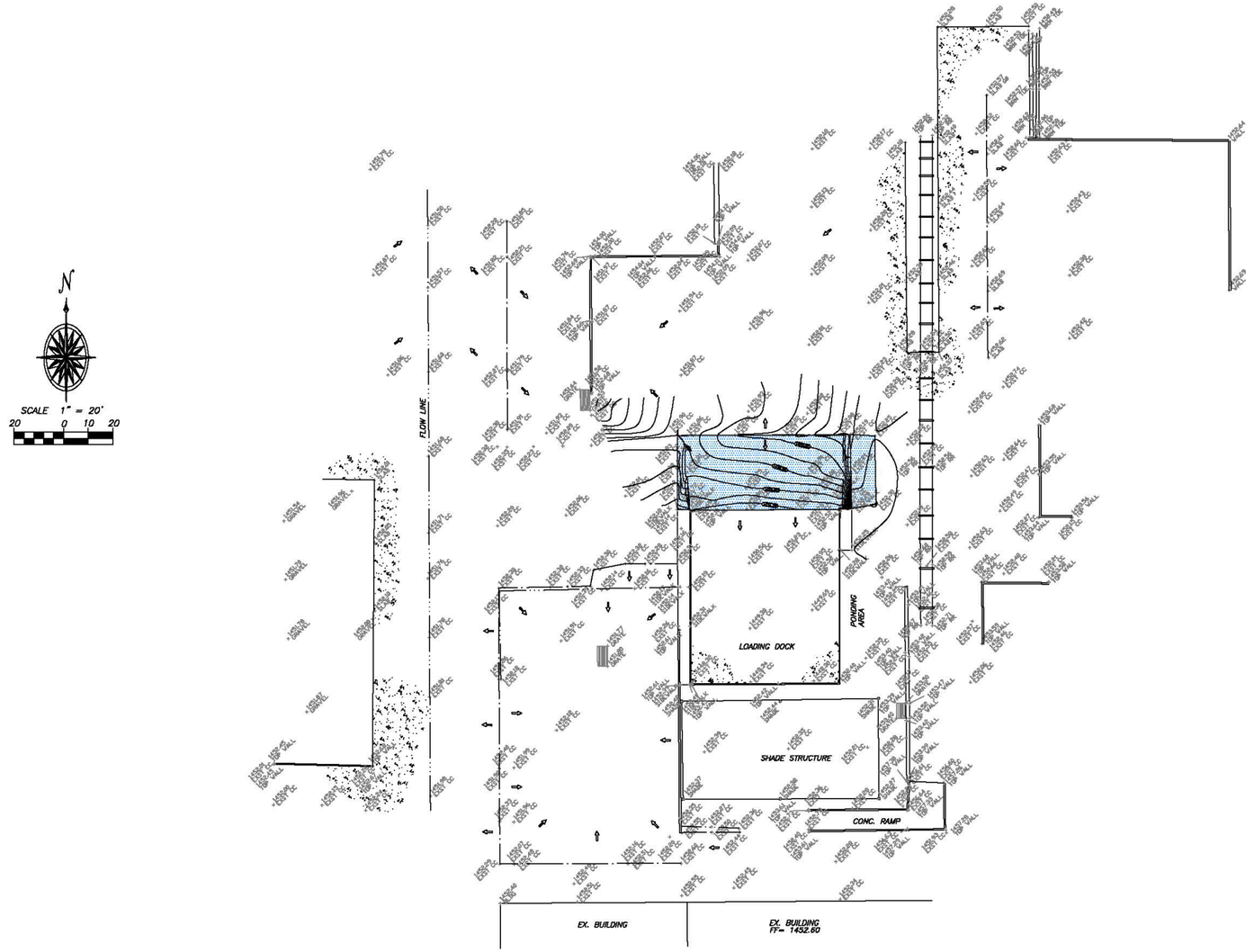
A topographic drawing with survey data is attached that shows the topography at a 0.05 foot contour interval in the immediate vicinity of the unit along with arrows designating the approximate direction of water flow. The shaded area of the attached survey drawing illustrates the surface area that could potentially flow into the Dock and Van Storage Area, which is approximately 2,420 square feet. Using a 25 year/24 hour storm event totaling 3.4 inches, additional run-on is estimated as follows:

3.4/12 *2,420 SF = 685 cubic feet

685 cubic feet * 7.48 gallons/cubic foot = 5,123 gallons

The secondary containment volume for the Dock and Van Storage Area is calculated at 46,324 gallons without a provision for potential run-on in Section D, Appendix D-E. Subtracting the estimated run-on volume of 5,123 gallons, the containment volume is 41,201 gallons. The remaining secondary containment volume (41,201 gallons) is greater than any conceivable container that would be utilized at the facility. The permitted capacity of the unit is 10,250 gallons. Because the required secondary containment capacity is based on 10 % of the permitted storage capacity, the minimum required secondary containment is 1,025 gallons which is more than an order of magnitude less than the 41,201 gallons of available secondary containment capacity. The anticipated volume of the largest container that would hold free liquids in the DVSA is a tanker at 5,500 gallons. The volume of the largest single container is significantly less than 41,201 gallons of available containment.

RECORD OF SURVEY



——— · ——— CREST/TOP OF SLOPE

——— ··· ——— TOE OF SLOPE/FLOWLINE

SURVEY CERTIFICATE

I hereby certify that this survey was done by me or under my direct supervision, that this plot is a true and correct representation of that survey, and that all monuments shown were found or set accurately as indicated hereon.

Dated:_____

_____
Jeremy R. Dalmacio, R.L.S.
Registration No.49864

ARIZONA LAND SURVEYOR CERTIFICATE NO. 49864 JEREMY R. DALMACIO REGISTERED LAND SURVEYOR EXPIRES 6/30/25

DATE: DEC 2011	DRAWN BY: CK	DESIGN:	REVIEW: JRD
SURVEY: JRD/MZ	REVISED BY:	REVISION No.	

Heritage Environmental Services

TOPOGRAPHIC SURVEY

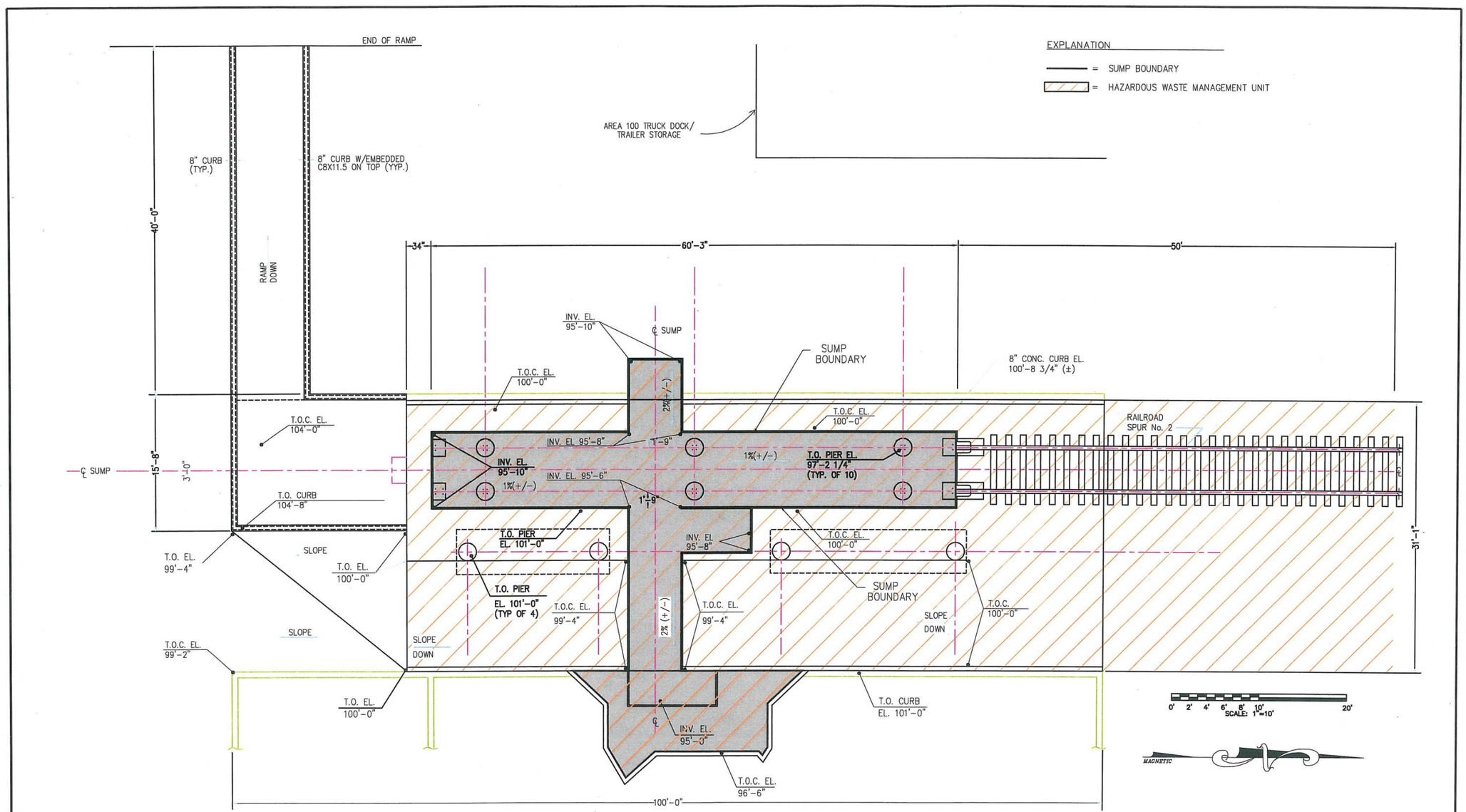
A PORTION OF SEC 15,
T6S, R8E, G&SRM, PINAL COUNTY, ARIZONA

DRAWING NO. 110100

SHEET 1 OF 1

Bulk Loading Area (Tanker and Rail)

In April 2014, a containment curb was constructed near the easternmost portion of the sump to provide an additional 2,165 gallons of containment. Following this modification, the total containment capacity is 23,682 + 2,165 = 25,847 gallons. Details follow.



DRAWN BY: RSC	DATE: 06-04-2015		HERITAGE ENVIRONMENTAL SERVICES, LLC COOLIDGE, ARIZONA
APP. BY: MEW	SCALE: AS SHOWN	DWG. NO. 7000008A	
HERITAGE ENVIRONMENTAL SERVICES, LLC INDIANAPOLIS, INDIANA			BULK LOADING AREA (TANKER AND RAIL)

HERITAGE ENVIRONMENTAL SERVICES

Bulk Loading Area (Tanker and Rail)

HANSEN
ENGINEERING & SURVEYING
115 South Main Street
Coolidge, AZ 85228
520-723-3261 520-723-3739(F)
www.hansensurvey.com

Heritage Environmental
Spillage Containment Volumes
Coolidge, Arizona

March 3, 2014

Rail Loading and Tanker Loading Area

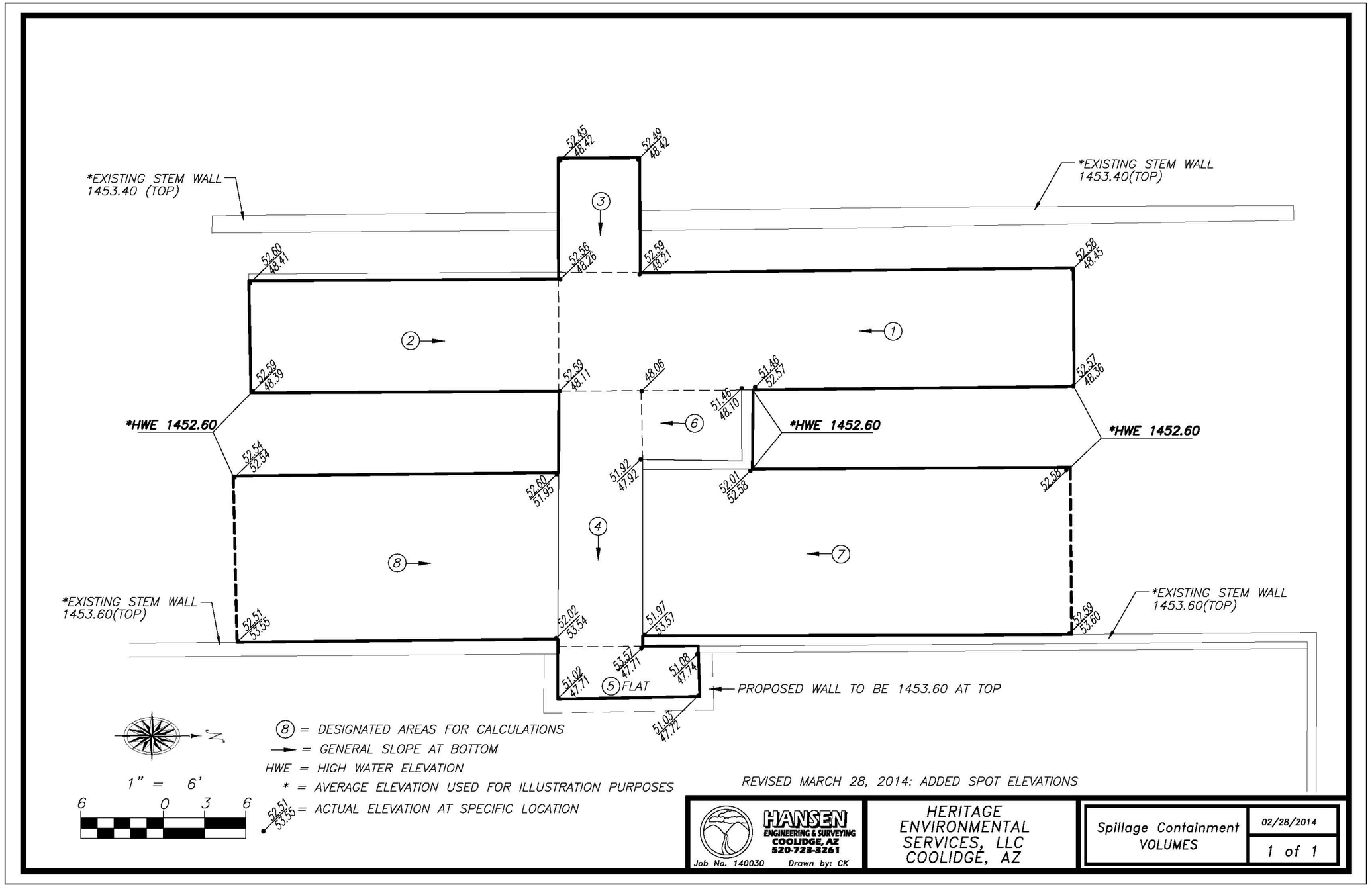
The dimensions and areas of the eight areas shown on the attached exhibit have been determined from actual field measurements in the month of February 2014. The volumes shown are based on a high water elevation of 1452.60, and the depth an average bottom elevation from constant uniform slopes within each area.

Area 1 Volume: 37.6'x 8.7'x4.4'=1439 cf
Area 2 Volume: 22.6'x 8.2'x4.4'= 815 cf
Area 3 Volume: 5.8'x 8.1'x4.3'= 202 cf
Area 4 Volume: 6.0'x18.6'x4.7'= 525 cf
Area 5 Volume: 10.0'x 3.8'x4.9'= 186 cf
Area 6 Volume: 7.4'x 5.2'x4.6'= 177 cf
Area 7 Volume: 31.6'x12.6'x0.3'= 119 cf
Area 8 Volume: 23.6'x11.9'x0.3'= 84 cf
Total Volume: =3547cf

Rainfall depth based on regional statistics for the 25 year / 24 hour event:
0.28'(2.92" depth) x 1565sf (total area of 1-8) = 381cf

Number of Railcars/Tankers (per Owner):
1 railcar @ 25,000 gallons + 1 tanker @ 6,000 gallons = 31,000 gallons

Total Containment Volume: All Areas volume - Rainfall volume
(1cubic foot = 7.48 gallons)
(3547cf) 26,532 gallons - (381cf) 2,850 gallons = (3,166cf) 23,682 gallons


*EXISTING STEM WALL
1453.40 (TOP)
*EXISTING STEM WALL
1453.40(TOP)
52.45
48.42
52.49
48.42
52.60
48.41
52.56
48.26
52.59
48.21
52.58
48.45
52.59
48.39
52.59
48.11
48.06
51.46
52.57
51.46
48.10
52.57
48.36
*HWE 1452.60
*HWE 1452.60
*HWE 1452.60
52.54
52.54
52.60
51.95
51.92
47.92
52.01
52.58
52.56
*EXISTING STEM WALL
1453.60(TOP)
52.51
53.55
52.02
53.54
51.97
53.57
52.59
53.60
*EXISTING STEM WALL
1453.60(TOP)
53.57
47.71
51.08
47.74
51.02
47.71
5 FLAT
PROPOSED WALL TO BE 1453.60 AT TOP
51.03
47.72
1
2
3
4
6
7
8
N
1" = 6'
6 0 3 6
8 = DESIGNATED AREAS FOR CALCULATIONS
= GENERAL SLOPE AT BOTTOM
HWE = HIGH WATER ELEVATION
* = AVERAGE ELEVATION USED FOR ILLUSTRATION PURPOSES
52.51
53.55
= ACTUAL ELEVATION AT SPECIFIC LOCATION
REVISED MARCH 28, 2014: ADDED SPOT ELEVATIONS
HANSEN
ENGINEERING & SURVEYING
COOLIDGE, AZ
520-723-3261
Job No. 140030
Drawn by: CK
HERITAGE
ENVIRONMENTAL
SERVICES, LLC
COOLIDGE, AZ
Spillage Containment
VOLUMES
02/28/2014
1 of 1

STRUCTURAL ENGINEERS COMPANY
2963 West Elliot Road, Suite 3
Chandler, Arizona 85224

Telephone: (480) 968-8600 Facsimile: (480) 968-8608

Via Email: amy.vasquez@heritage-enviro.com

26 March 2014

MS. AMY VASQUEZ, Regional Compliance Manager
HERITAGE ENVIRONMENTAL SERVICES, LLC
283 East Storey Road
COOLIDGE, ARIZONA
85128

Dear Ms. Vasquez

BULK LOADING AREA ENGINEERING EVALUATION
FOR HERITAGE ENVIRONMENTAL SERVICES, LLC, COOLIDGE, ARIZONA

This letter contains an engineering assessment for the bulk loading area at Heritage Environmental Services, LLC at Coolidge, Arizona. The purpose of the engineering assessment was to evaluate the rail, base support, secondary containment, sealant or defects, wear, cracks and gaps, and structural integrity.

Structural Engineers Company conducted a thorough engineering assessment of the bulk loading area that consisted of the following activities:

1. Physical inspection and verification of structural elements for the entire bulk loading area that included the rail system, structural supports and secondary containment system.
2. Consultation with a rail system installation contractor, structural steel fabricator, concrete repair contractor and protective coating suppliers and contractors.
3. Inspection of the existing steelwork and concrete work
4. Preparation of engineering specifications and design for the rehabilitation of the bulk loading area based on the above.
5. Review of the contract agreement between Heritage Environmental Services, LLC and Stinger Bridge and Iron for rehabilitation of the rail bridge.
6. Physical inspection of the sand blast and cleanup of the existing steelwork conducted by Stinger Bridge and Iron

As a part of the bulk loading area engineering evaluation, Structural Engineers Company prepared a set of drawings providing engineering recommendations, designs and specification for the

STRUCTURAL ENGINEERS COMPANY

rehabilitation of the bulk loading area for use by rail cars. These drawings are provided in Attachment A.

In accordance with good engineering practice, the rehabilitation design prepared by Structural Engineers Company meets the requirements of the following:

a. International Building Code 2012 edition
b. 2013 edition. of ASCE/SEI 7-10 (American Society of Civil Engineers) Standard for buildings and other structures
c. AASHTO Standard HB 17: Standard Specifications for Highway Bridges in respect of railway loading.

The bulk loading area, in its original form, is a pile supported concrete vault with structural steel support for a steel rail to accommodate delivery of material by rail car. The foundation piles have ample structural capacity, in substantial excess of the imposed loads. The structural steel within the concrete vault also has substantial structural load bearing capacity in excess of the loading demand. As of January 2014, the exposed steel exhibited corrosion, which, in time, would have compromised the structural integrity of the existing steel work. Additionally, where the approach rails meet the concrete vault, settlement of the rail track approaching the bulk loading area had occurred such that the top of rail for the approach rails are 1 inch at the east rail and 1-1/4 inches at the west rail below the respective rails at the pile supported concrete vault. In order for rail cars to safely enter and exit the bulk loading and unloading area, the rail elevations between the approach rails and the rails within the concrete vault need to be adjusted to match.

Based on discussions with Structural Engineers Company, Heritage Environmental Services, LLC., Stinger Bridge and Iron and Mountain States Contracting, Inc. it was decided that structural steel supports and rails within the pile supported concrete vault be lowered such that the top of rail within the concrete vault match the elevation of the approach rails. Structural Engineers Company agree that this approach is acceptable but Structural Engineers Company has advised the approach rails could settle an additional amount but not to the extent currently measured When and if such settlement of the approach rails occurs, Structural Engineers Company has advised that maintenance work may be required to correct any differential in rail elevation. It was additionally determined that the existing rails supported by steelwork in the concrete vault be replaced entirely.

The design and specifications prepared by Structural Engineers addresses all outstanding structural issues.

Stinger Bridge and Iron elected to remove all structural steel within the concrete vault and sandblast this material clean. As of 6 March 2014, this work has been done in an entirely satisfactory manner with no rehabilitation required at either the top or bottom flange of the web. The steel work will be protected with a coating of Macropoxy. All concrete work in the Bulk Loading Area will be further protected with Sikagard 62, which is a chemical coaing.

STRUCTURAL ENGINEERS COMPANY

Structural Engineers Company recommendations for rehabilitation are provided in our drawing and specification package which is provided in Attachment A.

I certify under penalty of law that this document and its attachment A, were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, the information submitted, is to the best of my knowledge and belief, true, accurate and complete.

We would be pleased to respond to any questions concerning this matter

Yours truly,

SEC

Andrew Netupsky

Registered Professional Engineer (Structural) CERTIFICATE NO. 20538 ANDREW NETUPSKY Date Signed 3/26/24 ARIZONA U.S.A.

Andrew Netupsky, PE, SE

Director and Former President, Structural Engineers Association of Arizona

Expires 9/30/25

Attached Attachment A – Drawings: GN & S1 – S11 inclusive

STRUCTURAL NOTES

GENERAL :

CONCRETE REPAIR

EPOXY TECHNICAL DATA RO-51 :

PRODUCTS:

PRODUCTS (cont):

COMPANION PRODUCTS:

PRODUCT APPLICATION:

PRODUCT APPLICATION (cont)

PERFORMANCE CHARACTERISTICS:

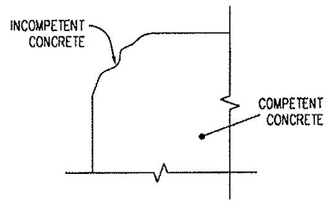
PHYSICAL PROPERTIES:

PHYSICAL PROPERTIES			9101 Activator	9102 Immersion Act.	9103 Low Temp. Act.	9104 Fast-Cure Act.
Resin Type			Aliphatic amine cycloaliphatic epoxy	Polyamide cycloaliphatic epoxy	Aromatic amine cycloaliphatic epoxy	Polyamidoamine cycloaliphatic epoxy
Inhibitive Pigment			Calcium phosphosilicate	Calcium phosphosilicate	Calcium phosphosilicate	Calcium phosphosilicate
Solvents			Xylenes, MAK, n-butyl alcohol, 1-Methoxy-2-propanol	Xylenes, MAK, n-butyl alcohol, 1-Methoxy-2-propanol	Xylenes, MAK, n-butyl alcohol, 1-Methoxy-2-propanol	Xylenes, MAK, n-butyl alcohol, 1-Methoxy-2-propanol
Weight[1]	Per Gallon		11.6-12.0 lb/gal	11.6-12.0 lb/gal	9.2-10.4 lb/gal	12.0-12.8 lb/gal
	Per Liter		1.4-1.5 kg/l	1.4-1.5 kg/l	1.1-1.2 kg/l	1.4-1.5 kg/l
Solids[1]	By Weight		68-69%	70-72%	78-81%	64-65%
	By Volume		52-54%	65-66%	72-75%	62-64%
Volatile Organic Compounds[2]			<340 g/l (2.83 lb/gal)	<340 g/l (2.83 lb/gal)	<420 g/l (3.50 lb/gal)	<340 g/l (2.83 lb/gal)
Mixing Ratio			1:1 A/I (base/agent)	1:1 A/I (base/agent)	1:1 A/I (base/agent)	1:1 A/I (base/agent)
Recommended Dry Film Thickness (DFT) Per Coat			5-8 mils (125-200µ)	5-8 mils (125-200µ)	5-8 mils (125-200µ)	5-8 mils (125-200µ)
Wet Film to Achieve DFT (unthinned materials)			6.5-10.5 mils (165-265 µm)	7.5-12.0 mils (187.5-300µ)	7-11 mils (175-275µ)	7.5-12.0 mils (187.5-300µ)
Theoretical Coverage at 1 mil DFT (25µ)			1250-1600 sq. ft./gal (30.6-39.2 m²/l)	1040-1450 sq. ft./gal (25.5-35.5 m²/l)	1150-1200 sq. ft./gal (28.2-29.5 m²/l)	1070-1160 sq. ft./gal (26.2-28.4 m²/l)
Practical Coverage at Recommended DFT (assumes 15% overthickness)			920-1220 sq. ft./gal (3.1-5.5 m²/l)	800-1125 sq. ft./gal (2.5-4.2 m²/l)	920-1030 sq. ft./gal (3.1-5.0 m²/l)	885-1100 sq. ft./gal (2.8-4.2 m²/l)
Induction Period			None required	30 min. @ room temp (65F-75F)	None required	15 min. @ 77F
Pot Life[3]	2 gallons		1.5 hrs @ 77F (25C)	2 hrs @ 77F (25C)	2 hrs @ 77F (25C)	1.5 hrs @ 77F (25C)
	10 gallons		1 hr @ 77F (25C)	1.5 hrs @ 77F (25C)	1 hr @ 77F (25C)	1 hr @ 77F (25C)
Dry Times at 50% Relative Humidity	Tack-free		4 hrs @ 77F (25C)	5 hrs @ 77F (25C)	4 hrs @ 77F (25C)	2 hrs @ 77F (25C)
	Handle		6 hrs @ 77F (25C)	8 hrs @ 77F (25C)	6 hrs @ 77F (25C)	4 hrs @ 77F (25C)
	Recoat		12 hrs @ 77F (25C)	24 hrs @ 77F (25C)	12 hrs @ 77F (25C)	8 hrs @ 77F (25C)
Dry Heat Resistance			250 F (121 C)	300 F (149 C)	250 F (121 C)	300 F (149 C)
Safety Information	Contains		Lead-free	Lead-free	Lead-free	Lead-free
	Warning!		FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY CAUSE ALLERGIC SKIN REACTION. FOR INDUSTRIAL OR COMMERCIAL USE ONLY. REFER TO MATERIAL SAFETY DATA SHEET (MSDS) FOR ADDITIONAL INFORMATION.			

MACROPOXY HS HIGH SOLIDS EPOXY
COATING FOR STEEL
OR EQUIVALENT APPROVED
FOR HERITAGE ENVIRONMENTAL SERVICES,
COOLIDGE AZ

SIKAGARD 62 HIGH-BUILD, PROTECTIVE
SOLVENT-FREE, COLORED EPOXY COATING
OR EQUIVALENT APPROVED
FOR CONCRETE PROTECTION SYSTEM
HERITAGE ENVIRONMENTAL SERVICES, COOLIDGE AZ

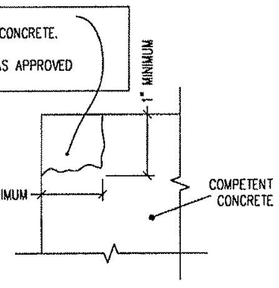
*NOTE:
SEC RECOMMENDS THE USE OF THE SPECIFIED PROTECTIVE COATINGS, OR THEIR APPROVED EQUAL.
SEE S-11 FOR REFERENCE MATERIALS AND SPECIFICATIONS.



DETAIL-1

SCALE: NTS

*NOTE:
BREAK OUT INCOMPETENT CONCRETE.
BRUSH AREA CLEAN.
APPLY EPOXY CONCRETE AS APPROVED BY SEC.



DETAIL-2

SCALE: NTS

SEAL

NOTES

CONTAINMENT STRUCTURE & RAIL

HERITAGE ENVIRONMENTAL SERVICES
284 East Storey Road
COOLIDGE AZ

REV.	REVISION	DATE	BY
1			
2			
3			
4			
5			
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7			
8			
9			
10			

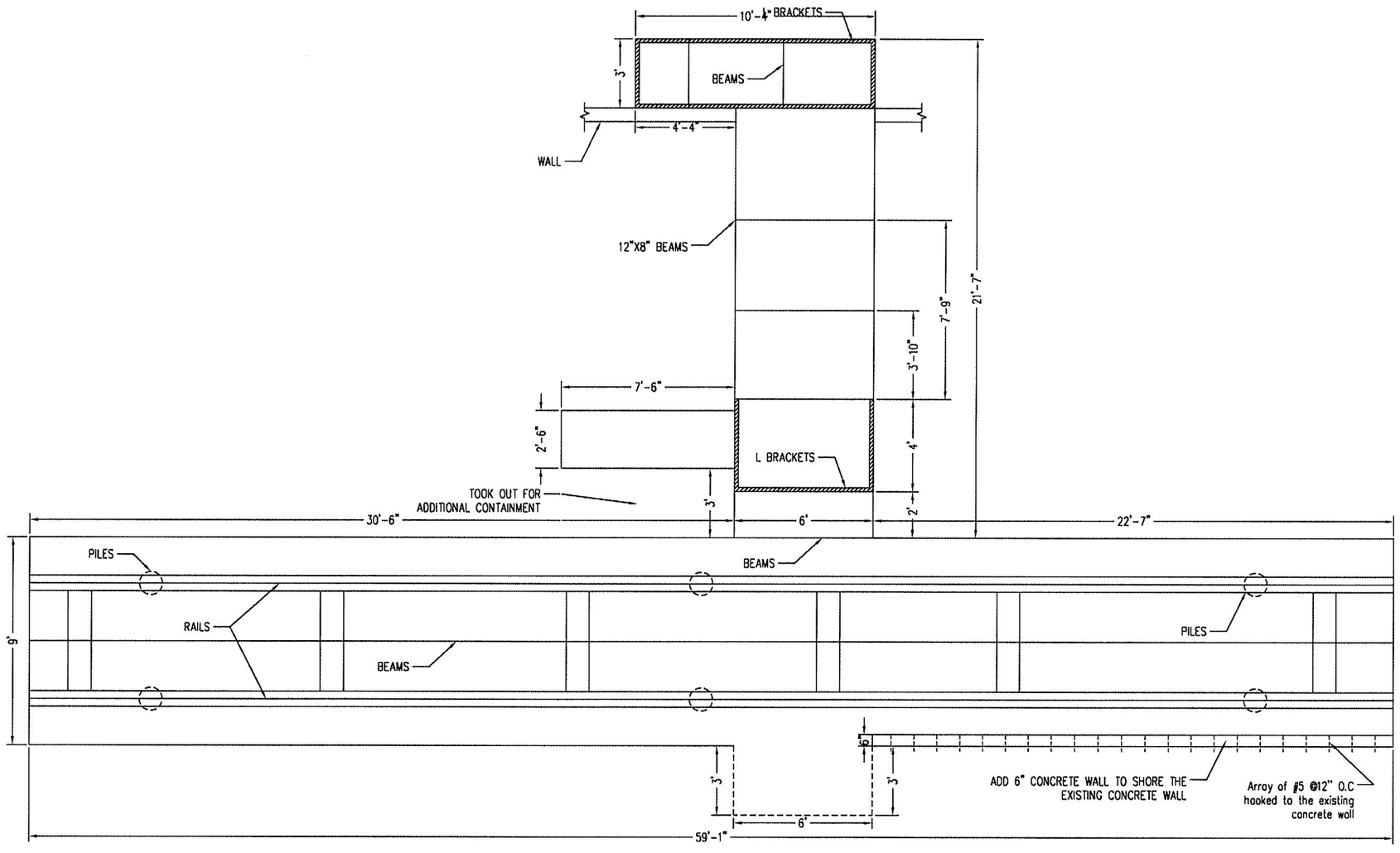
STRUCTURAL ENGINEERING BY:

SEC
STRUCTURAL ENGINEERS COMPANY
2905 W. ELLIOT ROAD, SUITE 3
CHANDLER, AZ 85224-1833
PH. (480) 905-0900 FAX: (480) 905-0904

GENERAL NOTES

DATE: 7-MAR-14	CHECKED BY: AR
SCALE: NOT TO SCALE	DRAWN BY: SA

SHEET NO.
GN



PLAN:
CONTAINMENT STRUCTURE

SCALE: NTS

SEAL

PLAN

CONTAINMENT STRUCTURE
& RAIL

HERITAGE ENVIRONMENTAL SERVICES
284 East Storey Road
COOLIDGE AZ

REV.	REVISION	DATE	BY
10			
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1			

STRUCTURAL ENGINEERING BY:

STRUCTURAL ENGINEERING CONSULTANT
2963 W. ELLIOT ROAD, SUITE 3
CHANDLER, AZ 85224-6163
PH: (480) 968-8606 FAX: (480) 968-8608

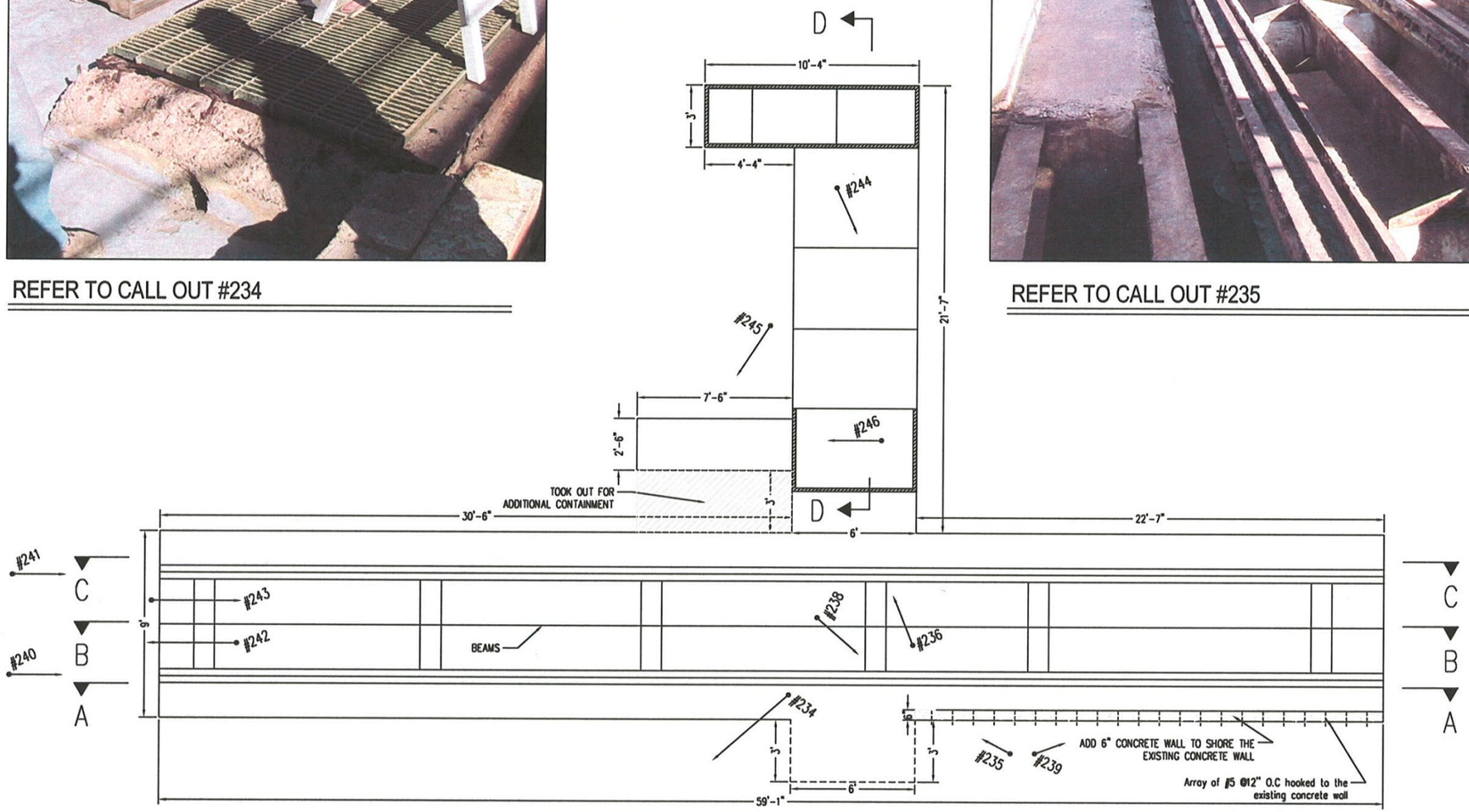
CONTAINMENT STRUCTURE PLAN

DATE: 11-OCT-2013 | CHECKED BY: A.M.
SCALE: NOT TO SCALE | DRAWN BY: S.A

SHEET NO.
S-1

REFER TO CALL OUT #234

REFER TO CALL OUT #235



PLAN:
CONTAINMENT STRUCTURE CALL OUTS

SCALE: NTS

SEAL

PLAN

CONTAINMENT STRUCTURE & RAIL

HERITAGE ENVIRONMENTAL SERVICES
284 East Storey Road
COOLIDGE AZ

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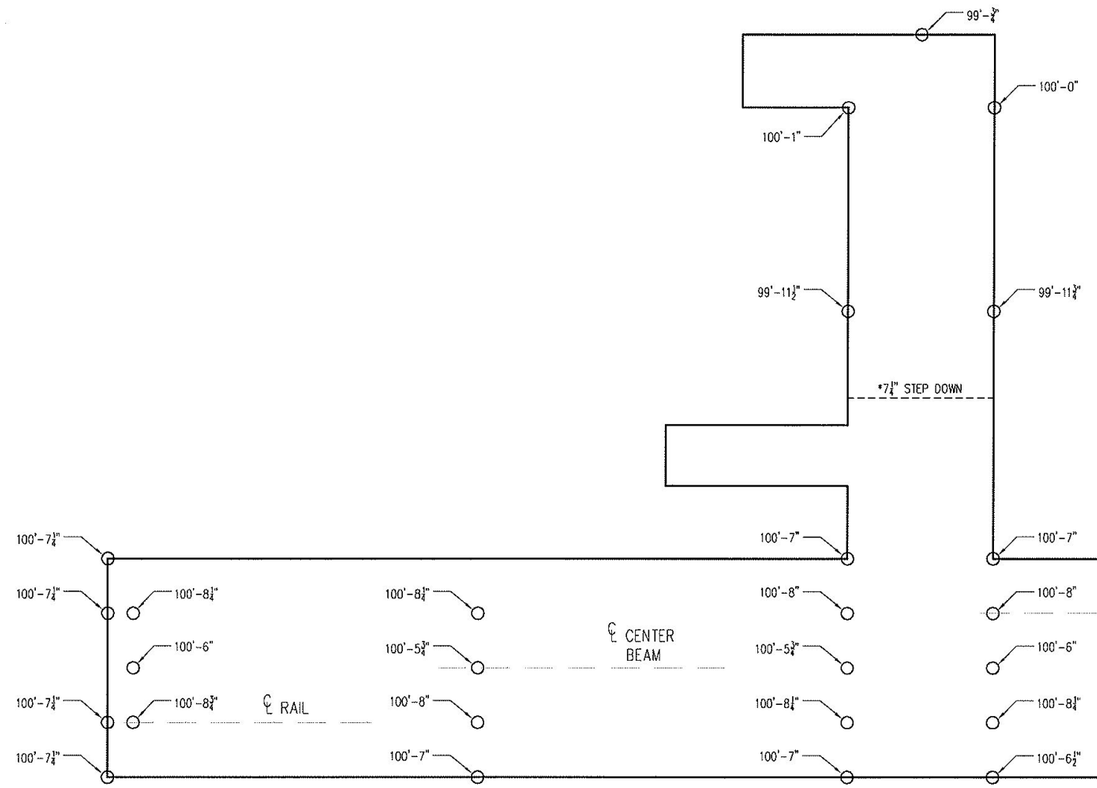
STRUCTURAL ENGINEERING BY:

SEC
STRUCTURAL ENGINEERING COMPANY
2963 W. ELLIOT ROAD, SUITE 1
CHANDLER, AZ 85224-1633
PH: (480) 968-8600 FAX: (480) 968-8608

CONTAINMENT STRUCTURE CALL OUTS

DATE: 11-OCT-2013
CHECKED BY: A.H.
SCALE: NOT TO SCALE
DRAWN BY: S.A
SHEET NO.
S-2



CONTAINMENT STRUCTURE-ELEVATIONS

SCALE: NTS

SEAL

Exp. 9/30/2015

ELEVATION

CONTAINMENT STRUCTURE & RAIL

HERITAGE ENVIRONMENTAL SERVICES
284 East Storey Road
COOLIDGE AZ

REV.	REVISION	DATE	BY
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6	-	-	-
5	-	-	-
4	-	-	-
3	-	-	-
2	-	-	-
1	-	-	-

STRUCTURAL ENGINEERING BY:

SEC
STRUCTURAL ENGINEERS COMPANY

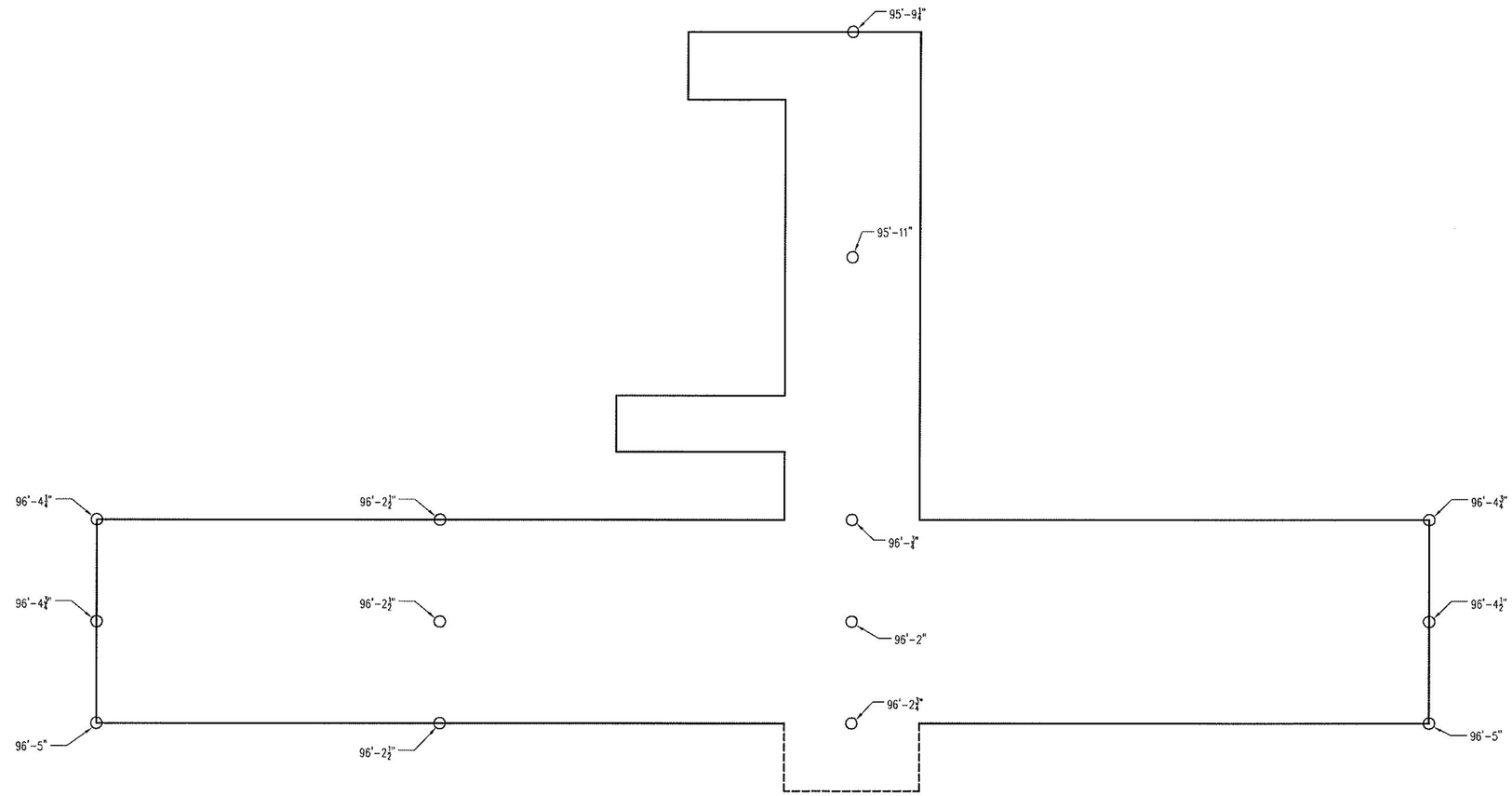
2969 W. ELLIOT ROAD, SUITE 4
CHANDLER, AZ 85224-6349
PH: (480) 966-6600 FAX: (480) 966-6605

CONTAINMENT STRUCTURE ELEVATIONS

DATE:	CHECKED BY:
13-NOV-13	A.H.
SCALE: NOT TO SCALE	DRAWN BY: S.A

SHEET NO.

S-3



CONTAINMENT STRUCTURE FLOOR ELEVATIONS

SCALE: NTS

SEAL

Exp. 9/30/2015

ELEVATION

CONTAINMENT STRUCTURE & RAIL

HERITAGE ENVIRONMENTAL SERVICES
284 East Storey Road
COOLIDGE AZ

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3		.	.
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STRUCTURAL ENGINEERING BY:

STRUCTURAL ENGINEERS COMPANY
2903 W. ELLIOT ROAD, SUITE 3
CHANDLER, AZ 85224-6013
PH: (480) 994-9690 FAX: (480) 905-0555

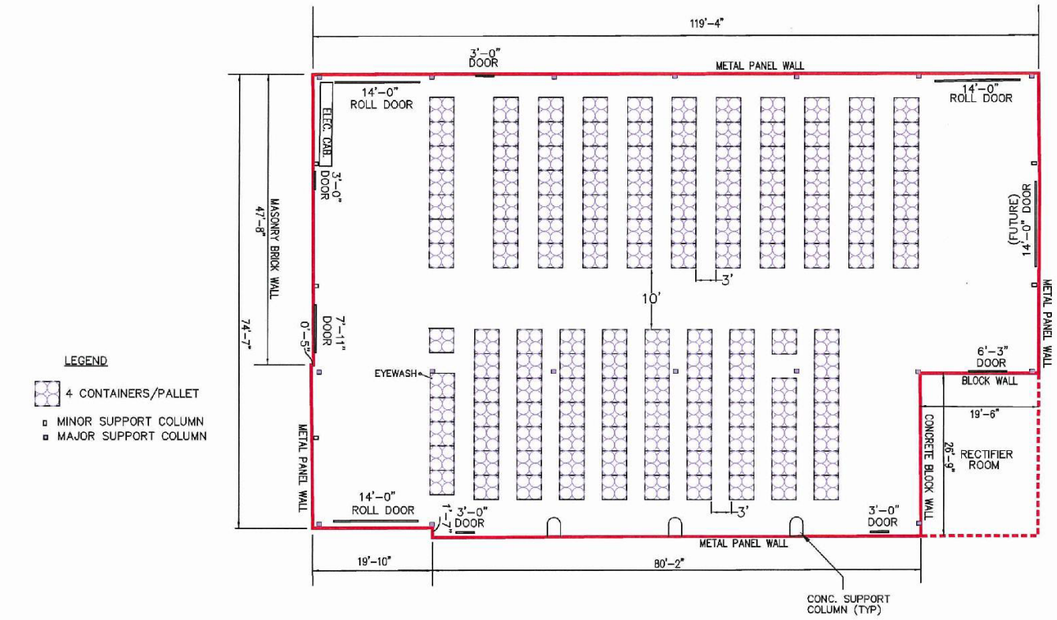
CONTAINMENT STRUCTURE ELEVATIONS

DATE: 13-NOV-13	CHECKED BY: A.N.
SCALE: NOT TO SCALE	DRAWN BY: S.A.

SHEET NO.
S-4

APPENDIX D – F

800 Area Container Storage



1. SECONDARY CONTAINMENT CONTAINING FREE LIQUIDS WILL BE PROVIDED BY PORTABLE CONTAINMENT PALLETS.
2. ASBUILT DIMENSIONS BASED ON FIELD SURVEY, HANSEN ENGINEERING AND SURVEYING, 2013.
3. ALL LINES AND DIMENSIONS REPRESENT INSIDE FACE OF WALLS. THICKNESS & DEPTH NOT DETERMINED.
4. CONTAINER ARRANGEMENT IS TYPICAL FOR 55 GALLON HAZARDOUS WASTE CONTAINING FREE LIQUIDS STORED ON SECONDARY CONTAINMENT (4' X 4' TYPICAL PALLET).
5. AISLE SPACE SHOWN IN TYPICAL ARRANGEMENT IS 3 FEET.
6. PERMITTED HAZARDOUS WASTE CAPACITY IS 372 – 55 GALLON CONTAINERS (20,451 GALLONS).

Registered Professional Engineer (Civil)
CERTIFICATE NO.
34328
ANGELA S MARTIN
Date Signed 2-8-13
ARIZONA, U.S.A.

SCALE
0 20' 40'
MAGNETIC

HERITAGE ENVIRONMENTAL SERVICES

DRAWN BY: RSC	DATE: 2-5-2013	PROJ. NO.
APP. BY: MEW	SCALE: AS SHOWN	DWG. NO. AZC1301C0030

HERITAGE ENVIRONMENTAL SERVICES, LLC
INDIANAPOLIS, INDIANA

HERITAGE ENVIRONMENTAL SERVICES, LLC
COOLIDGE, ARIZONA

800 AREA CONTAINER STORAGE

Appendix D-G

Compatibility Chart

Figure D-G-1
HERITAGE COMPATIBILITY CHART

	Acids	Bases/ Caustics/ Alkalies	Chlorinated Solvents	Class 9/ Aqueous	Cyanides	Flammables/ Combustibles	Oxidizers
Acids		X	X		X	X	X
Bases/ Caustics/ Alkalies	X		X				
Chlorinated Solvents	X	X			X		X
Class 9/ Aqueous							
Cyanides	X		X				X
Flammables/ Combustibles[1]	X						X
Oxidizers	X		X		X	X	

Use of Table: Waste categories use DOT-defined terms. A combination with an "X" denotes an incompatibility. Do not store containers in shared secondary containment.

[1] Non-chlorinated solvents and oils.

APPENDIX D - H

Floor Coatings

Sikagard 62

Sikagard® 62[CA]

Solvent-Free, Abrasion-Resistant, Epoxy Resin, Waterproof Coating, for Dry or Damp Surfaces

Description
Sikagard 62[CA] is a two-component, solvent-free, epoxy resin, protective and waterproof coating.

Where to use
Wherever a corrosion resistant, tile like, protective coating is required on dry structural substrates.
For substrate having humidity of more than 4% by weight, apply Sikagard EpoCem 75 as temporary moisture barrier for subsequent floor covering.

Advantages
- Protects dry and damp surfaces
- Exceptional tensile strength
- Chemical resistance for long-term protection.
- Convenient 1:1 mixing ratio
- Easily applied, paint-like viscosity with high build finish.
- Durable, tile-like finish allows wipe-off graffiti removal.
- Outstanding bond to all common structural substrates.
- High abrasion resistance for years of wear.
- Approved for use as contact surface for potable water (Limestone and Illusion Aqua).
- Canadian Food Inspection Agency acceptance.

TECHNICAL DATA	
Packaging	10 L and 40 L (2.64 and 10.56 US gal.) units
Colours	Standard: RAL 7038 Agate Grey, RAL 6027 Light Green Special colours: On request
Yield	7-11 mils (wft.) per coat. This yields approximately 3.5-5 m²/L (142-244 ft²/US gal.) per coat. Coverage will vary with temperature, substrate condition, environment and application technique. For ramps and inclined surfaces, add 1-4% of Extender T, as required.
Shelf Life	2 years in original, unopened packaging. Store in cool, dry area. Product must be between 18° - 29°C during mixing and application for best results.
Mixing Ratio	A:B = 1:1 by volume

PROPERTIES (23°C AND 50% R.H.)		
Pot Life	40 min	
Tack-Free Time	3-4 h	
Open Time		
Light foot traffic	5-7 h	
Rubber wheel traffic	8-10 h	
Chemical exposure	3 days	
Viscosity (A+B)	2800 cps	
Tensile Properties ASTM D638		
14 days	Tensile strength	44 MPa
	Tensile elongation	2.7%
Abrasion Resistance (Taber Abrader, Wheel H-22/1000 g/1000 cycles)		
7 days	0.61 g	
Abrasion Resistance ASTM D968		
14 days	Abrasion coefficient	51 L/mil
Adhesion ASTM D3359		
1 day	Adhesion classification	4 A
Water Absorption ASTM D570		
7 days	2 h boil	0.9%

How to use
SURFACE PREPARATION
All surfaces must be clean, sound and free of surface water. Remove laitance, curing compounds, other coatings, oil, grease, rust, wax or other bond inhibiting substances. Sandblast concrete surfaces or use other approved mechanical means (CSP 3). Sandblast steel surfaces to white metal finish. Repair all surface irregularities such as bug holes, honeycombed areas, cracks, etc with a suitable repair material to provide a uniform, flat surface prior to coating. The compressive strength of the concrete should be at least 25 MPa at 28 days and at least 1.5 MPa in tension at time of Sikagard 62[CA] application.

MIXING
For best results, precondition each component between 18° - 29°C before using. Pre-mix each component before proportioning. Measure out equal volumes of each component into clean container. Mix with a mixing paddle attached to a low-speed drill (300-450 rpm) until uniform in colour. Mix only that quantity which can be used within the pot life of the material.

APPLICATION
Apply the coating using rollers or

Sikagard® 62[CA] Solvent-Free, Abrasion-Resistant, Epoxy Resin, Waterproof Coating, for Dry or Damp Surfaces

TECHNICAL DATA (continued)

Chemical Resistance

Specimen: Approx. 20 mils (d.f.t.) on asbestos cement substrate. (Cured 10 days at 21°C and 50% R.H.)

Chemical products	Test TEMP.	Storage time and evaluation 1 day	1 month	2 months	6 months	12 months
Water	24°C	A	A	A	A	A
	38°C	A	A	A	A	A
	60°C	A	A	A	AD	AD
Sodium Chloride	24°C	A	A	A	A	A
solution (Saturated)	60°C	A	A	A	A	A
Sodium Hydroxide 30%	24°C	A	A	A	A	A
Cement Water (Saturated)	24°C	A	A	A	A	A
Detergent Solution (5% Ajax)	24°C	A	A	A	A	A
	60°C	A	A	A	AD	AD
Hydrochloric Acid 10%	24°C	A	A	A	A	A
Sulfuric Acid 10%	24°C	A	A	A	B	B
Oxalic Acid 10%	24°C	A	AD	AD	AD	AD
Citric Acid 10%	24°C	A	AD	AD	AD	AD
Fuel Oil (Home Heating)	24°C	A	A	A	A	AD
Gasoline (Unleaded)	24°C	A	A	A	A	AD
Iso-octane	24°C	A	A	A	A	AD
Toluol	24°C	A	A	A	A	AD
Silage	24°C	A	A	AD	AD	BD
Synthetic	24°C	A	A	BD	BD	BD
Liquid Manure	24°C	A	A	A	A	AD
Ethyl Alcohol	24°C	A	C	-	-	-

A = Resistant in permanent contact; B = Breakdown of film; C = Destroyed; D = Discoloured

brushes, or spray. Two coats are recommended. Second coat can be applied as soon as first coat is tack-free and traffic will not damage first coat. Second coat, however, must be applied within 48 h, since a longer delay will require additional surface preparation.

CLEAN UP
Uncured product may be removed from tools with Sika Equipment Cleaner. Wash soiled hands and skin thoroughly in hot soapy water or use Sika Hand Cleaner. Cured product must be removed mechanically.

LIMITATIONS
Sikagard 62® produces a vapour barrier.
Do not apply to surface where transmitted vapour can condense and freeze under coating.
Minimum age of new concrete: 3-6 weeks depending on curing and drying conditions.
Maximum moisture content of substrate: 4% by weight.
Maximum relative humidity: 85%.
Minimum surface temperature: 10°C, and must be more than 3°C above the dew point.
Do not apply over wet (glistening) substrate.
Do not apply to porous surfaces exhibiting moisture vapour transmission during application.
Do not apply to exterior substrates on grade.
Epoxy resin coatings will weather and chalk upon exposure to sunlight.
Do not exceed 0.25 mm (10 mils w.f.t.) per coat on vertical surfaces.

Caution
Component A - May cause irritation to skin following prolonged or repeated contact.
Component B - Causes severe burns - Contains alkaline amines; strong sensitizer. Do not get in eyes, on skin, or clothing. Avoid breathing vapour. Keep container closed. Use with adequate ventilation. Wash thoroughly after use. Consult product label for additional information.

First Aid
In case of skin contact, wash with soap and water. For eye contact flush immediately with plenty of water for at least 15 minutes. Contact a physician. For respiratory problems, transport victim to fresh air. Remove contaminated clothing and wash before re-use.

For more information, consult Sika Material Safety Data Sheet.

WEAR PROTECTIVE CLOTHING, GOGGLES, GLOVES AND/OR BARRIER CREAMS
KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY

09 05570 EPOXY COATINGS/TOPPINGS
Sikagard® 62[CA] Solvent-Free, Abrasion-Resistant, Epoxy Resin, Waterproof Coating, for Dry or Damp Surfaces

12

Sika Canada Inc.
601, avenue Delmar
Pointe-Claire, QC H9R 4A9
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Ontario
970 Verbena Road
Mississauga, ON L5T 1T6
Tel.: (905) 795-3177
Fax: (905) 795-3192

Alberta
16124-114th Avenue N.W.
Edmonton, AB T5S 1T8
Tel.: (780) 486-6111
Fax: (780) 482-1580

www.sikacanada.com

ISO 9001-94
ISO 14001-96
MONTREAL

ISO 9002-94
EDMONTON

01-05

Top Poly 246 and Tennant ECO MPE Multipurpose Epoxy

KERAMIDA
ENVIRONMENTAL, INC.
ENGINEERING • CONSULTING • REMEDIATION
AIR • LAND • WATER • WASTE

330 North College Avenue
Indianapolis, Indiana 46202
(317) 685-6600• Fax (317) 685-6610
1-800-508-8034
email: keramida@keramida.com
web page: www.keramida.com

May 17, 2005

Mr. Craig Hogarth
Compliance Program Manager
Heritage Environmental Services, LLC
7821 West Morris Street
Indianapolis, Indiana 46231

Re: Comparison of Coating Materials for Dock and Van Container Storage Area
Heritage Environmental Services, LLC, Coolidge, AZ facility

Dear Mr. Hogarth:

At your request, I have reviewed the specifications for Tennant Eco MPE™ Multi-Purpose Epoxy undercoat and the Veron Top-Poly 246 topcoat coatings and compared them to the specifications for Sikagard® 62. A comparison of the specification sheets provided by the vendors indicates that the Tennant/Veron coatings combination should be equivalent to the Sikagard® 62 coating in overall chemical resistance and abrasion resistance qualities. Provided the new materials are applied according to manufacturers' instructions, and at recommended thicknesses, they should provide equivalent protection for the underlying concrete to chemical attack and abrasion. The specification sheets for the coating materials are attached.

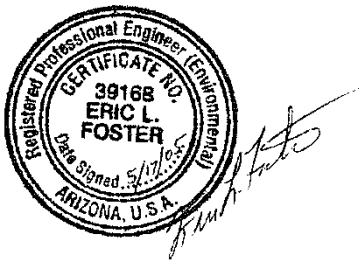
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Should you have any questions concerning this information, please feel free to contact me at (317) 685-6605.

Sincerely,
KERAMIDA Environmental, Inc.

Eric L. Foster, P.E.
Senior Engineer
AZ PE License 39168

(Seal)



Attachments:
Tennant Eco MPE™ Specification Sheet
Veron Top-Poly 246 Specification Sheet

Setting The Standard of Excellence

Veron Coating Systems Inc.

TECHNICAL DATA SHEET

Top-Poly 246

SOLVENT CHEMICAL RESISTANT POLYURETHANE

PRODUCT DESCRIPTION:

Top-Poly 246 Chemical Resistant Polyurethane Coating is a high solids, high build chemical resistant two-component, gloss finish, aliphatic polyurethane coating. Top-Poly*246* provides strong chemical resistance and non-yellowing for use on exterior and interior pre-primed concrete surfaces. Typical surfaces for use of this product are aircraft hangars, automotive repair shops, service stations, show rooms, factory floors, garage floors, and many other commercial high traffic surfaces. Top-Poly *246* mixes at 2 Parts A to 1 Part B by volume. Top-Poly *246* is available in clear, white, 24 standard colors and also can be custom tinted.

Bond strength of this coating over previously installed coatings must be tested.

ADVANTAGES:

- *Excellent UV Resistance*
- *Gloss Finish*
- *Resists Yellowing*
- *Abrasion Resistant*
- *Excellent Durability*
- *24 Standard Colors*
- *Excellent Chemical Resistance*
- *V.O.C. Compliant* 420g/L*
- *Custom Tints Available*

*Check your local V.O.C. (Volatile Organic Content) Regulations before use.

USES:

- *Aircraft Hangars*
- *Show Rooms*
- *Auto Repair Shops*
- *Factory Floors*
- *Service Stations*
- *Commercial Floors*

PHYSICAL PROPERTIES:

Vehicle	*Polyurethane / Aliphatic Isocyanate*
Mixing Ratio	*2 -Parts A Resin to 1 Part B Curative*
Colors	*White, Clear and 24 Standard Colors (Custom tints available).*
Thinner / Reducer	*Top-Poly 246 Reducer* *Thin up to one pint per gallon after mixing Part A and Part B. Colder surfaces require more thinning than warmer surfaces.*
Application	*Brush and Roll.* *Use Solvent Resistant Brush and/or 3/16" – 5/16" High Quality Solvent Resistant Mohair Rollercover and/or Porcupine Roller (to reduce application generated entrained air)*
Recommended Primers	*Max-Bond 155 Waterborne Epoxy Coating or VC255 High Solids Epoxy 255 Coating*
Number of Coats	*1 coat over pre-primed or pre-coated surface.*
Solids – Clear Solids – Pigmented	*Weight 57.0% +/- 2* *Volume 53.6% +/- 2* *Weight 71.7% +/- 2* *Volume 62.3% +/- 2*
Volatile Organic Solvent	*Clear 415 grams/liter* *Pigmented 370 grams/liter*
Flash Point, T.T.C.	*105°F*
Theoretical Coverage (Sq. feet per gallon)	*Clear Pigmented* *1 mil (25 microns) 859 1000* *5 mils(125 microns) 172 200*
Minimum Application	*Pigmented: 2.65 DFT (4.01 WFT)* *Clear: 2.18 DFT (4.01 WFT)*

Abrasion Resistance Taber CS-17 wheel, 1000 cycles, 1000gm	*35 mg loss*
Hardness(Konig)	*105*
Impact Resistance (ASTM D-2794)	*160 inch pounds reverse and direct*
Flexibility	*Passes 1/8" conical mandrel*
Pot Life (Hours@77 deg F.)	*1 ½ - 2 ½ hours*
Cure Time (77° F& 50% Rel. Humidity.)	*To Touch: 4 – 6 hours* *To Re-coat: 10 – 12 hours* *Light Traffic: 30 - 48 hours* *Heavy Foot Traffic: 3 Days* *Full Cure: 7 Days* *Dry times will vary depending on conditions at the time of application.*
Recoat Time (77° F& 50% Rel. Humidity.)	*From 16 to 24 hours* *For application after 24 hours sand screen before recoat.*
Gloss @ 60°	*90-93 (Gloss)*
Packaging	*1.5 gallon kits: 1 gallon Part A* *1/2 gallon Part B* *15 gallon kits: 2- 5 gallon pails Part A* *1- 5 gallon pail Part B*
Shelf Life	1 year when stored in unopened containers at an ambient temperature of 77° F. at 30% relative humidity. DO NOT ALLOW TO FREEZE.

THE WORLD'S MOST DEDICATED MANUFACTURER OF DECORATIVE FLOOR COATINGS
ACRYLICS – ACRYLIC URETHANES – POLYURETHANES – EPOXIES – MODIFIED CEMENT SYSTEMS

1458 North 26th Avenue, Phoenix, Arizona 85009 Tel 602-484-7300 Fax 602-484-7313 Toll Free 1-888-485-7300

TECHNICAL DATA SHEET

Top-Poly 246

SOLVENT CHEMICAL RESISTANT POLYURETHANE

COATING LIMITATIONS:
Vapors from this coating may be offensive. Do not apply in or around occupied buildings until building management and everyone occupying the structure is notified.

As with all performance coatings, the cured film may become slippery when wet or exposed to oily conditions. Non skid additives can be added to aid in slip resistance.

This product is resistant to tire pick up, but surfaces may discolor due to tire plasticizer migration.

Do not apply in damp or wet weather or in air temperatures below 50oF or over 90oF and or extremely high humidity conditions.

Do not apply over unsound surfaces.

For specific chemical resistant properties that are not listed in Technical Data Sheet test before application.

If the coating is applied where food items are stored, remove all food items until the coating has fully cured and vapors have dissipated.

This product is not intended for spray application.

SURFACE PREPARATION:
Surfaces should be clean and free from contamination by dirt, oils, waxes, chalking, bacteria, cleaning, curing, etching agents, neutralizing agents, and peeling coatings. Existing coatings must be sanded or sand-screened using an 80 grit pad.

APPLICATION:
Bond strength of this coating over existing coatings should be determined by pre-testing. This coating must be applied over previously primed substrates. Always mix with new or uncontaminated mixing paddles. Mix this product well before use. To reduce bubbling of the coating avoid excessive agitation of the liquids. Premix both components before mixing together. Mix ratio is 2 parts A to 1 part B. Apply with notched squeegee, brush or roller to a maximum application thickness of 10 wet mils per coat. The first coat should be completely tack free before recoating. The second coat should be applied between 16 and 24 hours after the first coat (under normal curing conditions). If the coating is allowed to cure longer than 24 hours, sand to a uniform dullness. The floor should show no gloss or high spots. Do not apply coating unless substrate temperature is 50° F and rising or 95 °F and falling. To lessen bubbling of the coating avoid excessive agitation of the liquids with the roller or applicator. It is recommended that this coating system not be exposed to water or moisture during mixing, application and cure. Contamination with moisture can cause premature curing, whitening and bubbles in the film. This coating is not designed in applications where the coated surface is immersed in water for extended lengths of time. Clean up tools with Xylene or VC 246 Reducer. Mixed Top-Poly *246* can be thinned 1 pint per gallon (approx. 10%) with Veron Coatings Top-Poly *246* Reducer. (Observe local and federal government regulations regarding V.O.C. (Volatile Organic Contents).
DISPOSE OF ALL WASTE IN ACCORDANCE WITH LOCAL STATE AND FEDERAL GOVERNMENT REGULATIONS.

KEEP OUT OF THE REACH OF CHILDREN.
THIS MATERIAL IS COMBUSTIBLE. KEEP AWAY FROM FLAMES. Do not take internally. Immediately wash hands or any part of your body, which comes into, contact with this product. Wear appropriate protective equipment. Avoid breathing vapor, mist or fumes. Use appropriate respirator for solvent systems and use only in well-ventilated areas. Do not use in tank or pit without proper protection. Use product in accordance with this product data sheet, any variance voids all warranties and liabilities. READ MATERIAL SAFETY DATA SHEET BEFORE USE OF THIS PRODUCT.

IMPORTANT NOTICE TO PURCHASER:
This system is designed for the experienced contractor and applicator. The information contained in this document is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best of Veron Coating Systems, Inc. knowledge obtained from sources believed by Veron Coating Systems, Inc. to be accurate. Veron Coating Systems, Inc. does not assume any legal responsibility for use or reliance upon the information contained in this document. Qualified professionals must perform all product testing and applications. Before using any chemical product, read its Material Safety Data Sheet.

WARRANTY
This product is warranted to be free of defect to the original purchaser. Any unused product proven to be defective must be returned to the seller for replacement. Any warranty of this product is limited to the replacement of any purchased product that has been paid for in full and been shown to be defective. The seller or manufacturers only obligation shall be to replace such quantity of the product proven to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct, incidental or consequential, arising out of the use of or misuse of this product. Before using this product the applicator shall determine the suitability of this product for the intended use and the applicator assumes all liability whatsoever in connection therewith.

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Veron Coating Systems Inc.

TECHNICAL DATA SHEET

Top-Poly 246

SOLVENT CHEMICAL RESISTANT POLYURETHANE

Inorganic Acids	Rating	Solvents	Rating
10% Hydrochloric Acid	E	Methyl Ethyl Ketone	G
37% Hydrochloric Acid	E	Xylene	E
10% Nitric Acid	G	Toluene	G
50% Nitric Acid	G*	Isopropanol	G
10% Phosphoric Acid	E	Ethanol	G
50% Phosphoric Acid	G*	Ethyl Acetate	G
10% Sulfuric Acid	E	Trichloroethylene	G
50% Sulfuric Acid	F	Mineral Spirits	E
98% Sulfuric Acid	NR	Naphtha	E
Organic Acids	**Rating**	**Food And Beverages**	**Rating**
10% Acetic Acid	G	Water	E
25% Acetic Acid	F*	Coffee	E
50% Acetic Acid	NR	Milk	E
Glacial Acetic Acid	NR	Mustard	G
85% Lactic Acid	G	Vinegar	E
50% Citric Acid	F	Vegetable Oils	E
		Beer	E
Fuels, Lubricants, Hydraulic Fluids	**Rating**	Wine	G
Gasoline	E	Whiskey	G
Transmission Fluid	E	Cola	E
Brake Fluid	E		
Skydrol	F	**Miscellaneous**	**Rating**
Jet Fuel A-1	E	Blood	E
Motor Oil	E	Urine	E

* Stains

Tests were conducted on samples cured 7 days at room temperature. This chart should be used to determine the effect of the chemicals illustrated all chemicals not listed should be evaluated separately. Samples were tested on a pigmented film applied over Max-Bond 155 Waterborne Epoxy Primer. A ratings key is as follows:

RATINGS
E = Excellent
G = Good
F = Fair
NR = Not Recommended

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TECHNICAL DATA SHEET

Top-Poly 246

SOLVENT CHEMICAL RESISTANT POLYURETHANE

PROBLEMS	CAUSES
Orange Peel Finish	Coating applied too heavy. Coating applied over hot surface or cured in too hot conditions. Coating applied over incompatible existing surface. Recoating too soon.
Wrinkling of Film	Product applied too heavy. Coating applied over uncured film. Surface hot when coating is applied. Recoating too soon. Coating applied over incompatible existing coating.
Slow Cure or Poor Cure	Surface temperatures too cold. Poor mixing of the A & B components. Improper mixing ratios. Poor ventilation during application and cure. Coating applied too thick. Use of excessive reducer. Poor choice of reducer. Excessive use of "Cabosil" or fumed silica type of thickening agent.
Poor Gloss, Dull Finish	Solvents trapped in film due to inadequate ventilation during application and cure. Poor choice of reducer. Excessive use of non-skid additive. Excessive use of "Cabosil" or fumed silica type of thickening agent.
Whitening on or in the Cured Film	Film applied when surface still had moisture in it. Coating is exposed to water before completely cured.
Roller Marks in the Finish	High surface and ambient temperatures when applying. Use of fast solvent reducer when temperatures are too high. Humidity too high during application. Extra catalyst added to product. Product applied too thin.
Bubbles in the finish (1mm – 6mm)	Coating applied too soon over primer or undercoat. Extra catalyst added to product. Product applied too heavy. Temperature too high (over 90°F.) during application. Incorrect choice of rollercover.
Bubbles in the Finish (greater than 6mm)	Humidity too high during application. Extra catalyst added to product. Product applied too heavy.
Coating Curing Fast	Use of fast solvent reducer when temperatures are too high. High surface and ambient temperatures when applying. Poor mixing of the A & B components, too much catalyst in mix.
Fisheyes; Crawling	Improper substrate cleaning. Surface contamination from oil, grease, silicone, sweat, or mold release agents, etc.
Peating between Coats	Past critical recoat time when applied. Contamination between coats. Recoating too late. Improper mixing ratios, extra catalyst added to product.

DISPOSAL: DISPOSE OF ALL WASTE IN ACCORDANCE WITH LOCAL STATE AND FEDERAL GOVERNMENT REGULATIONS. Empty containers may contain coating residue, including flammable liquids or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned.

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TENNANT

Working for a cleaner, safer world™

Eco-MPE™ -- Multi-Purpose Epoxy

A two-component epoxy

Tech Data Bulletin

Material Properties (Liquid)

Property	Test Method	Results
Flash Point, *°F (°C)* Seta Closed Cup	ASTM D3278	Part A - >200 (93) Part B - >200 (93)
Percent Solids, *by wt*	ASTM D2369	Part A - 100 Part B - 99.62
Density, *lb/gal (kg/L)*	ASTM D1475	Part A - 9.22 (1.11) Part B - 8.44 (1.01) Mixed - 8.96 (1.07)
Shelf Life		Minimum 1 year
Viscosity, *cps* Brookfield	ASTM D2196	Part A - 700-1000 Part B - 350-550 Mixed - 500-700
Volatile Organic Compound - VOC *lb/gal (g/L)*	ASTM D3960	Mixed A+B 0 (0)

Cured Coating Properties (Dry Film)

Property	Test Method	Results
Abrasion Resistance, *mg loss** Taber Abraser	ASTM D4060*	83
Coefficient of Friction - COF James Friction Tester	ASTM D2047	0.59-0.62
Tensile Strength, *psi (kPa)*	ASTM D2370	8,000 (55,200)
Percent Elongation	ASTM D2370	5
Shore D Hardness	ASTM D2240	80-85 @ 0 sec 75-80 @ 15 sec

*ASTM D4060, CS-17 Taber Abrasion Wheel (1,000 gram load, 1,000 revolutions)

Application Characteristics

Coverage Rate, *ft²/gal*	80-535
Application Thickness, *wet/dry mils*	3-30

Results are based on conditions at 77°F, 50% relative humidity.

Chemical Resistance

		1 Day	7 Days
Acids, Inorganic	10% Hydrochloric Acid	E	E
	30% Hydrochloric Acid (Muriatic)	E	E
	10% Nitric Acid	E	G
	50% Phosphoric Acid	F	P
	37% Sulfuric Acid (Battery Acid)	G	G
Acids, Organic	10% Acetic Acid	F	P
	10% Citric Acid	E	G
	Oleic Acid	G	F
Alkalies	10% Ammonium Hydroxide	E	E
	50% Sodium Hydroxide	E	E
Solvents (Alcohols)	Ethylene Glycol (Antifreeze)	E	E
	Isopropyl Alcohol	F	F
	Methanol	F	F
Solvents (Aliphatic)	d-Limonene	E	E
	Jet Fuel - JP-4	E	E
	Gasoline	E	G
	Mineral Spirits	E	E
Solvents (Aromatic)	Xylene	F	F
Solvents (Chlorinated)	Methylene Chloride	P	P
Solvents (Ketones & Esters)	Methyl Ethyl Ketone (MEK)	P	P
	Propylene Glycol Methyl Ether Acetate (PMA)	F	F
Miscellaneous Chemicals	20% Ammonium Nitrate	E	E
	Brake Fluid	F	F
	Bleach	G	G
	Motor Oil (SAE30)	E	E
	Skydrol® 500B	F	P
	Skydrol® LD4	F	P
	20% Sodium Chloride	E	E
	1% Tide® Laundry Soap	E	E
	10% Trisodium Phosphate	E	E

Based on 1-day and 7-day spot testing on concrete. Coating cured 2 weeks prior to testing.

Legend:
E - Excellent (No Adverse Effect)
G - Good (Limited Adverse Effect)
F - Fair (Moderate Adverse Effect)
P - Poor (Unsatisfactory)

Note: Reduced chemical resistance and increased staining is possible in pigmented versions of this system.

Tide® is a registered trademark of Proctor and Gamble. Skydrol® is a registered trademark of Monsanto.

Tennant Company, 701 North Lilac Drive, P.O. Box 1452, Minneapolis, MN 55440-1452, 800-228-4943

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TENNANT

Working for a cleaner, safer world™

Eco-MPE™ -- Multi-Purpose Epoxy

A two-component epoxy

Instruction Bulletin

EQUIPMENT REQUIRED

Protective clothing **Jiffy® Mixer Blade** [Tennant Part No. 08643-1 (1 gal) or 08643-5 (5 gal)] **Slow speed drill (500 rpm or less)** **12-14" Flat rubber squeegee** **12-14" Notched rubber squeegee**	**Medium (1/2") Nap Roller Assembly** [Tennant Part No. 08647-9 (9") or 08647-18 (18")] **Medium (1/2") Nap Roller Refill** [Tennant Part No. 08578-9 (9") or 08578-18 (18")] **Spiked epoxy shoes**

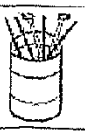
FLOOR PREPARATION

Detergent scrub and rinse with clean water to remove surface dirt, grease and oil. Floor should be shot blasted or scarified and swept and vacuumed to remove debris, dust and residual shot. For thin mil applications 3-5 mils, the floor can be Eco-Prepped and washed with Tennant 407 Acid Wash or acid etched with Tennant 409 Pre-Kote Cleaner after coating removal.

See appropriate preparation instruction bulletins.

IMPORTANT: Read all precautions and instructions before proceeding.

SAFETY & OTHER PRECAUTIONS

FIRE: Do not allow smoking or the use of matches where material is being applied or curing. In case of fire, use foam, dry chemical or extinguishers.	
STORAGE: Keep containers tightly closed when not in use. Store in cool, dry place. Do not allow to freeze.	
WARNING SIGNS: Post appropriate warning signs around job site.	
CLEANUP: Place solvent soaked items (e.g., pads) in metal containers outside of building.	
SPILLAGE: Absorb and dispose of material in accordance with applicable regulations.	
VENTILATION: Provide adequate ventilation and air movement.	

Eco-MPE™
Page 1 of 4

Garland Chemi-Cote EPHB-CR and Garland EverWear 1000

KERAMIDA
ENVIRONMENTAL, INC.
ENGINEERING • CONSULTING • REMEDIATION
AIR • LAND • WATER • WASTE

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email: keramida@keramida.com
web page: www.keramida.com

May 17, 2005

Mr. Craig Hogarth
Compliance Program Manager
Heritage Environmental Services, LLC
7821 West Morris Street
Indianapolis, Indiana 46231

Re: Comparison of Coating Materials for Central Container Storage Area
Heritage Environmental Services, LLC, Coolidge, AZ facility

Dear Mr. Hogarth:

At your request, I have reviewed the specifications for Garland Chemi-Cote™ EPHB-CR and Garland Ever-Wear™-1000 and compared them to the specifications for Sikagard® 62. I have also discussed the application and performance of the Garland materials with Garland representatives. My conclusions from this work are that the combination of the Chemi-Cote™ EPHB-CR undercoat and Ever-Wear™-1000 topcoat should be equivalent to the Sikagard® 62 coating in overall chemical resistance and should have improved abrasion resistance qualities. Provided the new materials are applied according to manufacturers' instructions, and at recommended thicknesses, they should provide equivalent protection for the underlying concrete to chemical attack and longer life through improved abrasion qualities. The specification sheets for the coating materials are attached.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Should you have any questions concerning this information, please feel free to contact me at (317) 685-6605.

Sincerely,
KERAMIDA Environmental, Inc.

Eric L. Foster, P.E.
Senior Engineer
AZ PE License 39168

(Seal)

Attachments:
Garland Chemi-Cote™ EPHB-CR Specification Sheet
Garland Ever-Wear™-1000 Specification Sheet

GARLAND
ADVANCED POLYMER SYSTEMS

PRODUCT DATA SHEET

Chemi-Cote™ EPHB
Chemi-Cote™ EPHB-CR
Chemi-Cote™ EPHB-CR Primer
Cycloaliphatic Epoxy High Build Coating

Chemi-Cote™ EPHB is a low odor, 100 % solids epoxy resin coating system for high build coating and primer applications. A colorpack can be added to achieve a pigmented system. A cycloaliphatic curing agent blend is utilized to provide increased chemical resistance and reduced amine blush, and to give a smooth, durable, tile-like finish.

Chemi-Cote EPHB is an excellent high build coating because of its unique combination of flexibility, impact resistance, high gloss and high bond strength to concrete. Chemi-Cote EPHB can be applied to floors that are too rough for a thin film coating or sealer, but which have not deteriorated to the point where a heavy duty floor resurfacer is needed for repair. Chemi-Cote EPHB can be top coated with an aliphatic urethane (Chemi-Cote UR 3000 or UR 5000) when UV, chemical and increased abrasion resistance are required.

Chemi-Cote EPHB-CR Primer can be used as a concrete primer or ESD coating primer. CA-080-A activator must be used for primer applications. Thin the epoxy primer with one quart of Garland Floor S-1221 Solvent and apply at an application rate of 7 mils wet film thickness.

Chemi-Cote EPHB-CR chemical resistant high build coating utilizes the CA-080-A activator and is used as a top coat for applications requiring a higher degree of chemical resistance. EPHB-CR is also used as a saturation resin for fiberglass reinforced systems. EPHB-CR coating has superior acid and solvent resistance as compared to EPHB; however UV and blush resistance is slightly diminished. Mixing and application instructions for EPHB-CR are the same as those for EPHB with the exception of the use of CA-080-A activator.

Please refer to the paragraphs entitled "Moisture" and "ESD Applications" in the "APPLICATION INSTRUCTIONS" section for additional information.

FEATURES

- ***100% solids as supplied; VOC compliant.***
- ***Attractive, high gloss, reflective coating.***
- ***Tough, smooth, non-porous surface is easy to clean and allows repeated washings and decontaminations.***
- ***Product may be roller-applied as supplied; in-field thinning with solvent may be recommended for prime coat.***
- ***Good abrasion resistance.***
- ***Excellent impact resistance.***
- ***Good overall resistance to a wide spectrum of chemicals, including splash and spillage of:***
  1. ***Aromatic and aliphatic hydrocarbons***
  2. ***Dilute acids and alkalis***
  3. ***Alcohols, detergents, salts and cutting oils***
  4. ***Gasoline, jet fuel, many solvents***

PACKAGING

Chemi-Cote EPHB is supplied in a kit form. The mix ratio is 2 parts resin (EPHB-B Part B) to 1 part activator (CA-012-A Part A) by volume.

Standard packaging consists of:

Component	Container Size	EPHB STD	EPHB-CR
3.125-gallon (11.8 liters) Kit			
Part B Resin	5-gallon (18.9 liters)	EPHB-B/5	EPHB-B/5
Part A Activator	1-gallon (3.8 liters)	CA-012-A/1	CA-080-A/1
Color Pack	1-pint (0.5 liter)	EP-xxxCP/P	EP-xxxCP1/P
0.78-gallon (3.1 liters) Kit			
Part B Resin	1-gallon (3.8 liters)	EPHB-B/1	EPHB-B/1
Part A Activator	1-quart (0.9 liter)	CA-012-A/Q	CA-080-A/Q
Color Pack	1/2-pint (0.2 liter)	EP-xxxCP1/HP	EP-xxxCP1/HP

TYPICAL PROPERTIES

Components

Part B (EPHB-B Resin Portion)

Viscosity	1300-2000 cps @ 73°F (23°C)
Weight/Gallon	9.3 lbs./gal. (1.1 kg./liter)
Visual Appearance	Clear liquid

Part A (CA-012-A Standard Activator Portion)

Viscosity	90-150 cps @ 73°F (23°C)
Weight/Gallon	8.0 lbs./gal. (0.89 kg./liter)
Visual Appearance	Clear liquid

Part A (CA-080-A CR Activator Portion)

Viscosity	200-400 cps @ 73°F (23°C)
Weight/Gallon	8.66 lbs./gal. (0.99 kg./liter)
Visual Appearance	Amber liquid

Mixed Materials

Drying Time	Substrate at 73°F (23°C), 50% RH. Applied at 15 wet mils.
Tack Free	8-10 hours
Dry Hard	10-12 hours
Full Cure	5-7 days
Viscosity	500-700 cps @ 73°F (23°C)
Weight/Gallon	9.6 lbs./gal. (1.0 kg./liter)

*Non-Volatile Content
*Depending on epoxy color pack utilized, volume and weight percent solids can range from 98-100%.

Physical Properties

- Abrasion Resistance: CS-17 Wheels 75-85 mgs./1000 cycles. (ASTM D 4060 Taber Abraser 1000 gm. load per wheel)
- Impact Resistance: 16 in.-lbs. (18 cm.-kg.) direct and reverse. (ASTM D 2794 Gardner)
- Flexibility: 1/4 in. (.62 cm.) passes test. (ASTM D 522 Conical Mandrel)
- Hardness: 2B (ASTM D 3363 Pencil)
- Adhesion - Concrete: 350 psi (2.4 MPa) - concrete failure. (ASTM D 4541 Elcometer)

GARLAND
FLOOR COMPANY
ADVANCED POLYMER SYSTEMS

COVERAGE

EPHB-CR Clear Primer Coverage

Coverage of materials on prepared and/or primed concrete will vary depending on porosity or density, profile and texture of the substrate.

The theoretical coverage for EPHB-CR primer when thinned with one quart of Garland Floor S-1221 Solvent and applied at 6-7 wet mils is:

3.0-gallon kit = 680 sq. ft. (70-82 sq. m.)
0.75-gallon kit = 170 sq. ft. (18-20 sq. m.)

The addition of Garland Floor S-1221 Solvent will increase the penetration of the primer and make the system easier to rollout. Up to one gallon of solvent may be added to increase penetration of particularly dense, hard to penetrate concrete.

EPHB-Standard Pigmented High Build Coating Coverage

The unthinned Chemi-Cote EPHB with CA-012-A is applied at 15-20 wet mils. The theoretical coverage would be:

3.25-gallon kit = 260-348 sq. ft. (25-33 sq. m.)
0.78-gallon kit = 65-85 sq. ft. (6-8 sq. m.)

STORAGE AND SHELF LIFE

The components of the Chemi-Cote EPHB should be stored in a cool, dry area out of direct sunlight. The materials should be stored between 65°F and 75°F (18-24°C) for 24 hours prior to use for optimum handling properties. The cans should be left sealed airtight. The shelf life of the components in their unopened original cans is one year.

SET TIME

The temperature of the substrate will determine the cure rate of the coating being applied. Ambient air temperature may not be the temperature of the substrate. That is, in summer, sunlight shining on the substrate will make the substrate warmer than ambient air, and in winter, the substrate may be colder than ambient air. The substrate temperature should be measured and maintained above 55°F (13°C) during application.

	@ 55°F (13°C)	73°F (23°C)	90°F (32°C)
For minimum foot traffic	16-20 hrs.	12-16 hrs.	8-10 hrs.
For moderate foot/low motor traffic	20-24 hrs.	16-20 hrs.	10-14 hrs.
Complete cure	168 hrs.	120 hrs.	72 hrs.

WORKING TIME AND RECOAT LIMITS

Temperature	Working Time	Recoat Times Minimum	Maximum
55°F (13°C)	35 minutes	16 hours	48 hours
73°F (23°C)	20 minutes	12 hours	36 hours
90°F (32°C)	10 minutes	8 hours	24 hours

It is important to allow optimum curing of the new substrate to which the Chemi-Cote EPHB will be applied.

If a second coat of EPHB is required and the second coat is applied too soon, any solvents added to the basecoat or primer will be entrapped, affecting the cure of the basecoat. If the Chemi-Cote EPHB is applied too late, the adhesion can be adversely affected. Refer to the section entitled "Application to Cured Basecoat" for additional information.

When applying Chemi-Cote EPHB over Garland Floor products, refer to the specific Product Data Sheets of the basecoat material for topcoating recommendations.

APPLICATION INSTRUCTIONS

The installation procedures are as specific as possible. Contact Garland Floor Co. to deviate from these procedures when special circumstances arise in the field. Installation procedures for Garland Floor basecoat products can be found in their respective Product Data Sheets.

Moisture

The concrete should be tested for moisture content. Areas where moisture exceeds 3.0 lbs./24 hours/1000 sq. ft. using the calcium chloride moisture test may need to be double-primed. Consult Garland Floor Co. prior to applying any material. Please refer to the Garland Floor Company "Limited Warranty" (a copy of which may be obtained from the company) regarding water damage disclaimer and exclusion.

ESD Applications

Chemi-Cote EPHB-CR can be applied as a primer under all ESD coatings. The activator used must be CA-080-A.

Surface Preparation

All oil, grease and chemicals should be removed by scraping or washing with detergents prior to acid etching, shot blasting, sanding or buffing. Sanding or buffing is sufficient preparation for previously coated areas. (Refer to section on Application to Cured Basecoat.) Acid etching has been used successfully to prepare concrete surfaces for minimal to moderate foot traffic. When acid etching is being done, all surface laitance and other contaminants must be removed. After the acid solution has stopped foaming, power washing is recommended to thoroughly rinse all salts and other residue fro m the etched floor. Allow the floor to dry before applying a primer. Consult Garland Floor Co. for specific recommendations.

Shot blasting is the preferred method of surface preparation. Concrete should be primed prior to applying Chemi-Cote EPHB. When using shot blasting under high build coatings the shot-blaster must be modified; excessive shot blasting, especially over-lap marks, will not be hidden by the coating.

Application to Cured Basecoat

A solvated primer is applied at approximately 6-7 wet mils, yielding approximately 5-6 dry mils. Any dirt or shot blasting media may not be hidden by the primer. Contamination (oil, grease, or chemicals) will affect the bond of the primer and may cause surface defects such as fish eyes. It is recommended that foot and tow motor traffic be held to a minimum on floors to be topcoated.

If the time limit has expired for applying the Chemi-Cote EPHB over the basecoat material, or the floor has been contaminated, the following procedures must be followed:

1. Contamination (oil, grease, chemicals, etc.) should be removed with appropriate solvents and detergents. Contact Garland Floor Co. for specific recommendations.
2. Buff the cured surface to a dull gloss with a 3M-type sanding screen (60 or 100 grit).
3. Sweep the floor thoroughly with 3 ft.-long (.95 m) dust mops.
4. Rinse with lint-free towels or rags soaked in water, and clean the floor by placing the rags under a broom or squeegee. Prior to coating, make sure all water has been removed from the floor.
5. Attach tack cloths to the dust mops and tack the floor twice. The tack cloths should be changed frequently to insure that no dust or dirt remains on the floor.

Chemi-Cote EPHB can be installed over previously coated floors only by following these procedures:

1. Test the previously coated floor prior to applying any materials. Wipe Garland Floor S-1221 Solvent over portions of the floor to be coated and check for softening or disintegration of the coating or floor material. The surface can be coated if the coating becomes tacky when the solvent is wiped on the floor and then it returns to its original condition after the solvent flashes-off. If the old coating on the floor dissolves, does not become tacky, or the edges of the coating curl, contact Garland Floor Co.
2. If the floor has passed the solvent test, follow recommendations for applying Chemi-Cote EPHB over a basecoat whose recoat time has expired.

Expansion Joints and Crack Filling

All expansion joints should be filled after the Chemi-Cote EPHB has been applied. All non-moving cracks or spalled areas should be filled with Garland Floor Fine Crack Fill. The fine crack fill, because it will have a different texture than the prepared floor, may project through the coating leaving a Band-Aid® appearance.

Dew Point, Humidity and Ventilation

Chemi-Cote EPHB is a high-solids epoxy coating system. Poor ventilation will delay the cure and may allow amine fumes to build up in the facility. The building should have proper ventilation to insure the movement of air throughout, leaving no stagnant areas. Use exhaust fans to remove air from the areas, as opposed to blowing air across or onto the floor. Air movement across the floor can flash-dry the film surface before bubbles that formed during application can burst. This will trap the air bubbles in the cured film.

Humidity can be a problem when the foundation temperature is below the dew point. (Dew point can be checked in the field with a Sling Psychrometer and Surface Thermometer.) When this occurs, a film of water will form on the coated surface, thus inhibiting the cure and possibly causing an amine blush.

If dew point, humidity, or ventilation is a suspected problem, contact Garland Floor Co. prior to any application.

Mixing Materials

Do not mix more material than can be applied within the working time limits at the actual field temperature.

The Chemi-Cote EPHB-B Part B resin portion will be shipped in a 5-gallon (18.9 liters) plastic pail. The CA-012-A Part A activator will be shipped in a 1-gallon (3.8 liters) can. The EP-xxxCP1 color pack will be shipped in a 1-pint (0.5 liter) can.

A jiffy-type mixing paddle with a variable speed mixing drill should be placed in the Chemi-Cote EPHB Part B container, and while running, the color pack EP-xxxCP1 should be added to the vortex of the mix. Add the one-gallon can of CA-012-A to the pigmented EPHB-B and mix for 3 minutes at a moderate speed, scraping the container sides and bottom with the mixer.

When using EPHB as a primer, replace the CA-012-A activator with CA-080-A, and mix as described previously. The addition of any Garland Floor S-1221 Solvent should be done after the activator and resin are mixed. Mix the solvent and blended resin/activator for 1-2 minutes.

Applying Materials

The Chemi-Cote EPHB should be applied with a notched squeegee over a smooth surface or a flat squeegee over a rough, porous surface. The notched squeegee should be approximately 36 inches (0.9 m) long with 1/16-to 1/8-inch (1.6-3.2 mm) notches at 1/4-inch (6.3 mm) intervals. This type of squeegee will apply sufficient material to achieve 15-20 wet mils when backrolled. The backrolling is typically done with a 9-inch (.25 m) short nap, 3/8-inch (9.5 mm), solvent-resistant roller cover. The Chemi-Cote EPHB should be backrolled to level the material applied; over-rolling will cause bubbling.

The floor should be divided into sections that can be completed without stopping. Where a section will end, it should be taped off to form a clean edge for an adjacent section. Chemi-Cote EPHB is a high build self-leveling material and will flow across tape on a grade. It is best to make an edge or stopping point on a flat surface if possible.

The recommended application procedures are:

1. Take one 5-gallon (18.9 liters) pail of the mixed Chemi-Cote EPHB and start at one end of the section being coated. The walls and/or obstructions should be trimmed in the immediate area where the coating will be applied. The Chemi-Cote EPHB should be poured in a line approximately one foot (0.3 m) from the wall or starting line of the entire width of the section being coated.
2. The person using the squeegee can then make one pass along the wall or starting line, turn and come back, making a second pass adjacent to the first pass. The rollers are then used to level the Chemi-Cote EPHB already applied. One person can easily roll a 15-20 foot (13-18 m) wide section. This should be done as quickly as possible.

If the time limit has expired for applying the Chemi-Cote EPHB over the basecoat material, or the floor has been contaminated, the following procedures must be followed:

1. Contamination (oil, grease, chemicals, etc.) should be removed with appropriate solvents and detergents. Contact Garland Floor Co. for specific recommendations.
2. Buff the cured surface to a dull gloss with a 3M-type sanding screen (60 or 100 grit).
3. Sweep the floor thoroughly with 3 ft.-long (.95 m) dust mops.
4. Rinse with lint-free towels or rags soaked in water, and clean the floor by placing the rags under a broom or squeegee. Prior to coating, make sure all water has been removed from the floor.
5. Attach tack cloths to the dust mops and tack the floor twice. The tack cloths should be changed frequently to insure that no dust or dirt remains on the floor.

Chemi-Cote EPHB can be installed over previously coated floors only by following these procedures:

1. Test the previously coated floor prior to applying any materials. Wipe Garland Floor S-1221 Solvent over portions of the floor to be coated and check for softening or disintegration of the coating or floor material. The surface can be coated if the coating becomes tacky when the solvent is wiped on the floor and then it returns to its original condition after the solvent flashes-off. If the old coating on the floor dissolves, does not become tacky, or the edges of the coating curl, contact Garland Floor Co.
2. If the floor has passed the solvent test, follow recommendations for applying Chemi-Cote EPHB over a basecoat whose recoat time has expired.

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Chemi-Cote EPHB is a high-solids epoxy coating system. Poor ventilation will delay the cure and may allow amine fumes to build up in the facility. The building should have proper ventilation to insure the movement of air throughout, leaving no stagnant areas. Use exhaust fans to remove air from the areas, as opposed to blowing air across or onto the floor. Air movement across the floor can flash-dry the film surface before bubbles that formed during application can burst. This will trap the air bubbles in the cured film.

Humidity can be a problem when the foundation temperature is below the dew point. (Dew point can be checked in the field with a Sling Psychrometer and Surface Thermometer.) When this occurs, a film of water will form on the coated surface, thus inhibiting the cure and possibly causing an amine blush.

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Mixing Materials

Do not mix more material than can be applied within the working time limits at the actual field temperature.

The Chemi-Cote EPHB-B Part B resin portion will be shipped in a 5-gallon (18.9 liters) plastic pail. The CA-012-A Part A activator will be shipped in a 1-gallon (3.8 liters) can. The EP-xxxCP1 color pack will be shipped in a 1-pint (0.5 liter) can.

A jiffy-type mixing paddle with a variable speed mixing drill should be placed in the Chemi-Cote EPHB Part B container, and while running, the color pack EP-xxxCP1 should be added to the vortex of the mix. Add the one-gallon can of CA-012-A to the pigmented EPHB-B and mix for 3 minutes at a moderate speed, scraping the container sides and bottom with the mixer.

When using EPHB as a primer, replace the CA-012-A activator with CA-080-A, and mix as described previously. The addition of any Garland Floor S-1221 Solvent should be done after the activator and resin are mixed. Mix the solvent and blended resin/activator for 1-2 minutes.

Applying Materials

The Chemi-Cote EPHB should be applied with a notched squeegee over a smooth surface or a flat squeegee over a rough, porous surface. The notched squeegee should be approximately 36 inches (0.9 m) long with 1/16-to 1/8-inch (1.6-3.2 mm) notches at 1/4-inch (6.3 mm) intervals. This type of squeegee will apply sufficient material to achieve 15-20 wet mils when backrolled. The backrolling is typically done with a 9-inch (.25 m) short nap, 3/8-inch (9.5 mm), solvent-resistant roller cover. The Chemi-Cote EPHB should be backrolled to level the material applied; over-rolling will cause bubbling.

The floor should be divided into sections that can be completed without stopping. Where a section will end, it should be taped off to form a clean edge for an adjacent section. Chemi-Cote EPHB is a high build self-leveling material and will flow across tape on a grade. It is best to make an edge or stopping point on a flat surface if possible.

The recommended application procedures are:

1. Take one 5-gallon (18.9 liters) pail of the mixed Chemi-Cote EPHB and start at one end of the section being coated. The walls and/or obstructions should be trimmed in the immediate area where the coating will be applied. The Chemi-Cote EPHB should be poured in a line approximately one foot (0.3 m) from the wall or starting line of the entire width of the section being coated.
2. The person using the squeegee can then make one pass along the wall or starting line, turn and come back, making a second pass adjacent to the first pass. The rollers are then used to level the Chemi-Cote EPHB already applied. One person can easily roll a 15-20 foot (13-18 m) wide section. This should be done as quickly as possible.

3. Another line of Chemi-Cote EPHB is poured approximately one foot (0.3 m) from the rolled area and Step 2 is repeated. The rolling personnel should make sure they are not leaving puddles or thick sections of Chemi-Cote EPHB at the junction of the previously rolled and freshly applied Chemi-Cote EPHB.
4. These procedures are followed until the section is completed. If the work must stop for any reason, a tape line should be used as a breaking point.

CLEAN-UP

Any mixing or application equipment should be cleaned immediately after use. Garland Floor S-1221 Solvent is recommended for clean-up.

SAFETY

Material Safety Data Sheets are shipped with the products. Garland Floor Co. recommends any personnel applying these types of materials or personnel in areas adjacent to where the materials are being applied, should read and understand these prior to mixing and/or applying any material.

DISPOSAL

All materials should be disposed of in accordance with all Federal, state and local regulations.

CAUTIONS

WARNING!! USE WITH ADEQUATE VENTILATION. Use proper respiratory protection when required. Avoid contact with eyes, skin and clothing. Workmen should wear gloves or protective creams. If skin contact occurs, wash at the first opportunity with soap and water. In the event of eye contact, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER. CALL A PHYSICIAN.

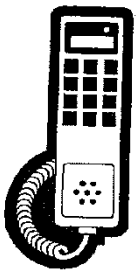
WARNING!! Skin or eye exposure or inhalation can result in serious medical problems! Keep container closed when not in use. DO NOT TAKE INTERNALLY! KEEP OUT OF THE REACH OF CHILDREN! FOR INDUSTRIAL USE ONLY.

TECHNICAL ASSISTANCE

Contact Garland Floor Co. at

1-800-321-2395

for more specific technical information or installation techniques.



WARRANTY & DISCLAIMER

THE TECHNICAL DATA AND OTHER PRINTED INFORMATION FURNISHED IS TRUE AND ACCURATE TO THE BEST OF OUR KNOWLEDGE. THE PRODUCTS ARE WARRANTED PURSUANT TO ACCEPTANCE OF "LIMITED WARRANTY", A COPY OF WHICH CAN BE OBTAINED FROM THE GARLAND FLOOR COMPANY, WHICH IS THE EXCLUSIVE WARRANTY WITH RESPECT TO THE SALE OF THIS PRODUCT. THE MODIFICATION OF ANY COMPONENT OR USES NOT OUTLINED IN THIS BULLETIN NULLIFIES THE WARRANTY UNLESS ADVANCE WRITTEN CONFIRMATION IS OBTAINED FROM THE GARLAND FLOOR COMPANY. NO OTHER WARRANTIES EXPRESSED OR IMPLIED SHALL APPLY. WE ASSUME NO RESPONSIBILITY FOR COVERAGE, PERFORMANCE OR INJURIES RESULTING FROM USE. LIABILITY IF ANY, SHALL BE TO SUPPLY REPLACEMENT MATERIALS AS SET FORTH IN THE "LIMITED WARRANTY".

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GARLAND FLOOR COMPANY
ADVANCED POLYMER SYSTEMS

PRODUCT DATA SHEET

Ever-Wear™ 1000

Abrasion Resistant Aromatic Polyether Polyurethane

Ever-Wear™ 1000 Coating Series are two- and three-component VOC compliant aromatic polyether polyurethane coatings. The VOC content is less than 3.5 lbs./gal. (420 grams/liter). Ever-Wear 1000 is utilized to provide excellent adhesion and wear resistant properties to concrete and epoxy substrates. The coating contains proprietary hard fillers, which increase abrasion resistance by up to 50% over that of standard polyurethane coatings. Ever-Wear 1000 is formulated for use in very high traffic areas such as truck loading docks, warehouses and high traffic aisle ways. It can function as a topcoat directly over concrete with the addition of Chemi-bond, a special bonding additive, in the first coat. Ever-Wear 1000 will produce a satin finish and is available in clear and pigmented formulations.

Areas where moisture exceeds 3.0-lbs. / 24 hours / 1000 sq. ft. using the calcium chloride moisture test, may need to be double primed. Please refer to the paragraph entitled "Moisture" in the "APPLICATION INSTRUCTIONS" section for additional information.

FEATURES

- ***VOC Compliant: less than 3.5 lbs./gal. (420 grams/liter.)***
- ***Product may be roller-applied as supplied; in-field thinning with solvent is not recommended.***
- ***Superior abrasion resistance.***
- ***Excellent impact resistance.***
- ***Good overall chemical resistance to a wide spectrum of chemicals, including:***
  1. ***Aromatic and aliphatic hydrocarbons,***
  2. ***Chlorinated solvents,***
  3. ***Acids, alkalis and alcohol's,***
  4. ***Detergents, salts and cutting oils***
  5. ***Good stain resistance.***

PACKAGING

Ever-Wear 1000 is supplied in a kit form kit consisting of a Part B tint base polyol designated as EVERWEAR, Part A isocyanate designated as UR-1000-A, color pack designated UR-xxxCP0 and wear additive designated as F-5

The color pack designations indicate the following:

UR- indicates urethane-coating system.
xxx- 3 numbers that indicate the final color of the tinted coating.
CP0- The 0 indicates the color pack is added to EVERWEAR.

Standard packaging consists of:

Component	Container Size	Code
3.94-gallon (14.9 liters) Non-pigmented Kit		
Part B Polyol	5-gallon (18.9 liters)	EVERWEAR/5
Part A Isocyanate	5-gallon (18.9 liters)	UR-1000-A/1
Part D Wear Additive	Half gallon (1.9 liter)	F-5/HG
1.97-gallon (7.43 liters) Non-pigmented Kit		
Part B Polyol	2 gallon (7.6 liters)	Ever Wear/2
Part A Isocyanate	1/2 gallon(1.9liters)	UR-1000A/HG
Part D Wear Additive	Quarts cans (0.95 liters)	F-5Qcompont
4.19-gallon (15.86 liters) Pigmented Kit		
Part B Polyol	5-gallon (18.9 liters)	EVERWEAR/5
Color Pack	1-quart (0.9 liters)	UR-xxxCP0/Q*
Part A Isocyanate	1-gallon (3.8 liters)	UR-1000-A/1
Part D Wear Additive	1/2-gallon (1.9 liter)	F-5/HG
* = May be two quarts (1.8 liters) for some colors.		
2.10-gallon (7.95 liters) Pigmented Kit		
Part B Polyol	2-gallon (7.6 liters)	EVERWEAR/2
Color Pack	1 pint (0.5 liters)	UR-xxxCP0/P*
Part A Isocyanate	1/2-gallon (1.9 liters)	UR-1000-A/HG
Part D Wear Additive	Quart cans (0.95 liters)	F-5/Q
* = May be a quart (0.9 liters) for some colors.		

If applying Ever-Wear 1000 directly to concrete without an epoxy primer, adhesion promoter Chemi-Bond Part E must be added to the first coat. This material purchased separately, is supplied in a half-pint steel can and is suitable for both kit sizes.

TYPICAL PROPERTIES

Components

Part B (EVERWEAR Polyol Portion)

Viscosity	150-350 cps @ 73°F (23°C)
Weight/Gallon	8.5-9.0 lbs./gal. (0.98-1.04 kg./liter)
Visual Appearance	Beige translucent liquid

Part A (UR 1000-A Isocyanate Portion)

Viscosity	500-1500 cps @ 73°F (23°C)
Weight/Gallon	10.5 lbs./gal. (1.22 kg./liter)
Visual Appearance	Brown Liquid

Color Pack (UR-xxxCP0)

Viscosity	200-1000 cps @ 73°F (23°C)
Weight/Gallon	8.5-13 lbs./gal. (1-1.5 kg./liter)
Visual Appearance	Pigmented liquid

Mixed Materials

Drying Time		Substrate at 73°F (23°C), 50% RH. Applied at 4-5 wet mils.
	Tack Free	1.5-3.0 hours
	Dry Hard	6-8 hours
	Full Cure	5-7 days
Viscosity	- Clear	150-250 cps @ 73°F (23°C)
	- Pigmented	200-350 cps @ 73°F (23°C)
Weight/Gallon	- Clear	10.5 lbs./gal. (1.22 kg./liter)
	- Pigmented	10.5-11.5 lbs./gal. (1.22-1.33 kg./liter)
Non-Volatile Content	- Non pigmented	71.0% by weight 59.5% by volume
	- Pigmented	71.8% by weight 59.2% by volume

GARLAND
FLOOR COMPANY
ADVANCED POLYMER SYSTEMS

TYPICAL PROPERTIES (Continued)

Physical Properties

- Abrasion Resistance: CS-17 wheels 25-35 mgs./1000 cycles. (ASTM D 4060 Taber Abraser 1000 gm. load per wheel)
- Impact Resistance: 100 in.-lbs. (157 cm.-kg.) direct and indirect. (ASTM D 2794 Gardner)
- Flexibility: 1/8 in. (.31 cm.) passes test. (ASTM D 522 Conical Mandrel)
- Hardness: 2H to 3H (ASTM D 3363 tensile)
- Adhesion - Primed concrete: 350 psi (2.4 MPa) - concrete failure. (ASTM D 4541 Elcometer)
- Gloss: (60°) 60-70.

COVERAGE

Coverage of materials on a primed or prepared substrate will vary depending on the porosity or density, profile and texture of the substrate. Ever-Wear 1000 is applied at 4-5 wet mils. The dry film thickness is 2.3-2.95 mils. The theoretical coverage's are:

Pigmented Ever-Wear
4.19-gallon kit = 1344-1680 sq. ft. (125-157 sq.m.)
2.10-gallon kit = 672-840 sq. ft. (62-78 sq.m.)

Non pigmented Ever-Wear
3.94-gallon kit = 1263-1579-sq. ft. (118-148 sq.m.)
1.97-gallon kit = 632-789 sq. ft. (59-74 sq.m.)

STORAGE AND SHELF LIFE

The components of the Ever-Wear™ 1000 should be stored in a cool, dry area out of direct sunlight. The materials should be stored between 65°F and 75°F (18-24°C) for 24 hours prior to use for optimum handling properties. The cans should be left sealed airtight. The shelf life of the components in their unopened original cans is one year.

SET TIME

The temperature of the substrate will determine the cure rate of the coating being applied. Ambient air temperature may not be the temperature of the substrate. That is, in summer, the sunlight shining on the substrate will make the substrate warmer than ambient air, and in winter, the substrate may be colder than ambient air. The substrate temperature should be measured and maintained above 55°F (13°C) during application.

	@ 55°F (13°C)	73°F (23°C)	90°F (32°C)
For minimum foot traffic (hrs.)	6-8	3-4	2-3
For moderate foot/low motor traffic (hrs.)	12-16	6-8	4-6
Complete cure	18 hrs.	12 hrs.	10 hrs.

WORKING TIME AND RECOAT LIMITS

Temperature	Working Time	Recoat Times Minimum	Maximum
55°F (13°C)	60 minutes	4-6 hours	36 hours
73°F (23°C)	45 minutes	2-3 hours	24 hours
90°F (32°C)	30 minutes	1.5-2.5 hours	16 hours

It is important to allow optimum curing of the new substrate to which the Ever-Wear 1000 will be applied. If the coating is applied too soon, solvents will be entrapped, affecting the cure of the base coat. If the Ever-Wear 1000 is applied too late, the adhesion can be adversely affected. Refer to the section entitled "Application to Cured Base Coat" for additional information.

When applying Ever-Wear 1000 over Garland Floor products, refer to the specific Product Data Sheet of the base coat material for top coating recommendations.

APPLICATION INSTRUCTIONS

The installation procedures are as specific as possible. Contact Garland Floor Co. to deviate from these procedures when special circumstances arise in the field. Installation procedures for the Garland Floor Company "Limited Warranty" (a copy of which may be obtained from the company) regarding water damage disclaimer and exclusion.

Moisture

The concrete should be tested for moisture content. Areas where moisture exceeds 3.0-lbs./24 hours/1000 sq. ft. using the calcium chloride moisture test require special precautions. Contact Garland Floor Co. prior to applying any materials. Please refer to the Garland Floor Company "Limited Warranty" (a copy of which may be obtained from the company) regarding water damage disclaimer and exclusion.

Surface Preparation

All oil, grease and chemicals should be removed by scraping or washing with detergents prior to acid etching, shot blasting, sanding or buffing. Sanding or buffing is sufficient preparation for previously coated areas (refer to section on Application to Cured Base Coat.) Acid etching has been used successfully to prepare concrete surfaces for minimal to moderate foot traffic. When acid etching is being done all surface laitance and other contaminants must be removed. After the acid solution has stopped foaming, power washing is recommended to thoroughly rinse all salts and other residue from the etched floor. Allow the floor to dry before applying a primer (Chemi-Cote EPHB-CR primer is recommended for priming acid-etched floors.) Consult Garland Floor Co. for specific recommendations.

Shot blasting is the preferred method of surface preparation. Chemi-Cote EPHB-CR primer is recommended for priming concrete prior to applying Ever-Wear 1000. EPHB-CR primer is a high epoxy solids primer and which will result in a harder final cure beneath the urethane topcoats. Ever-Wear 1000 is a thin-film coating and will not cover a deep blast profile. When using shot blasting under thin-film coatings the shot blaster must be modified for coating projects; excessive shot blasting, especially overlap marks, will not be hidden by the thin-film coating. The concrete profile should be sufficient to anchor the coating to the concrete substrate.

Application to Cured Basecoat

Ever-Wear 1000 is applied at approximately 4-5 wet mils yielding approximately 2.3-3.9 dry mils. Any dust or dirt may not be hidden by one or two coats of Ever-Wear 1000. Contamination (oil, grease or chemicals) will affect the bond of the Ever-Wear coating and may cause surface defects such as fish eyes. It is recommended that foot and low motor traffic be held to a minimum on floors to be topcoat.

If the time limit has expired for applying the Ever-Wear 1000 over the base coat material, or the floor has been contaminated, the following procedures must be followed:

1. Contamination (oil, grease, chemicals, etc.) should be removed with appropriate solvents and detergents. Contact Garland Floor Co. for specific recommendations.
2. Buff the cured surfaces to a dull gloss with a 3M-type sanding screen (60 or 100 grit).
3. Sweep the floor thoroughly with 3 ft.-long (.95m) dust mops.
4. Rinse with lint-free towels or rags soaked in water, and clean the floor by placing the rags under a broom or squeegee. Prior to coating, make sure all water has been removed from the floor.
5. Attach tack cloths to the dust mops and tack the floor twice. The tack cloths should be changed frequently to insure that no dust or dirt remains on the floor

Ever-Wear 1000 can be installed over previously coated floors only by following these procedures:

1. Wipe Garland Floor S-11 Solvent over portions of the floor to be coated and check for softening or disintegration of the floor. The floor can be coated if it becomes tacky when the solvent is wiped on the floor and then returns to its original condition after the solvent flashes-off. If the floor dissolves or does not become tacky, or the edges of the coating curl, contact Garland Floor Co.
2. If the floor has passed the solvent test, follow recommendations for applying Ever-Wear 1000 over a base coat whose recoat time has expired.

Expansion Joints and Crack Filling

All expansion joints should be cured prior to applying Ever-Wear 1000. Coating wet joint compounds may cause fish eyeing in the urethane coating, requiring sanding and a second coat.

All non-moving cracks or spalled areas should be filled with Garland Floor Fine Crack Fill. The fill, because it will have a different texture than the prepared floor, may project through the coating leaving a Band-Aid® appearance.

Dew Point, Humidity and Ventilation

Ever-Wear 1000 Series are solvent-based systems. Color stability relies on even flashing-off of the solvent system. Poor ventilation will delay the solvent flashing-off causing color separation, hazing of the coating and slow cure. The building should have proper ventilation to insure the movement of air throughout, leaving no stagnant areas. Use exhaust fans to remove air from the areas, as opposed to blowing air across or onto the floor. Air movement across the floor can flash-dry the film surface before bubbles that formed during application can burst. This will trap air bubbles in the cured film.

Humidity can be a problem when the foundation temperature is below the dew point. (Dew point can be checked in the field with a Sling Psychrometer and Surface Thermometer.) When this occurs, a film of water will form on the coated surface, thus slowing the flash-off of the solvents and inhibiting cure.

If dew point, humidity or ventilation is a suspected problem, contact Garland Floor Co. prior to any application.

Mixing Materials

Do not mix more material than can be applied within the working time limits at the actual field temperature.

A large unit of Ever-Wear 1000 Part B polyol portion will be shipped as EVERWEAR/5 in a 5-gallon steel pail. The color pack, designated UR-xxxCP0, will be shipped in quart cans. The color pack label will indicate what components and component sizes the color pack can be added to. The label also indicates what color pack should be used for the Chemi-Top if a resurfacer is being installed.

A jiffy-type-mixing paddle should be placed in the tint base pail and while running, the color pack should be added to the vortex of the mix.**. Mix for 1 minute at a moderate speed, scraping the pail sides with the mixer. Add Part A (UR 1000-A) to the tinted base and mix for 1 minute. Finally, add the entire contents of the F-5 wear additive into the mix slowly with the mixer running so as to avoid clumping of the wear additive. Then mix thoroughly for 2 minutes.

****If applying Ever-Wear 1000 directly to concrete without an epoxy primer, adhesion promoter Chemi-Bond Part E should be added to the mix after the color pack has been added for the first coat only.**

Custom colors may come pre-pigmented and can be mixed by adding Part A (UR 1000-A) and Part E (F-5) to the custom pigmented Part B and mixing for 2 minutes.

Applying Materials

The floor should be divided into sections that can be completed without stopping. Sections should be divided at expansion joints or doorways when possible. The end of a section should be taped off to form a straight line providing a clean edge for an adjacent section.

The Ever-Wear 1000 should be applied with a notched squeegee. The squeegee should be approximately 36-inches (0.9 m) long with 1/32-to 1/16-inch (0.8-1.6 mm) notches at 1/4-inch (6.3 mm) intervals. This type of squeegee will apply sufficient material to achieve 4-56 wet mils when back rolled. The back rolling is typically done with an 18-inch (.5 m) short nap, 3/16-inch (4.75 mm), solvent-resistant roller cover. Ever-Wear 1000 should be back rolled sufficiently enough to spread any thick sections, puddles or coating which may accumulate in divots or pits evenly throughout the floor. Care should be taken not to exceed 5 wet mils in any section of the floor. Doing so will result in a possible slow or soft cure in theses thick spots. Gloss will also vary throughout the floor if the coating is applied at an inconsistent thickness. Ever-Wear 1000 is a fast tacking coating. Over-rolling into previously coated areas, which have begun to tack out, may cause bubbling or color separation by leaving thick or thin sections.

The recommended application procedures are:

1. Take one 5-gallon (18.9-liter) pail of the mixed Ever-Wear 1000 and start at one end of the section being coated. The walls and/or obstructions should be trimmed in the immediate area where the coating will be applied. The Ever-Wear 1000 should be poured in a line approximately one-foot (0.3 m) from the wall or starting line of the entire width of the section being coated.
2. The person using the squeegee can then make one pass along the wall or starting line, turn and come back making a second pass adjacent to the first pass. The rollers are then used to level the Ever-Wear 1000 applied. One person can easily roll a 15- to 20-foot (13-18 m) wide section. This should be done as quickly as possible.
3. Another line of Ever-Wear 1000 is poured approximately one-foot (0.3 m) from the rolled area and Step 2 is repeated. **DO NOT ROLL ANY MORE Ever-Wear 1000 ON THE PREVIOUSLY ROLLED SECTION THAN POSSIBLE.** The rolling personnel should make sure they are not leaving puddles or thick sections as described above of Ever-Wear 1000 at the junction of the previously rolled and freshly coated area.

4. This process is continued until approximately 1/2 of the 5-gallon (18.9-liter) pail of Ever-Wear 1000 has been used. To insure color uniformity, after approximately 1/2 has been used, a portion of a freshly mixed unit of Ever-Wear 1000 is poured into the partially used 5-gallon (18.9 liter) pail. The two pails are then poured back and forth 2-3 times mixing the Ever-Wear 1000 batches. One full 5-gallon (18.9-liter) pail can be used with 1/2 of the 5-gallon (18.9-liter) pail saved for mixing with the next freshly mixed unit. Thick Spots and puddles will result in a soft spongy cure.
5. These procedures are followed until the section is completed. If the work must stop for any reason, a tapeline should be used as a breaking point.

CLEAN-UP

Any mixing or application equipment should be cleaned immediately after use. Garland Floor S-1221 Solvent is recommended for clean-up.

SAFETY

Material Safety Data Sheets are shipped with the products. Garland Floor Co. recommends any personnel applying these types of materials or personnel in areas adjacent to where the materials are being applied should read and understand these prior to mixing and/or applying any material.

DISPOSAL

All materials should be disposed of in accordance with all federal, state and local regulations.

CAUTIONS

WARNING!! USE WITH ADEQUATE VENTILATION. Use proper respiratory protection when required. Avoid contact with eyes, skin and clothing. Workmen should wear gloves or protective creams. If skin contact occurs, wash at the first opportunity with soap and water. In the event of eye contact, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER. CALL A PHYSICIAN.

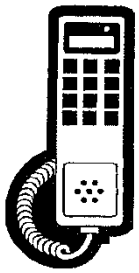
WARNING!! Skin or eye exposure or inhalation can result in serious medical problems! Keep container closed when not in use. DO NOT TAKE INTERNALLY! KEEP OUT OF THE REACH OF CHILDREN! FOR INDUSTRIAL USE ONLY.

TECHNICAL ASSISTANCE

Contact Garland Floor Co. at

1-800-321-2395

for more specific technical information or installation techniques.



WARRANTY & DISCLAIMER

THE TECHNICAL DATA AND OTHER PRINTED INFORMATION FURNISHED IS TRUE AND ACCURATE TO THE BEST OF OUR KNOWLEDGE. THE PRODUCTS ARE WARRANTED PURSUANT TO ACCEPTANCE OF "LIMITED WARRANTY", A COPY OF WHICH CAN BE OBTAINED FROM THE GARLAND FLOOR COMPANY WHICH IS THE EXCLUSIVE WARRANTY WITH RESPECT TO THE SALE OF THIS PRODUCT. THE MODIFICATION OF ANY COMPONENT OR USES NOT OUTLINED IN THIS BULLETIN NULLIFIES THE WARRANTY UNLESS ADVANCE WRITTEN CONFIRMATION IS OBTAINED FROM THE GARLAND FLOOR COMPANY. NO OTHER WARRANTIES EXPRESSED OR IMPLIED SHALL APPLY. WE ASSUME NO RESPONSIBILITY FOR COVERAGE, PERFORMANCE OR INJURIES RESULTING FROM USE. LIABILITY, IF ANY, SHALL BE TO SUPPLY REPLACEMENT MATERIALS AS SET FORTH IN THE "LIMITED WARRANTY".

GARLAND
FLOOR COMPANY
ADVANCED POLYMER SYSTEMS

4509 Willow Parkway • Cleveland, Ohio 44125
Toll Free: 800-321-2395
216-883-4100 • Fax: 216-883-9076

FROM : MIKE FLANAGAN FAX NO. : 805 640 9973 Apr. 27 2005 09:18AM P1

Reagents	Epoxy				Urethane					Novolac		VE
	Chemi-Cote EPHB	Chemi-Cote EPHB-CR	Chemi-Cote EP-1000 & 2000	Chemi-Cote EP-3000	**Chemi-Cote UR-1000	**Chemi-Cote UR-3000	**Chemi-Cote UR-5000	**Chemi-Cote WBUR-6000	Chemi-Cote WBUR-8300	Chemi-Cote ESD EN-7000	Chemi-Cote EN-7000	Chemi-Guard VE-3000
96% Sulfuric Acid	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	OS	NR
67% Sulfuric Acid	E	E	NR	E	OS	NR	OS	NR	NR	E	E	E
85% Lactic Acid	OS	F	NR	G	F	OS	E	G	G	E	G	E
20% Lactic Acid	OS	G	NR	E	G	F	E	E	E	E	E	E
80% Phosphoric Acid	OS	OS	NR	F	G	G	F	NR	OS	F	E	E
50% Phosphoric Acid	OS	OS	NR	E	E	F	E	NR	G	G	E	E
10% Phosphoric Acid	OS	E	NR	E	G	G	E	E	G	E	E	E
2% Phosphoric Acid	F	E	NR	E	F	F	E	E	E	E	E	E
35% Acetic Acid	NR	NR	NR	OS	NR	NR	F	F	F	NR	OS	E
25% Acetic Acid	NR	OS	NR	F	OS	NR	E	E	E	OS	OS	E
15% Acetic Acid	NR	F	NR	G	OS	OS	E	E	E	F	G	E
60% Nitric Acid	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	OS
25% Nitric Acid	F	E	NR	E	NR	NR	F	NR	NR	G	E	E
10% Nitric Acid	E	E	OS	E	F	F	E	G	F	E	E	E
37% HCL Acid	OS	F	NR	F	NR	NR	G	E	G	OS	E	E
10% HCL Acid	E	E	OS	E	E	E	E	E	F	E	E	E
98% Formic Acid	NR	NR	NR	NR	NR	NR	G	NR	NR	NR	NR	OS
20% Formic Acid	NR	OS	NR	OS	NR	NR	E	E	E	NR	NR	E
Acetic Anhydride	NR	NR	NR	OS	OS	OS	E	E	E	OS	F	F
99% Acrylic Acid	NR	NR	NR	NR	NR	NR	G	F	F	OS	OS	F
50% Sodium Hydroxide	E	E	E	E	F	F	E	G	G	E	E	G
35% Ammonium Hydroxide	E	E	G	E	F	G	E	E	E	E	E	E
DI Water	E	E	E	E	G	G	E	E	E	E	E	E
Acetone	NR	NR	NR	NR	NR	NR	G	F	F	NR	NR	NR
Toluene	NR	F	NR	E	G	G	E	E	E	OS	E	OS
MEK	NR	NR	NR	NR	NR	NR	G	NR	NR	NR	NR	OS
Mineral Spirits	E	E	E	E	E	E	E	E	E	E	E	G
Methylene Chloride	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl Acetate	NR	OS	NR	OS	NR	NR	E	E	E	NR	OS	OS
Methanol	NR	NR	NR	NR	NR	NR	E	E	E	NR	OS	OS
Tetrahydrofuran	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	OS
Isopropanol	G	E	OS	E	F	F	E	E	E	E	E	E
Butyl Acetate	NR	F	NR	E	E	E	E	E	E	F	E	OS
Ethanol	NR	OS	NR	OS	NR	NR	E	E	E	OS	F	F
Xylene	OS	E	NR	G	OS	OS	E	E	E	OS	E	G
Ethylene Glycol	E	E	E	E	E	E	E	E	E	E	E	E
Benzyl Alcohol	NR	OS	NR	E	NR	NR	E	G	G	F	F	G
Methyl Pyrrolidinone	NR	NR	NR	NR	NR	NR	G	G	F	NR	NR	NR
Kerosene	E	E	G	E	E	E	E	E	E	E	E	E
Bleach	E	E	E	E	E	E	E	E	NR	E	E	E
10% Hydrogen Peroxide	F	OS	OS	G	NR	NR	E	E	E	F	G	E
Skydrol	G	E	NR	E	E	E	E	E	G	E	E	E
Gasoline	NR	OS	NR	OS	NR	NR	G	F	F	OS	G	G
10% Hydrofluoric Acid	NR	NR	NR	OS	NR	NR	G	F	F	NR	NR	E

E = Excellent - Continuous exposure for 7 days with nominal weight change.
G = Good - Continuous exposure for 72 hours with nominal weight change.
F = Fair - Continuous exposure for 24 hours with nominal weight change.
OS = Occasional Spillage - Continuous exposure for 8 hours with nominal weight change.
NR = Not Resistant

*Typical Properties: Not To Be Used As Specifications. **Chemical resistance is based on chemical spot testing and these thin film coatings are not intended for immersion service. Results are based on occasional spillage with proper clean-up.

***The combination of specific chemicals will change the Garland Floors' product chemical resistance. Always consult Garland Floor before making a selection.

Apr 27 05 09:55a Desert Canyon 480 922 9042 p.2

Rust-Oleum 8300 Interior and 9300 Exterior System Coating

Blue Sky Engineering, Inc.
225 E High Street
Mooresville, IN 46158
Phone: 317-584-3346
Fax: 317-584-3376
www.blueskyengineering.biz

February 6, 2013

Mr. Craig Hogarth
Director of Safety and Compliance
Heritage Environmental Services, LLC
7901 W. Morris Street
Indianapolis, IN 46231

Re: 8300 System Overkote® Plus S
9100 System DTM Epoxy Mastic with 9800 System DTM Urethane Mastic

Dear Mr. Hogarth:

At your request, I have reviewed the specifications for 8300 System Overkote® Plus S and 9100 System DTM Epoxy Mastic with 9800 System DTM Urethane Mastic. My conclusion is that each of these coatings is equivalent to the coatings currently approved by the Arizona Department of Environmental Quality in the Container Storage and Bulking Plan in Section D of permit. After reviewing the documentation, the 8300S Epoxy is appropriate for extreme chemical conditions on interior services and the 9100 Epoxy with the 9800 Urethane is appropriate for exterior services.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel property gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief , true, accurate, and complete. I am aware that there are significant penalties for resubmitting false information, including the possibility of fine and imprisonment for knowing violations.

Should you have any questions concerning this information, please feel free to contact me at (317)670-1223 or amartin@blueskyengineering.biz.

Sincerely,
Blue Sky Engineering, Inc.

Angela S. Martin, PE, CHMM
President
AZ PE License 34328

Enclosures:
8300 System Overkote® Plus S, 9100 System DTM Epoxy Mastic, 9800 System DTM Urethane Mastic Spec sheets

Rust-Oleum® Concrete Protection Systems Specification

Coating Specification for

Interior Concrete Floor

Heritage Environmental Services
Coolidge AZ

8300 System OverKote® Plus S

For Concrete Floors in a Severe Industrial Environment

Specification Prepared by: Rust-Oleum Technical Service, November 2012

This is a general coating specification. Changes to this specification may void any product warranties. Contact your Rust-Oleum representative or Rust-Oleum Technical Service if modifications are required to better meet your needs.

RUST-OLEUM INDUSTRIAL BRANDS

PART I GENERAL

1.01 SCOPE OF WORK

A. Provide all materials and labor necessary to install Rust-Oleum 8300 System OverKote® Plus S in strict accordance with project drawings, specifications and current Rust-Oleum application instructions.

1.02 RELATED WORK BY OTHER (SELECT AS NEEDED)

A. Division 3 Concrete
B. Division 4 Masonry
C. Division 5 Metals
D. Division 6 Wood
E. Division 7 Thermal & Moisture Protection
F. Division 10 Specialties
G. Division 11 Special Construction

1.03 SYSTEM DESCRIPTION

A. The Rust-Oleum 8300 System OverKote® Plus S, is a two component, 100% solids novolac epoxy coating manufactured by Rust-Oleum Corporation, located at 11 Hawthorn Parkway, Vernon Hills, IL 60061 (847) 367-7700.

1.04 ENGINEERING AND DESIGN REQUIREMENTS

A. The Design Architect and Project Engineer shall be responsible for all decisions pertaining to design, detail, structural capability and the like. Rust-Oleum Corporation has prepared guidelines in the form of specifications, technical data and application information to assist in the design and engineering processes.

B. Equivalent materials of other manufacturers may be substituted on approval of the engineer or designer. These requests for substitution shall include manufacturer's literature for each product giving the name, generic type, descriptive information, solids by volume, recommended dry film thickness and a list of a minimum of ten (10) projects where the coating system has been applied and performed to expectations for at least three (3) years service. No requests for substitution shall be considered that lower system film thickness, number of coats and/or offer a change in the generic type of coating herein specified. Requests for review of equivalency will be accepted only from the Contractor and will be considered only after the contract has been awarded. Request for review submitted directly to the Engineer by coating suppliers will not be considered.

D. The 8300 System OverKote® Plus S shall be used only in conformance to the air quality legislation applicable at the location of use.

1.05 SURFACE PREPARATION AND APPLICATION DESCRIPTION

A. Substrate cleaning, surface preparation, coating application and dry film thickness shall be as specified herein and shall meet or exceed Rust-Oleum Corporation's recommendations.

B. All application equipment shall be clean and maintained in proper working order in accordance with the equipment manufacturers recommendations.

C. The 8300 System OverKote® Plus S shall be applied in accordance with the air and surface temperature limits and work areas shall be reasonably free of airborne dust during application and drying time.

1.06 PERFORMANCE REQUIREMENTS

A. The 8300 System OverKote® Plus S has the following physical properties and these are published on the Rust-Oleum Corporation Technical Data Sheet.

	Activated material
Solids by Volume	100%
Recommended Dry Film Thickness per Coat (DFT)	16 mils
Wet Film To Achieve DFT (Unthinned Material)	16 mils
Practical Coverage @ Recommended DFT (Assumes 15% material loss)	100 sq ft/gal
Induction Period	None Required
Pot Life @70-80°F (21-27°C)	30 minutes
Dry Times @70-80°F (21-27°C) 50% RH Light Traffic Recoat Full Service	 10 hours 10-24 hours 48-72 hours

1.07 QUALITY ASSURANCE

A. Applicator Qualifications:

1. Shall be knowledgeable in the proper installation of 8300 System OverKote® Plus S and experienced in the application of two component, epoxy systems.

2. Shall provide a minimum of one (1) year workmanship warranty for the application of the 8300 System OverKote® Plus S.

3. A list of Certified Rust-Oleum Corporation Coating Applicators is available from Rust-Oleum Corporation.

B. Pre-, Mid-, and Post-Job Conferences shall be scheduled at discretion of the Project Engineer and/or Design Architect.

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1.08 SUBMITTALS

A. Product Data: 8300 System OverKote® Plus S, application and related equipment information.

B. Color Cards: Supply color cards of specified materials showing range of colors.

C. Applicator: If applicable, provide certified contractor documentation showing proof of familiarity with Rust-Oleum 8300 System OverKote® Plus S.

1.09 DELIVERY STORAGE AND HANDLING

A. Deliver the 8300 System OverKote® Plus S on-site in Rust-Oleum Corporation's labeled, original, unopened containers.

B. Store materials inside or under cover at ambient temperature. Keep materials dry, protected from weather, direct sunlight, surface contamination, aging corrosion, extreme temperatures and other damage.

1.10 PROJECT CONDITIONS

A. Protect adjacent work from damage, splash, and spillage during application of the 8300 System OverKote® Plus S.

1.11 WARRANTY

A. The technical data and suggestions for use contained herein are correct to the best of our knowledge, and offered in good faith. The statements of this specification do not constitute a warranty, expressed, or implied, as to the performance of these products. As conditions and use of our materials are beyond our control, we can guarantee these products only to conform to our standards of quality, and our liability, if any, will be limited to replacement of defective materials. All technical information is subject to change without notice.

B. Special project warranties may be issued on a request basis at the discretion of the Rust-Oleum Corporation Technical and Legal Departments and would not be contained within this specification document.

2. PRODUCTS

2.01 MANUFACTURER

A. The 8300 System OverKote® Plus S shall be obtained through a Rust-Oleum distributor. Contact Rust-Oleum Corporation for a complete listing or to request nearest distribution source.

2.02 MATERIALS

A. The 8300 System OverKote® Plus S is available in selected standard colors, a Natural and an activator. The materials are packaged in pre-measured one gallon containers which yield a full gallon of activated material when mixed together. Contact Rust-Oleum Corporation for availability of colors.

3. EXECUTION

3.01 JOB CONFERENCES

A. A pre-job conference shall be at the discretion of the architect, engineer or general contractor. Coating contractor, substrate installer and other trades whose work effects the application of 8300 System OverKote® Plus S shall meet at the project site to review procedures and time schedule proposed for application of 8300 System OverKote® Plus S and related work. Additional conferences are at the discretion of the architect, engineer, general contractor and/or owner.

3.02 SURFACE PREPARATION

A. All cleaning and surface preparations specified herein are minimums.

B. All surfaces to be coated shall be free of cracks, pits, fins, projections, or other imperfections that would interfere with the formation of a uniform, unbroken coating film.

C. All oil and grease shall be completely removed with biodegradable degreasers prior to mechanical cleaning begins.

D. New concrete shall have cured for a minimum 30 days prior to coating application. If a cure and seal agent was added to the concrete or applied after initial cure, the concrete must be abrasive blast cleaned or mechanically abraded to remove the sealer and expose fresh concrete.

E. Concrete surfaces shall be mechanically abraded, or abrasive blast cleaned to remove all laitance to provide a uniform surface profile with a profile depth of 1½ - 3 mils.

F. All damaged areas shall be patched and repaired with a suitable patching material.

G. The coating contractor is to examine the substrate to determine if it is in satisfactory condition to receive the 8300 System OverKote® Plus S. Obtain coating contractor's written report listing conditions detrimental to performance of work in this specification. Do not proceed with the application of 8300 System OverKote® Plus S until unsatisfactory conditions have been corrected.

3.03 MIXING AND THINNING

A. MIXING

1. The 8300 System OverKote® Plus S colored base component and Activator must be combined with power mixing. Hand mixing is not adequate.
2. Scrape out the container of Activator to transfer as much material as possible.
3. Use a suitable mixing blade which will not entrain air. Mix at 500-750 RPM for 1-3 minutes.
4. Application must begin as soon as the material has been completely mixed.

B. THINNING

1. Thinning is not required. Do not thin.

3.04 APPLICATION

A. Weather Conditions

1. Apply when air and surface temperatures are between 60-80° F (15-27°C) and surface temperature is at least 5° F (3°C) above the dew point.
2. The relative humidity should not be greater than 85%.

B. Coating Application

NOTE: If Rust-Oleum 8300 System Cove Base is required, the installation of the Cove Base must be done prior to the application of the floor coating.

1. Apply Rust-Oleum Penetrating Prime & Seal™ Primer at a rate of one activated gallon per 175-280 sq ft of floor area. The primer can be topcoated after 6-8 hours @ 70° F.
2. Apply 8300 System OverKote® Plus S at a rate of one activated gallon per 100 sq ft of floor area.
3. DO NOT attempt to work out of the container. Immediately after mixing material, pour out the activated material onto the floor in a long stripe. Use only the material that flows naturally out of the container.

4. Do not scrape out the container of activated material. Doing so may result with transfer of un-activated material to the floor which will result with soft spots in the coating.

5. Use a rubber squeegee to spread the material over the measured area.

6. Back roll using a lint free 3/8 nap roller cover with a phenolic core. Make all final passes in the same direction.

7. Change roller cover every 30 minutes.

C. Protection of surfaces

1. The Coating Contractor shall be responsible for protecting all adjacent surfaces from spills, drips, or any other form of coating damage.

2. The coating contractor and it's subcontractors shall be responsible for removing spots or repairing damaged surfaces to the satisfaction of the project engineer, design architect and/or owner.

3.05 CLEAN-UP

A. Clean-up shall be done to remove all spills, drips, overspray, or other unwanted coating from all surfaces not intended to be coated.

B. All used rags, brushes, roller covers, and other application related materials shall be removed from the work site and disposed in a proper manner and in accordance with local waste regulations.

C. All equipment, staging, ladders, and other contractor materials brought onto the jobsite by the contractor shall be remove at the conclusion of the job in a timely manner.

END OF SECTION

EPOXY FLOOR COATING | **TECHNICAL DATA** | **CP-09**

RUST-OLEUM®

8300 SYSTEM
OVERKOTE® PLUS S
NOVOLAC EPOXY FLOOR COATING

PRODUCT DESCRIPTION

OverKote® Plus S is a floor coating system applied at a thickness of 16 to 50 mils. It is designed for use in severe chemical environments and can tolerate constant rubber wheel traffic. This coating can be used in various ways, a 45-50 mil anti-skid textured surface, a 16 mil smooth finish, or a glaze coat over a heavy duty topping.

For vertical surfaces, use OverKote® Plus V.

FEATURES AND BENEFITS

- Chemical resistant: Has high resistance to acids, alkalis, and solvents. The Corrosion Resistance Chart in the Product Recommendation Guide lists a variety of chemicals and expected performance with each.
- Ability to bond to 10 day old concrete: OverKote® Plus S can be applied to properly mixed and placed new concrete that has been cured for a minimum of 10 days at 70°F. The bond strength of the OverKote® Plus S to the concrete will exceed the tensile and shear strengths of the concrete itself. For bonding limitations, consult the factory.
- Adhesion: Excellent adhesion to properly prepared concrete, brick, tile and many other building materials.
- Set Time: Cured adequately for next coating step in 5-7 hours at 70°F.

COLORS

OverKote® Plus S is available in standard colors. Special colors and surface textures are available upon request.

PACKAGING

OverKote® Plus S is packaged in two kit sizes: 1 gallon and 3 gallon. Mixing ratios are shown on the product labels. Aggregate for anti-skid is not pacakaged with the standard units, and must be oredered separately.

TYPICAL USES

OverKote® Plus S is used where one or more of the following properties are required:

- High wearability
- Anti-skid safety surfaces (when used in conjunction with a broadcasted silica)
- Corrosion resistance
- Ease of cleanability and maintenance
- Aesthetically pleasing surfaces

TYPICAL APPLICATIONS

Walkways
Warehousing
Storage areas
Manufacturing
Permanent marker lines
Show rooms
Clean rooms
Boiler plants
Laboratories
Animal treatment areas

INDUSTRIAL AND COMMERCIAL APPLICATIONS

Electronics industry
Power plants
Automotive assembly/showrooms
Airport baggage handling and ramps
Wineries and breweries
Bottling industries
Beverage industries
Meat packing/poultry plants/dairies
Food processing plants
Bakeries/restaurants
Schools/hospitals/fire stations
Pharmaceutical and chemical laboratories
Industrial lunchrooms and dressing rooms
Waste water treatment plants/chemical plants

Form: TB9808990
Rev.: 11/06
Printed in USA

RUST-OLEUM

TECHNICAL DATA

8300 SYSTEM OVERKOTE® PLUS S NOVOLAC EPOXY FLOOR COATING

PRODUCT APPLICATION

SURFACE PREPARATION

NEW CONCRETE: Laitance must be removed by muriatic acid etching or shotblasting. On concrete that has been cured with curing compounds or has a burned in finish, shotblasting is required.

EXISTING CONCRETE: Concrete must be sound, and old coatings and toppings must be removed. Concrete must be clean and free of previous coatings, oil, wax, paint, and other contaminants. Water soluble contaminants can be hosed off with water. Water insoluble materials will require the use of a cleaner degreaser or some other method of removal. Concrete must be visibly dry at time of application.

MIXING

Note: Before starting, ensure that the material, concrete surface, and the ambient air are all 65-90°F (18-32°C). Mixing of OverKote® Plus S is ideally accomplished using a Birdcage or Jiffler mixer and electric drill.

APPLICATION

Prime and Seal® Primer must be used to help ensure a smooth finish. Apply with a squeegee followed by a short nap roller.

Note: Application procedures are described in further detail in the Application Instructions. These should be read before use.

PRODUCT APPLICATION (cont.)

COVERAGE

Smooth finish: 16 mils (400µ)

One coat @ 100 sq. ft./gal. (2.5 m^2/l)

Anti-skid finish: Applied in two coats.* (three steps involved), 45-50 mils (1,125-1,250µ)

1st coat is 100 sq. ft./gal. (2.5 m^2/l) at 16 mils (400µ), no less

Aggregate broadcast while wet

2nd coat* is 100 sq. ft./gal. (2.5 m^2/l)**

*The 2nd coat anchors the aggregate.

** This will vary, based on coarseness of aggregate used.

For special textures or decorative effects, consult application instructions.

CLEAN UP

Xylene can be used to remove material from equipment if it is cleaned before the material has started to set up; otherwise, stronger solvents such as methylene chloride will be necessary. If there are any questions on the use of this product, please consult our technical service department.

SAFETY

OverKote® Plus S contains amine curing agents. Avoid skin contact. In case of eye contact or ingestion, contact a physician immediately. In case of skin sensitivity to these materials, use protective clothing and gloves.

MATERIAL SAFETY DATA SHEETS

Material Safety Data Sheets are available upon request. It is strongly recommended that they be read by all persons handling OverKote® Plus S.

Form: TB9808990
Rev.: 11/06
Printed in USA

RUST-OLEUM®

TECHNICAL DATA

8300 SYSTEM OVERKOTE® PLUS S NOVOLAC EPOXY FLOOR COATING

PERFORMACE CHARACTERISICS

COMPRESSIVE STRENGTH
METHOD: ASTM C579
TYPICAL VALUE: 8,900 psi

FLEXURAL STRENGTH
METHOD: ASTM C580
TYPICAL VALUE: 10,700 psi

MODULUS OF ELASTICITY
METHOD: ASTM C580
TYPICAL VALUE: 3.7 x 10^5 psi

TENSILE STRENGTH
METHOD: ASTM C307
TYPICAL VALUE: 3,740 psi

TABER ABRASION
METHOD: ASTM 4060, CS 17
TYPICAL VALUE: Loss/1,000 cycles = 26.5 mg.

FILM HARDNESS, SHORE D
METHOD: ASTM D2240
TYPICAL VALUE: 85

Form: TB9808990
Rev.: 11/06
Printed in USA

Rust-Oleum® Industrial Brands High Performance Specification

Coating Specification for Exterior Concrete Pavement

Heritage Environmental Services Coolidge, AZ

9100 System / 9800 System

Specification Prepared by: Rust-Oleum Technical Service, November 2012

This is a general coating specification. Changes to this specification may void any product warranties. Contact your Rust-Oleum representative or Rust-Oleum Technical Service if modifications are required to better meet your needs.

RUST-OLEUM INDUSTRIAL BRANDS

PART I GENERAL

1.01 SCOPE OF WORK

A. Provide all materials and labor necessary to install Rust-Oleum 9100 System DTM Epoxy Mastic and the 9800 System DTM Urethane Mastic, in strict accordance with project drawings, specifications and current Rust-Oleum application instructions.

1.02 RELATED WORK BY OTHER (SELECT AS NEEDED)

A. Division 3 Concrete
B. Division 4 Masonry
C. Division 5 Metals
D. Division 6 Wood
E. Division 7 Thermal & Moisture Protection
F. Division 10 Specialties
G. Division 11 Special Construction

1.03 SYSTEM DESCRIPTION

A. The Rust-Oleum 9100 System DTM Epoxy Mastic is a two component, epoxy coating. The 9800 System DTM Urethane Mastic is a two component, high solids, high build, aliphatic acrylic polyurethane coating system. Both of these coating systems are manufactured by Rust-Oleum Corporation, located at 11 Hawthorn Parkway, Vernon Hills, IL 60061 (847) 367-7700. The 9100 System DTM Epoxy Mastic is a coating system composed of selected standard finish colors, tint bases, and various condition specific activators. The 9800 System DTM Urethane Mastic consist of selection standard finish colors and tint bases.

1.04 ENGINEERING AND DESIGN REQUIREMENTS

A. The Design Architect and Project Engineer shall be responsible for all decisions pertaining to design, detail, structural capability and the like. Rust-Oleum Corporation has prepared guidelines in the form of specifications, technical data and application information to assist in the design and engineering processes.

B. Equivalent materials of other manufacturers may be substituted on approval of the engineer or designer. These requests for substitution shall include manufacturer's literature for each product giving the name, generic type, descriptive information, solids by volume, recommended dry film thickness and a list of a minimum of ten (10) projects where the coating system has been applied and performed to expectations for at least three (3) years service. No requests for substitution shall be considered that lower system film thickness, number of coats and/or offer a change in the generic type of coating herein specified. Requests for review of equivalency will be accepted only from the Contractor and will be considered only after the contract has been awarded. Request for review submitted directly to the Engineer by coating suppliers will not be considered.

C. Custom colors are available for a nominal charge per color set-up from Rust-Oleum Corporation.

D. The 9100 / 9800 System shall be used only in conformance to the air quality legislation applicable at the location of use.

1.05 SURFACE PREPARATION AND APPLICATION DESCRIPTION

A. Substrate cleaning, surface preparation, coating application and dry film thickness shall be as specified herein and shall meet or exceed Rust-Oleum Corporation's recommendations.

B. All application equipment shall be clean and maintained in proper working order in accordance with the equipment manufacturer's recommendations.

C. The 9100 / 9800 System shall be applied in accordance with the air and surface temperature limits and work areas shall be reasonably free of airborne dust during application and drying time.

1.06 PERFORMANCE REQUIREMENTS

A. The 9100 System and the 9800 System have the following physical properties and these are also published on the product's Technical Data Sheet.

	9100 System*	9800 System
Volume Solids	78-81%	58-62%
Recommended Dry Film Thickness (DFT)	5-8 mils	3-5 mils
Practical Coverage (assumes 15% material loss)	125-225 sq ft/gal†	160-280 sq ft/gal
VOC	<340 g/l (<2.8 lbs/gal)	<340 g/l (<2.8 lbs/gal)
Mixing Ratio	1:1 base to activator by Volume	5:1 base to activator by Volume
Induction Period	None required	None required
Pot Life (@70°F & 50%RH)	2-4 hours, less at higher temperatures or with greater than 10 gallons of activated material	2-3 hours
Dry Time (@ 70F/21C and 50% RH)		
Tack Free	6-8 hours	4-6 hours
Handle	6-12 hours	6-9 hours
Recoat	16-72 hours	After 16 hours

* 9100 System activated with the 9101 Activator.
† The coverage rate may vary on a concrete substrate due to the porosity and texture of the concrete surface.

1.07 QUALITY ASSURANCE

A. Applicator Qualifications:

1. Shall be knowledgeable in the proper installation of 9100 / 9800 System and experienced in the application of a two component, epoxy and polyurethane systems.

2. Shall provide a minimum of one (1) year workmanship warranty for the application of the 9100 / 9800 System.

3. A list of Certified Rust-Oleum Corporation Coating Applicators is available from Rust-Oleum Corporation.

B. Pre-, Mid-, and Post-Job Conferences shall be scheduled at discretion of the Project Engineer and/or Design Architect.

1.08 SUBMITTALS

A. Product Data: 9100 / 9800 System, application and related equipment information.

B. Color Cards: Supply color cards of specified materials showing range of colors.

C. Applicator: If applicable, provide certified contractor documentation showing proof of familiarity with Rust-Oleum 9100 and 9800 Systems.

1.09 DELIVERY STORAGE AND HANDLING

A. Deliver the 9100 and 9800 Systems on-site in Rust-Oleum Corporation's labeled, original, unopened containers.

B. Store materials inside or under cover at ambient temperature. Keep materials dry, protected from weather, direct sunlight, surface contamination, aging corrosion, extreme temperatures and other damage.

1.10 PROJECT CONDITIONS

A. Protect adjacent work from damage and overspray during application of the 9100 / 9800 System.

1.11 WARRANTY

A. The technical data and suggestions for use contained herein are correct to the best of our knowledge, and offered in good faith. The statements of this specification do not constitute a warranty, expressed, or implied, as to the performance of these products. As conditions and use of our materials are beyond our control, we can guarantee these products only to conform to our standards of quality, and our liability, if any, will be limited to replacement of defective materials. All technical information is subject to change without notice.

B. Special project warranties may be issued on a request basis at the discretion of the Rust-Oleum Corporation Technical and Legal Departments and would not be contained within this specification document.

2. PRODUCTS

2.01 MANUFACTURER

A. The 9100 and 9800 Systems shall be obtained through a Rust-Oleum distributor. Contact Rust-Oleum Corporation for a complete listing or to request nearest distribution source.

2.02 MATERIALS

A. The 9100 System DTM Epoxy Mastic is a two component epoxy system that consist of a selection of standard color finishes, tint bases, and activators. Contact Rust-Oleum Corporation for availability of colors and container size.

B. The 9800 System DTM Urethane Mastic is a two component coating available in a standard colors, and tint bases for field tinting operations. The base component are combined with the 9801 Activator prior to use. Contact Rust-Oleum Corporation for availability of colors and container size.

3. EXECUTION

3.01 JOB CONFERENCES

A. A pre-job conference shall be at the discretion of the architect, engineer or general contractor. Coating contractor, substrate installer and other trades whose work effects the application of 9100 / 9800 System shall meet at the project site to review procedures

and time schedule proposed for application of 9100 / 9800 System and related work. Additional conferences are at the discretion of the architect, engineer, general contractor and/or owner.

3.02 SURFACE PREPARATION

A. All cleaning and surface preparations specified herein are minimums.

B. All surfaces to be coated shall be free of cracks, pits, fins, projections, or other imperfections that would interfere with the formation of a uniform, unbroken coating film.

C. All oil and grease shall be completely removed with biodegradable degreasers prior to mechanical cleaning begins.

D. New concrete shall have cured for a minimum 30 days prior to coating application. If a cure and seal agent was added to the concrete or applied after initial cure, the concrete must be abrasive blast cleaned or mechanically abraded to remove the sealer and expose fresh concrete.

E. Concrete surfaces shall be acid etched, mechanically abraded, or abrasive blast cleaned to remove all laitance to provide a uniform surface profile with a profile depth of 1 - 2 mils.

F. The coating contractor is to examine the substrate to determine if it is in satisfactory condition to receive the 9100 / 9800 System. Obtain coating contractor's written report listing conditions detrimental to performance of work in this specification. Do not proceed with the application of 9100 / 9800 System until unsatisfactory conditions have been corrected.

3.03 MIXING AND THINNING

A. MIXING

1. 9100 System

    a. The 9100 System colored base component shall be thoroughly mixed to uniform color.

    b. The selected 9100 System Activator shall be thoroughly mixed to uniform appearance.

    c. In a separate container, combine the base and activator components under mechanical agitation. Completely mix for 3-5 minutes. Observe any required induction time prior to application of the coating.

2. 9800 System

    a. The 9800 System base component shall be thoroughly mixed prior to the addition of the 9801 Activator. Components shall be combined only at the recommended mix ratio of 5:1 by volume.

B. THINNING

1. 9100 System

    a. Thinning shall be done in accordance with applicable local air quality regulations.

b. Thinning, when necessary, shall be done only with Rust-Oleum 160 Thinner.

2. 9800 System

a. Thinning shall be done in accordance with applicable local air quality regulations.

b. Thinning of the 9800 System DTM Urethane Mastic is not required for airless spray, brush, or roller application.

c. Thinning is not normally required for air atomized or HVLP spray. However, the 9800 System DTM Urethane Mastic can be thinned up to 6% by volume (½ pint per gallon) with Rust-Oleum 190 or 333 Thinner.

3.04 APPLICATION

A. Weather Conditions

1. 9100 System

a. Apply when air and surface temperatures are between 50-100° F (10-38°C) and surface temperature is at least 5° F (3°C) above the dew point.

b. The relative humidity should not be greater than 85%.

2. 9800 System

a. Apply only to a clean and dry surface.

b. Apply when air and surface temperatures are between 40-100° F (5-38° C), the relative humidity is no greater than 85%, and surface temperature is at least 5° F (3° C) above the dew point.

c. The 9800 System shall not be applied, except under shelter, during wet, damp, foggy, or windy weather. When necessary, the area to be coated should be sheltered by a temporary enclosure.

B. Coating Application

1. Apply one full coat of 9100 System using a 3/8 inch nap lint free roller. Depending on the porosity and surface texture of the concrete, it may be necessary to apply a 2nd coat of 9100 to obtain a smooth uniform finish.

2. Apply one full coat of 9800 System finish using a 3/8 inch nap lint free roller.

C. Protection of surfaces

1. The Coating Contractor shall be responsible for protecting all adjacent surfaces from spills, drips, overspray, or any other form of coating damage.

2. The coating contractor and it's subcontractors shall be responsible for removing spots or repairing damaged surfaces to the satisfaction of the project engineer, design architect and/or owner.

3.05 CLEAN-UP

A. Clean-up shall be done to remove all spills, drips, overspray, or other unwanted coating from all surfaces not intended to be coated.

B. All used rags, brushes, roller covers, and other application related materials shall be removed from the work site and disposed in a proper manner and in accordance with local waste regulations.

C. All equipment, staging, ladders, and other contractor materials brought onto the jobsite by the contractor shall be remove at the conclusion of the job in a timely manner.

END OF SECTION

URETHANE | **TECHNICAL DATA** | **RO-71**

RUST-OLEUM® HIGH PERFORMANCE®

9800 SYSTEM DTM URETHANE MASTIC

DESCRIPTION AND USES

The 9800 System DTM Urethane Mastic is a two component, high solids, high build, direct to metal, aliphatic acrylic polyurethane. This urethane mastic coating is designed to provide corrosion protection of steel in moderate to severe environments. It can be used directly on sound rusted steel with minimum surface preparation. It can also be used on clean steel, galvanized metal, concrete and previously coated surfaces with proper surface preparation.

It is suitable for tanks, towers, equipment, metal buildings, or chemical environments.

PRODUCTS

FINISHES

1-Gallon	5-Gallon	Description
9815419	—	Alumi-NON®
9865419	—	Regal Red
9879419	—	Black
9871419*	—	Dunes Tan
9844419	—	Safety Yellow
9892419	9892383	White
9882419	—	Silver Gray
9825419	—	Safety Blue
9886419	—	Navy Gray
—	M98-8404383*	ANSI 61 Light Gray
—	M98-8205383*	ANSI 70 Light Gray
9801501	9801419	Activator

TINT BASES

1-Gallon	5-Gallon	Description
9805470	—	Red Base
9806470	—	Yellow Base
9807470	9807370	Masstone Base
9808405	9808375	Deep Base
9809415	9809377	Light Base

All standard colors (except 9815 Alumi-Non), tint bases and activators are USDA acceptable under FSIS Directive 11000.4 (Rev.1), November 24, 1995. Color subject to approval of USDA Inspector. Agriculture Canada accepted: 9815, 9822, 9825, 9879, 9892, 9833, 9844, 9845, 9882, 9865, 9868, 9871 and 9886.

This product has been approved per MPI specification #72. Visit paintinfo.com for details.

*Made-to-Order only. Contact Rust-Oleum Customer Service for details.

PACKAGING

Standard premix colors are packaged in short filled gallon containers to allow for the addition of activator. The activator is packaged in a short filled, cone top, quart container. The combined base and activator components will yield one full gallon.

Tint bases are packaged in short filled gallon containers to allow for the addition of colorant and activator. The following tint bases are available. **Red Base** – A red tint base that can accept up to 16 ounces of colorant per gallon. **Yellow Base** – A yellow tint base that can accept up to 16 ounces of colorant per gallon. **Masstone Base** – A clear tint base that can accept up to 16 ounces of colorant per gallon. **Deep Base** – A white tint base that contains 0.8 pounds of titanium dioxide per gallon. It can accept up to 12 ounces of colorant per gallon. **Light Base** – A white tint base that contains 1.8 pounds of titanium dioxide per gallon. It can accept up to 8 ounces of colorant per gallon. Activated tinted colors which do not use the maximum amount of colorant will yield less than a full gallon of activated material.

COMPANION PRODUCTS

RECOMMENDED PRIMERS

9800 System DTM Urethane Mastic is self-priming and can be used without a primer in mild to moderate exposures. The use of a primer is required in severe exposures and on heavily rusted surfaces. Also, aluminum should be primed.

The following primers are recommended for conditions indicated:

- 9100: Severe conditions; (9115 should not be used as a primer)
- 9360 or 9370: Severe conditions; these primers can be topcoated within 30 days, enhanced adhesion over aluminum.
- 5369, 5381: Moderate conditions; enhanced adhesion over aluminum.
- 2068, 2082: Mild to moderate conditions; where a single-coat, fast dry primer is needed.

PRODUCT APPLICATION

SURFACE PREPARATION

ALL SURFACES: Remove all dirt, grease, oil, salt and chemical contaminants by washing the surface with Pure Strength® Cleaner/Degreaser item #3599402 or other suitable cleaner. Mold and mildew areas must be cleaned with a chlorinated cleaner or bleach solution. Rinse with fresh water and allow to dry.

STEEL: Hand tool (SSPC-SP-2) or power tool (SSPC-SP-3) clean to remove loose rust, scale, and deteriorated previous coatings to obtain a sound rusted surface. For optimum corrosion resistance, abrasive blast to commercial grade SSPC-SP-6, with a blast profile of 1-2 mils (25-50 µ). All weld spatter should be removed along weld seams, rough welds should be ground smooth, and all sharp edges should be ground to a smooth radius.

RUST-OLEUM® HIGH PERFORMANCE

TECHNICAL DATA

9800 SYSTEM DTM URETHANE MASTIC

PRODUCT APPLICATION (cont.)

PREVIOUSLY COATED: Previously coated surfaces must be sound and in good condition. Smooth, hard, glossy or aged two-component epoxy coatings should be scarified by sanding or sweep blasting to create a surface profile. The 9800 System DTM Urethane Mastic is compatible with most coatings, but a test patch is suggested. WARNING! If you scrape, sand or remove old paint from any surface, you may release lead paint dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Carefully clean up with a wet mop or HEPA vacuum. For additional information contact the U.S.EPA/Lead Information Hotline at 1-800-424-LEAD or log onto www.epa.gov/lead.

GALVANIZED METAL: Remove oil, dirt, grease and other chemical deposits with Pure Strength® Cleaner/Degreaser item #3599402 or other suitable cleaner. Remove loose rust, white rust or deteriorated old coatings by hand or power tool cleaning or brush off blasting. Rinse thoroughly with fresh water and allow to fully dry.

CONCRETE OR MASONRY: New concrete or masonry must cure 30 days before coating. Any concrete surface must be protected from moisture transmission from uncoated areas. Remove all loose, unsound concrete. Remove laitance and create a surface profile by acid etching with Rust-Oleum 108402 Cleaning and Etch Solution or by grinding. Surface sealers and curing agents must be removed by grinding.

APPLICATION

Apply only when air and surface temperatures are between 40-100°F (5-38°C) and surface is at least 5°F (3°C) above the dew point. Can be applied by brush, roller or spray. For proper performance, a dry film thickness of 3 to 5 mils (75 to 125µ) per coat is required. Excessive brushing or rolling may reduce film thickness. Apply two coats to an abrasive blast cleaned surface. The 9800 System DTM Urethane Mastic can accommodate wet-on-wet recoat after 2 hours of dry time. However this process should be conducted by experienced painters only. Application must be done by spray, and since a wet film thickness gauge is impractical during the application of the second coat, care must be used to avoid excessive film build. Excessive film thickness or application of the second coat before the recommended dry time (2 hours) can result with micro-wrinkling or pinholes; either of which will lower the gloss of the finish. Wet-on-wet application of the 9800 System Urethane Mastic finish can also be done over a first coat of 9100 System DTM Epoxy Mastic (except 9115) or one of the Rust-Oleum® Industrial Primers: 9360 or 9370.

EQUIPMENT RECOMMENDATIONS

BRUSH: Good quality natural or synthetic bristle recommended.

ROLLER: Good quality lamb's wool or synthetic fiber recommended.

PRODUCT APPLICATION (cont.)

AIR-ATOMIZED SPRAY:

Method	Fluid Tip	Fluid Delivery	Atom. Pressure
Pressure	0.050-0.070	10-16 oz./min.	25-60 psi
Siphon	0.043-0.070	—	25-60 psi
HVLP	0.050-0.070	—	10 psi at tip

AIRLESS SPRAY:

Fluid Pressure	Fluid Tip	Filter Mesh
1,800-3,000	0.013-0.017	100

THINNING

For air-atomized spray thin as necessary with 190 or 333 Thinner up to ½ pt./gal.

MIXING

CLEAN-UP

190 Thinner

PERFORMANCE CHARACTERISTICS

System Tested

Topcoat: 9800 System DTM Urethane Mastic.

For chemical and corrosion resistance, see the Rust-Oleum Industrial Brands Catalog (Form #206275).

PENCIL HARDNESS

METHOD: ASTM D3363

RESULT: F-H

CONICAL FLEXIBILITY

METHOD: ASTM D522

RESULT: 32%+

CYCLIC PROHESION

Rating 1-10, 10=best

METHOD: ASTM D5894, 4 cycles, 1,344 hours

RESULT: 10 per ASTM D714 for blistering

RESULT: 10 per ASTM D610 for rusting

IMPACT RESISTANCE (direct/reverse)

METHOD: ASTM D2794

RESULT: 160/160 in.–lbs.

TABER ABRASION

METHOD: ASTM D4060, CS-17 wheels, 1,000 gram load, 1000 cycles

RESULT: 74 mg loss

GLOSS (60°)

METHOD: ASTM D523

RESULT: 94% (color–white)

ACCELERATED WEATHERING (% gloss retention)

METHOD: ASTM D4587, QUV Type A bulb, 1,551 hours

RESULT: 95% gloss retention (color–white)

RUST-OLEUM HIGH PERFORMANCE

TECHNICAL DATA

9800 SYSTEM DTM URETHANE MASTIC

PHYSICAL PROPERTIES

		FINISH COLORS	TINT BASES
Resin Type		Aliphatic isocyanate converted acrylic polyurethane (ASTM type V)	Aliphatic isocyanate converted acrylic polyurethane (ASTM type V)
Solvents		Methyl amyl Ketone, butyl acetate, esters	Methyl amyl Ketone, butyl acetate, esters
Weight*	**Per Gallon**	9.2-11.2 lbs.	9.4-10.8 lbs.
	Per Liter	1.1-1.3 kg	1.1-1.3 kg
Solids*	**By Weight**	70-74%	70-73%
	By Volume	58-62%	60%
Volatile Organic Compounds*		<340 g/l (2.8 lbs./gal.)	<340 g/l (2.8 lbs./gal.)
Recommended Dry Film Thickness (DFT) Per Coat		3-5 mils (75-125µ)	3-5 mils (75-125µ)
Wet Film to Achieve DFT		5-8 mils (125-200µ)	5-8 mils (125-200µ)
Theoretical Coverage at 1 mil DFT (25µ)		930-990 sq. ft./gal. (22.9-24.4 m^2/l)	960 sq. ft./gal. (23.6 m^2/l)
Practical Coverage at Recommended DFT (assumes 15% material loss)		160-280 sq. ft./gal. (3.9-6.9 m^2/l)	165-275 sq. ft./gal. (4.0-6.8 m^2/l)
Mixing Ratio		5:1 base to activator by volume	5:1 base to activator by volume
Induction Period†		None required	None required
Pot Life @ 77°F & 50% RH		2-3 hours	2-3 hours
Dry Times at 70-80°F (21-27°C) and 50% rel. hum.	**Tack-free**	4-6 hours	3-6 hours
	Handle	6-9 hours	6-9 hours
	Recoat	16-24 hours	9-12 hours
Force Cure		n/a	n/a
Dry Heat Resistance		300°F (149°C)	
Shelf Life		2 years for base, 1 year for activator; open activator must be used within one week	
Safety Information	**Contains**	No lead has been deliberately added	
	Warning!	**WARNING! FLAMMABLE LIQUID AND VAPOR. VAPOR HARMFUL. MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. CAUSES NOSE, THROAT, EYE AND SKIN IRRITATION. CONTAINS ALIPHATIC POLYISOCYANATE; METHYL AMYL KETONE AND BUTYL ACETATE SOLVENTS. FOR INDUSTRIAL OR COMMERCIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. SEE THE PRODUCT MATERIAL SAFETY DATASHEET (MSDS) AND LABEL WARNINGS FOR ADDITIONAL SAFETY INFORMATION.**	

*Activated material.

†For brush and roller applications, a 30 minute set time is recommended.

Calculated values are shown and may vary slightly from the actual manufactured material.

APPENDIX D – I

Containment Pallets and Spill Decking

Performance Specifications for Portable Secondary Containment in Container Storage Areas Protected from Precipitation (including Containment Pallets and Spill Flooring/Decking in 800 Area Container Storage)

Example secondary containment pallets and spill decking are provided.

1) The sump size of the device, including portable devices that are connected together to achieve a particular container volume, will be equal to or larger than the single largest container on the portable secondary containment device and greater than 10 percent of the volume of the containers stored on the portable containment device. The basis for determining permitted and secondary containment volume will be the volume of inner packaging in the event a container is packaged with an outer packaging (e.g., a 55 gallon container in a 85 gallon overpack, a 0.37 gallon cylinder in a 5 gallon container). For containment volume determination purposes, lab packs will be the volume of the outer packaging. Example portable polyethylene, steel, and fluorinated portable containment devices are provided. Devices from a vendor other than those specified that meet the performance criteria will be acceptable. Compatibility information for the various devices is also provided.

2) In general, containment devices may be steel for all hazardous wastes except acidic DOT Class 8 liquids and polyethylene for all waste types except for concentrated chemicals listed as "C" on the compatibility chart for polyethylene. Fluorinated polyethylene containment devices may also be used for most organic liquids and inorganic aqueous solutions. However, if a material is packaged and shipped in a plastic outer or inner container, it shall be assumed to be compatible with a portable secondary containment device constructed of polyethylene regardless of DOT hazard class on the container. If a material is packaged and shipped in a steel outer or inner container, it shall be assumed that the contents of the container are compatible with the portable steel secondary containment device regardless of the DOT hazard class on the container.

3) Only a single container with free liquids may be stored within a containerized pallet/portable secondary containment unit where the container is not elevated from the sump portion of the pallet/unit. Containerized pallets that do not have any containers holding free liquids may have more than one container within a containerized pallet/secondary containment device that is not elevated.

4) Spill flooring/decking may be used for consolidation of waste materials in the 800 Area Container Storage following the above guidelines, It is assumed that waste materials are compatible with polyethylene flooring/decking and/or steel flooring/decking for the intended use of consolidation/bulking.

POLYETHYLENE: DRUM SPILL PALLETS

4 drum & 2 drum units

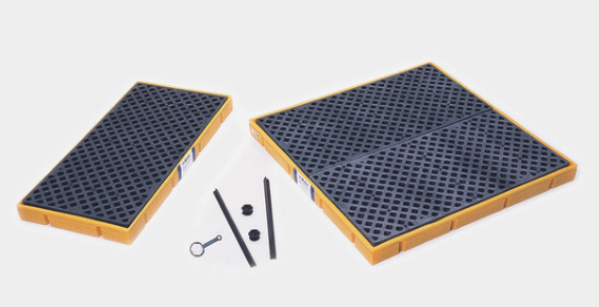
- spill pallets are built for heavy loads and conveneint handling
- highest load capacity available 6,000 lbs. for 4-drum model, 3000 lbs. for 2-drum model
- bright, safety yellow sidewalls are translucent, offering convenient visual leak detection
- 100% polyethylene construction compatible with a broad range of chemicals, including acids and corrosives
- meet EPA and Uniform Fire Code Containment Pallet Regulations.

SPECIFICATIONS	
Ultra-SpillPallet P4	**Ultra-SpillPallet P2**
Part # no Drain: 1000 Part #with Drain:1001	Part # no Drain: 1010 Part #with Drain:1011
Dimensions: 53" x 53" x 11 3/4"	Dimensions: 53" x 29" x 16 1/2"
Weight: 85 lbs.	Weight: 63 lbs.
Static Load Capacity: 6000 lbs.	Static Load Capacity: 3000 lbs.
Containment Capacity: 66 gals.	Containment Capacity: 66 gals.

2-drum economy spill pallet

- low profile, 4-drum SpillPallets are available in 4,000 lb. and 3,000 lb. load capacities
- rugged 2-drum SpillPallets offer a choice of 2,000 lb. and 1,500 lb. load capacities choose the model which maximizes your performance and cost objectives
- applications for the all-polyethylene units include satellite waste collection and storage of virgin chemicals
- meet EPA and Uniform Fire Code Containment Pallet Regulations

SPECIFICATIONS			
Ultra-SpillPallet P4-4000	**Ultra-SpillPallet P4-3000**	**Ultra-SpillPallet P2-2000**	**Ultra-SpillPallet P4-3000**
Part # no Drain: 2508 Part# w/Drain: 2509	Part # no Drain: 1112 Part# w/Drain: 1113	Part # no Drain: 2500 Part# w/Drain: 2501	Part # no Drain: 2504 Part# w/Drain: 2505
Dimensions: 53" x 53" x 11 3/4"	Dimensions: 53" x 53" x 11 3/4"	Dimensions: 53" x 29" x 16 1/2"	Dimensions: 53" x 29" x 16 1/2"
Weight: 80 lbs.	Weight: 79 lbs.	Weight: 52 lbs.	Weight: 50 lbs.
Static Load Capacity: 4000 lbs.	Static Load Capacity: 3000 lbs.	Static Load Capacity: 2000 lbs.	Static Load Capacity: 1500 lbs.
Containment Capacity: 66 gals.	Containment Capacity: 66 gals.	Containment Capacity: 66 gals.	Containment Capacity: 66 gals.
Options Available: Outdoor Pullover Covers, Loading Ramps			



ULTRATECH INTERNATIONAL

UltraTech Spill Deck P2 Plus - 2222 - 2 Drum

For Questions or
To Place an Order
CALL 1-800-474-7294

SKU: Spill Pallets : UT-2222
MFG.: UltraTech
PALLET TYPE: Spill Deck
SPILL PALLET SIZE: 2 Drum
CONTAINMENT CAPACITY: 17.5 Gallons

Ultra 2 Drum Spill Deck 2222 Specifications:

Dimensions: 54-1/2" x 27-1/4" x 4-1/4"
Uniformly Distributed Load: 10,000 lbs per sq. ft.
Containment Capacity: 17.5 Gallons
Weight: 56 lbs

POLYETHYLENE
CHEMICAL COMPATIBILITY GUIDE
For Ultra Environmental Containment Products

Source of data - http://www.spillcontainment.com/polyethylene.html

This listing was prepared to provide guidance to the chemical compatibility of Ultra Environmental Containment Products, which are manufactured and constructed of a molded polyethylene.

Polyethylene is susceptible to attach by some chemicals, which may cause stress cracking, swelling, and oxidation or may permeate the polyethylene. These reactions may reduce the physical properties of polyethylene.

When considering an UltraTech polyethylene product for use in secondary containment applications, it is important to note that most secondary containment products are designed to hold leaked chemicals for only hours, a day, at most a week. These secondary containment units would then be cleaned of any chemical. In these short-term applications, a greater variety of chemicals may be used with the polyethylene since the exposure time of the chemical to the polyethylene is limited.

A. Suitable for long term storage at 100 degrees F or less.
B. Suitable for short term storage less than one year.
C. Do NOT store these chemicals in Ultra-Tech containers.

User testing may prove some of these chemicals are suitable for secondary containment applications with exposure time of one week or less.

A
Acetaldehyde (40%), A
Acetamide, A
Acetone, A
Acetylene Tetrabromide, B
Acrylic Emulsions, B
Acrylonitrile, A
Adipic Acid, A
Aliphatic Hydrocarbons, A
Alkaline, A
Allyl Alcohol (96%), A
Aluminum Chloride (20%), A
Aluminum Fluride, A
Aluminum Hydrogen Solution (10%), A
Aluminum Hydroxide, A
Alums (All Types), A
Ammonia (Aqueous), A
Ammonium Acetate, A
Ammonium Bifluoride, A
Ammonium Carbonate (50%), A

Ammonium Chloride, A
Ammonium Hydrogen Fluoride (50%), A
Ammonium Hydroxide, A
Ammonium Metaphsophate Sat'd, A
Ammonium Nitrate Sat'd, A
Ammonium Persulfate Sat'd, A
Ammonium Phosphate, A
Ammonium Salts, A
Ammonium Sulfate Sat'd, A
Ammonium Sulfide, Sat'd, A
Ammonium Thiocyanate Sat'd, A
Amyl Acetate, A
Amyl Alcohol (100%), A
Amyl Chloride, C
Aniline (100%), B
Aniline Hydrochloride, B
Anti Freeze, A
Antimony Salts, A
Antimony Trichloride (90%), A
Aqua Regia, C
Aqueous Alkalies (NaOH), A
Arsenic Acid, A
Ascetic Acid (50%), A
Ascetic Acid Anhydride, B
Ascetic Ether, B
B
Barium Carbonate, A
Barium Chloride, A
Barium Cyanide, A
Barium Hydroxide, A
Barium Nitrate, A
Barium Salts, A
Barium Sulfate, A
Barium Sulfide, A
Battery Fluid, Acid, B
Benzaldehyde, A
Benzene Sulfonic Acid, B
Benzene, B
Benzoic Acid, A
Benzyl Alcohol, A
Benzyl Chloroformate, A
Boric Acid Conc., A
Boric Acid Dilute, A
Borzx Cold Sat'd, A
Bromine, Liquid, C
Bromine, Water, C
Bromobenzene, C
Bromoform, C

Butadiene, A
Butanediol (100%), A
Butanol, A
Butyl Acetate, A
Butyl Alcohol (100%), A
Butyl Phenol, C
Butylene Glycol, A
Butylene Liquid, C
Butylene, C
Butyric Acid, A
C
Calcium Carbonate, A
Calcium Chloride, A
calcium Hydroxide, A
Calcium Hypochlorite, A
Calcium Nitrate (50%), A
Calcium Sulfate, A
Carbon Bisulfide, C
Carbon Disulfide, C
Carbon Monoxide, A
Carbon Tetrachloride, C
Carbonic Acid (Aq. C02), A
Caustic (Aqueous), A
Caustic Potash Sol. (50%), A
Caustic Soda Sol. (10%), A
Chloroacetic Acid, A
Chlorobezene, A
Chloroform, C
Chloromethane, C
Chlorsulfonic Acid (100%), C
Chrome Alum Sat'd, A
Chromic Acid (50%), B
Clycolic Acid (All Conc.), A
Copper Cyanide, A
Cresylic Acid, A
Crotonic Aldehyde, A
Cuprous Chloride Sat'd, A
Cyclohenanone, B
Cyclohexane, A
Cyclohexanol, A
D
Dextrin Sat'd, A
Dextrose Sat'd, A
Di Isobutyl Ketone, B
Dibutyl Ether, C
Dibutyl Sebacate, B
Dibutylphthalate, B
Dichloroacetic Acid, B

Dichlorobenzene, Liquid, C
Dichloroethylene, C
Diesel Fuel, B
Diesel Oil, B
Diethanolamine, B
Diethyl Carbonate, A
Diethylene Glycol, A
Digycolic Acid (30%), A
Dimethyl Formamide, B
Dimethylamine, B
Dinonyl Phthalate, C
Dioctyl Phthalate, C
Dioxane, A
Diphenyl Oxide, C
Disodium Phosphate, A
E
Electrolyte, A
Ethanol, A
Ether, C
Ethyl Acetate (100%), B
Ethyl Alcohol, A
Ethyl Butyrate, B
Ethyl Chloride, C
Ethyl Ether, C
Ethylene Chloride, C
Ethylene Chlorohydrin, A
Ethylene Diamine, A
Ethylene Dichloride, C
Ethylene Glycol, A
Ethylene Oxide, C
F
Fatty Acids, A
Ferric Sulfate, A
Ferrous Salts, A
Ferrous Sulfate, A
Fluoboric Acid, A
Fluosilicic Acid (All Conc.), A
Formaldehyde (40%), A
Formamide, A
Formic Acid (All Conc.), A
Fuel Oil, A
Furfural (100%), A
Furfuryl Alcohol, C
G
Gallic Acid Sat'd, A
Gasoline, A
Gluconic Acid (All Conc.), A
Glycerine, A

Glycol, A
H
Heptane, A
Hexane, A
Hydrazone Hydrate, A
Hydrobromic Acid (50%), A
Hydrochloric Acid (All Conc.), A
Hydrocyanic Acid Sat'd, A
Hydrofluoric Acid (All Conc.), A
Hydrofluorisilicic Acid (All Conc.), A
Hydrogen Bromide (10%), A
Hydrogen Peroxide (90%), A
Hydrogen Phosphide (100%), A
Hydrogen Sulfide, A
Hydroiodic Acid (All Conc.), A
Hydroquinone, A
Hydrosulfite (10%), A
Hydroxylamine Sulfate, A
Hydrozine (35%), A
Hydrozine Hydrochloride, A
Hypochlorous Acid, A
I
Iso Octane, B
Isopropyl Acetate, A
Isopropyl Alcohol, A
Isopropyl Ether, C
J
Jet Fuel, B
K
Kerosene, B
L
Lactic Acid (All Conc.), A
Lead Acetate Sat'd, A
M
Magnesium Carbonate, A
Magnesium Hydroxide, A
Magnesium Nitrate, A
Magnesium Oxide, A
Magnesium Salts, A
Magnesium Sulfate, A
Maleic Acid, A
Methanol, A
Methyl Acetate, A
Methyl Alcohol (100%), A
Methyl Amine (32%), A
Methyl Bromide, C
Methyl Chloride, C
Methyl Ethyl Ketone, B

Methyl Isobutyl Ketone, B
Methyl Isopropyl Ketone, B
Methyl Sulfate, A
Methyl Sulfuric Acid (All Conc.), A
Methylene Chloride, C
Mineral Oils, A
Monochloroacetic Acid Ethyl Ester, A
Monochloroacetic Acid Methyl Ester, A
Mowilith D, A
N
Naptha, B
Napthalene, B
Nicotine Dilute, A
Nicotinic Acid, A
Nitric Acid <50%, A
Nitrobenzene, B
Nitrotoluene, B
O
Octyl Cresol, A
Oleic Acid (All Conc.), A
Oleum Conc., C
Oxalic Acid (All Conc.), A
P
Palmitic Acid, C
Paraffin Emulsions, A
Perchloric Acid (50%), A
Perchloroethylene, B
Petroleum Ether, B
Petroleum, A
Phenylhydrazine, C
Phosphoric Acid (All Conc.), A
Phosphorous (Yellow 100%), A
Phosphorous Chlorides, B
Phosphorous Pentoxide, A
Photographic Solutions, A
Phthalic Acid (All Conc.), A
Phthalic Anhydride, A
Pickling Baths, A
Sulfuric Acid, A
Hydrochloric Acid, A
Picric Acid (1%), A
Plating Solutions, A
Potassium Aluminum Sulfates (50%), A
Potassium Bichromate, A
Potassium Borate (10%), A
Potassium Bromide, A
Potassium Chlorate, A
Potassium Chloride, A

Potassium Chromate, A
Potassium Cyanide, A
Potassium Dichromate (40%), A
Potassium Ferri Ferro Cyanide Sat'd, A
Potassium Fluoride, A
Potassium Hydroxide, A
Potassium Nitrate Sat'd, A
Potassium Perborate Sat'd, A
Potassium Perchlorate, A
Potassium Phosphates, A
Potassium Sulfate, A
Propanol, A
Propargyl Alcohol (7%), A
Propionic Acid (50%), A
Propyl Alcohol, A
Propylene Dichlrode (100%), A
Propylene Glycol, A
Propylene Oxide, A
Pyridine, B
S
Selenic Acid, A
Sewage, A
Silicic Acid, A
Silver Nitrate, A
Soda Ash, A
Sodium Acetate Sat'd, A
Sodium Benzoate, A
Sodium Bisulfate (10%), A
Sodium Bisulfite, A
Sodium Bromate, B
Sodium Chloride, A
Sodium Chlorite, A
Sodium Chromate, A
Sodium Disulfite, A
Sodium Dithionite (10%), A
Sodium Fluoride Sat'd, A
Sodium Hydroxide Conc., A
Sodium Hypochlorite, A
Sodium Nitrate, A
Sodium Oxalate, A
Sodium Persulfate, A
Sodium Phosphate, A
Sodium Sulfonates, A
Stearic Acid (All Conc.), A
Succinic Acid, A
Sulfuric Acid (98%), B
Sulfuric Acid, Fuming, C
Sulfurous Acid, A

Sulfuryl Chloride, C
T
Tartaric Acid Sat'd, A
Tetrachlorethylene, C
Tetrachloroethane, C
Tetrahydrofurane, C
Tetrahydronaphthalene, C
Thionyl Chloride, C
Titanium Salts, B
Toluene Sulfonic Acid (All Conc.), B
Toluene, B
Transformer Oil, A
Tributylphosphate, A
Trichloroacetic Acid, B
Trichloroethane, C
Trichloroethylene, C
Trichloroethylene, C
Tricresyl Phosphate, A
Triethanolamine, A
Trioctyl Phosphate, C
Trisodium Phosphate Sat'd, A
Turpentine Oil, C
X
Xylene, C

Source of data - http://www.spillcontainment.com/polyethylene.html

FLUORINATED POLYETHYLENE COMPATIBILITY

Fluorination is a surface treatment of plastics (usually polyethylene or polypropylene), which forms a protective layer or barrier. Level V fluorination treatment results in the double benefit of a polyethylene product with enhanced chemical resistance.

The following chart should be used as a guide for evaluating the suitability of a Level V fluorinated polyethylene spill pallet, with the chemical to be stored. The following table accounts for variations in service temperature.

NOTICE

This report is offered as a guide and was developed from information which, to the best of New Pig Corporation's knowledge, was reliable and accurate. Due to variables and conditions of application beyond New Pig Corporation's control, none of the data shown in this guide is to be construed as a guarantee, expressed, or implied. New Pig Corporation assumes no responsibility, obligation, or liability in conjunction with the use or misuse of the information.

KEY

Swelling (Visually rated from 0-2): 0 = None, 1 = Slight, 2 = Significant
Degradation (Visually rated from 0-2): 0 = None, 1 = Slight, 2 = Significant

RATINGS

A: Resistant (up to .5% permeation)
B: Variable Resistance (up to 2% permeation)
C: Not Recommended
**: Above boiling point

Chemical	Test Notes	70° F	130° F
Acetone		A	-
Acetaldehyde[1]	< = 80%	A	-
Acetic Acid[1]	10%	A	A
Acetic Acid [1]	60%	A	B
Acetic Anhydride[1]	85%	B	B
Aluminum Chloride	< = 100%	A	A
Aluminum Fluoride	< = 100%	A	A
Aluminum Sulphate	< = 100%	A	A
Alums	all types	A	A
Ammonium Carbonate		A	A
Ammonium Chloride	Saturated Solution	A	A
Ammonium Fluoride	Saturated Solution	A	A
Ammonium Hydroxide	10%	A	A

Chemical	Test Notes	70° F	130° F
Ammonium Hydroxide	28%	A	A
Ammonium Nitrate	Saturated Solution	A	A
Ammonium Persulphate	Saturated Solution	A	A
Ammonium Sulphate	Saturated Solution	A	A
Ammonium Metaphosphate	Saturated Solution	A	A
Ammonium Sulfide	Saturated Solution	A	A
Amyl Acetate [1,2]	< = 100%	A	A
Amyl Alcohol [1,2]	< = 100%	B	B
Amyl Chloride[2]	< = 100%	B	B
Aniline[1,2]	< = 100%	A	A
Aqua Regia		C	C
Arsenic Acid	< = 100%	A	A
Aromatic Hydrocarbons[1,2]		A	A
Ascorbic Acid	10%	A	A
Barium Carbonate	Saturated Solution	A	A
Barium Chloride	Saturated Solution	A	A
Barium Hydroxide		A	A
Barium Sulphate	Saturated Solution	A	A
Barium Sulphide	Saturated Solution	A	A
Beer		A	A
Benzene[1,2]		A	A
Benzoic Acid	< = 100%	A	A
Bismuth Carbonate	Saturated Solution	A	A
Bleach Lye	10%	A	A
Borax	Saturated Solution	A	A
Boric Acid	< = 100%	A	A
Brine		A	A
Bromine[3]	liquid	A	A
Bromine Water[2]	Saturated Solution	A	A
Butanediol[1]	< = 100%	A	A
Butanoic Acid[2]	< = 85%	A	B
Butter[1]		A	A
n-Butyl Acetate[1,2]	< = 100%	A	A
n-Butyl Alcohol	< = 100%	A	A
Calcium Carbonate	Saturated Solution	A	A

Chemical	Test Notes	70° F	130° F
Calcium Chlorate	Saturated Solution	A	A
Calcium Chloride	Saturated Solution	A	A
Calcium Hydroxide	Saturated Solution	A	A
Calcium Hypochlorite		A	A
Calcium Nitrate	50%	A	A
Calcium Oxide	Saturated Solution	A	A
Calcium Sulfate		A	A
Camphor Oil[1,2]		A	A
Carbon Disulfide		B	**
Carbon Monoxide		A	A
Carbon Tetrachloride[2]		A	A
Carbonic Acid		A	A
Castor Oil		A	A
Chlorine in Water	2% Solution	A	A
Chlorobenzene[1,2]		A	A
Chloroform[1,2]		A	A
Chlorosulfonic Acid	< = 100%	B	C
Chrome Alum	Saturated Solution	A	A
Chromic Acid	80%	A	A
Chromic Acid	50%	A	A
Chromic Acid	10%	A	A
Cider[1]		A	A
Citric Acid[1]	Saturated Solution	A	A
Coconut Oil		A	A
Coconut Oil Alcohols[1]		A	A
Coffee		A	A
Cola Concentrates[1]		A	A
Copper Chloride	Saturated Solution	A	A
Copper Cyanide	Saturated Solution	A	A
Copper Fluoride	2%	A	A
Copper Nitrate	Saturated Solution	A	A
Copper Sulfate	Saturated Solution	A	A
Corn Oil[1]		A	A
Cottonseed Oil[1]		A	A
Cuprous Chloride	Saturated Solution	A	A

Chemical	Test Notes	70° F	130° F
Cutting Oils		A	A
Detergents, synthetic[1]		A	A
Developers, photographic		A	A
Dextrin	Saturated Solution	A	A
Dextrose	Saturated Solution	A	A
Diazo Salts		A	A
Dibutylphthalate[1]		A	A
Dichlorobenzene[1,2]		A	A
Diethyl Ketone[1,2]		A	A
Diethylene Glycol[1]		A	A
Diglycolic Acid[1]		A	A
Dimethylamine		A	A
Dipentene		A	A
Disodium Phosphate		A	A
Emulsions, Photographic[1]		A	A
Essential Oils		A	A
Ethyl Acetate[1,2]	< = 100%	A	A
Ethyl Alcohol[1]	< = 100%	A	A
Ethyl Alcohol[1]	35%	A	A
Ethyl Benzene[1,2]		A	A
Ethyl Chloride[2]		A	A
Ethyl Ether[2]		A	A
Ethylene Chloride[1,2]		A	A
Ethylene Glycol[1]		A	A
Fatty Acids		A	A
Ferric Chloride	Saturated Solution	A	A
Ferric Nitrate	Saturated Solution	A	A
Ferrous Chloride	Saturated Solution	A	A
Ferrous Sulfate		A	A
Fish Oils		A	A
Fluoboric Acid		A	A
Fluosillic Acid	32%	A	A
Formic Acid	< = 100%	A	A
Fructose	Saturated Solution	A	A
Fruit Pulp[1]		A	A

Chemical	Test Notes	70° F	130° F
Furfural[2]	< = 100%	A	A
Furfuryl Alcohol[1,2]		A	A
Gallic Acid[1]	Saturated Solution	A	A
Gasoline		A	A
Glucose		A	A
Glycerine[1]		A	A
Glycol		A	A
Glycolic Acid[1]	30%	A	A
Grape Sugar	Saturated Solution	A	A
Greases (Lithium, Lead, etc.)		A	A
n-Heptane[1,2]		A	A
Hexachlorobenzene		A	A
Hexanol		A	A
Hydrobromic Acid	50%	A	A
Hydrochloric Acid	< = 100%	A	A
Hydrocyanic Acid	Saturated Solution	A	A
Hydrofluoric Acid[1]	60%	A	A
Hydrogen Peroxide	30%	A	A
Hydrogen Peroxide	10%	A	A
Hydrogen Sulfide	< = 100%	A	A
Hydroquinone		A	A
Hypochlorous Acid		A	A
Inks[1]		A	A
Insecticides		A	A
Iodine[3]	in KI solution	A	A
Isopropyl Alcohol	< = 70%	A	A
Lead Acetate	Saturated Solution	A	A
Lead Nitrate		A	A
Lactic Acid[1]	20%	A	A
d-Limonene	< = 100%	A	A
Linseed Oil[1]	< = 100%	A	A
Lubricants		A	A
Magnesium Carbonate	Saturated Solution	A	A
Magnesium Chloride	Saturated Solution	A	A
Magnesium Hydroxide	Saturated Solution	A	A

Chemical	Test Notes	70° F	130° F
Magnesium Nitrate	Saturated Solution	A	A
Magnesium Sulfate	Saturated Solution	A	A
Mercuric Chloride	40%	A	A
Mercuric Cyanide	Saturated Solution	A	A
Mercury		A	A
Methyl Alcohol[1]	< = 100%	A	A
Methyl Ethyl Ketone[1,2]	< = 100%	A	A
Methylene Chloride[1,2]	< = 100%	A	A
Mineral Oils[1,2]		A	A
Molasses		A	A
Naphtha[1,2]		A	A
Naphthalene[1,2]		A	A
Nickel Chloride	Saturated Solution	A	A
Nickel Nitrate	Saturated Solution	A	A
Nickel Sulfate	Saturated Solution	A	A
Nicotine[1]	dilute	A	A
Nitric Acid	0 - 30%	A	A
Nitric Acid[3]	30 - 50%	A	B
Nitric Acid[3]	70%	A	B
Nitric Acid[3]	95 - 98%	B	B
Nitrobenzene[1,2]	< = 100%	A	A
n-Octane		A	A
Oleic Acid	Saturated Solution	A	A
Palm Oil		A	A
Perchloroethylene[2]		A	A
Pesticides		A	A
Petroleum Oils		A	A
Phosphoric Acid	95%	A	A
Photographic Solutions		A	A
Pineno (Terpenes)		A	A
Plating Solutions		A	A
Brass		A	A
Cadmium		A	A
Chromium		A	A
Copper		A	A

Chemical	Test Notes	70° F	130° F
Gold		A	A
Lead		A	A
Nickel		A	A
Silver		A	A
Tin		A	A
Zinc		A	A
Potassium Bicarbonate	Saturated Solution	A	A
Potassium Bromide	Saturated Solution	A	A
Potassium Bromate	10%	A	A
Potassium Carbonate		A	A
Potassium Chlorate	Saturated Solution	A	A
Potassium Chloride	Saturated Solution	A	A
Potassium Chromate	40%	A	A
Potassium Cyanide	Saturated Solution	A	A
Potassium Dichromate[3]	40%	A	A
Potassium Ferricyanide	Saturated Solution	A	A
Potassium Fluoride		A	A
Potassium Hydroxide	Saturated Solution	A	A
Potassium Nitrate[3]	Saturated Solution	A	A
Potassium Perchlorate	10%	A	A
Potassium Permanganate	20%	A	A
Potassium Persulfate	Saturated Solution	A	A
Potassium Sulfate	Saturated Solution	A	A
Potassium Sulfide	Saturated Solution	A	A
Potassium Sulfite	Saturated Solution	A	A
Propargyl Alcohol[1]		A	A
n-Propyl Alcohol[1]		A	A
Propylene ichloride[1,2]	< = 100%	A	A
Propylene Glycol[1]		A	A
Pyridine[1]		A	A
Resourcinol	Saturated Solution	A	A
Salicylic Acid	Saturated Solution	A	A
Sea Water		A	A
Selenic Acid		A	A
Shortening		A	A

Chemical	Test Notes	70° F	130° F
Silver Nitrate Solution		A	A
Soap Solution[1]		A	A
Sodium Acetate	Saturated Solution	A	A
Sodium Benzoate	35%	A	A
Sodium Bicarbonate	Saturated Solution	A	A
Sodium Bisulfate	Saturated Solution	A	A
Sodium Bisulfite	Saturated Solution	A	A
Sodium Borate		A	A
Sodium Bromide	Dilute	A	A
Sodiumm Carbonate	Saturated Solution	A	A
Sodium Chlorate	Saturated Solution	A	A
Sodium Chloride	Saturated Solution	A	A
Sodium Cyanide		A	A
Sodium Dichromate	Saturated Solution	A	A
Sodium Ferricyanide	Saturated Solution	A	A
Sodium Fluoride	Saturated Solution	A	A
Sodium Hydroxide	Saturated Solution	A	A
Sodium Hypochlorite		A	A
Sodium Nitrate		A	A
Sodium Sulfate		A	A
Sodium Sulfide	Saturated Solution	A	A
Sodium Sulfite	Saturated Solution	A	A
Stannic Chloride	Saturated Solution	A	A
Stannous Chloride	Saturated Solution	A	A
Starch Solution[1]	Saturated Solution	A	A
Stearic Acid[1]	< = 100%	A	A
Sulfuric Acid	0 - 50%	A	A
Sulfuric Acid[3]	70%	A	B
Sulfuric Acid[3]	98%	B	B
Sulfuric Acid[3]	Fuming	B	B
Sulfurous Acid		A	A
Tallow[2]		A	A
Tannic Acid[1]	Saturated Solution	A	A
Tartaric Acid		A	A
Tetrahydrofuran[1,2]		A	A

Chemical	Test Notes	70° F	130° F
Titanium Tetrachloride[1]	Saturated Solution	B	B
Toluene[1]		A	A
Trichloroethylene[1,2]		A	A
Triethylene Glycol[1]		A	A
Trisodium Phosphate	Saturated Solution	A	A
Turpentine[2]		A	A
Urea	0 - 30%	A	A
Urine		A	A
Vanilla Extract[1]		A	A
Vegetable Oils		A	A
Vinegar		A	A
Water		A	A
Wetting Agents[1]		A	A
Whiskey[1]		A	A
Wines[1]		A	A
Xylene[2]		A	A
Yeast		A	A
Zinc Bromide	Saturated Solution	A	A
Zinc Carbonate	Saturated Solution	A	A
Zinc Chloride	Saturated Solution	A	A
Zinc Oxide	Saturated Solution	A	A
Zinc Stearate		A	A
Zinc Sulfate	Saturated Solution	A	A

1. Stress Crack Agent. Certain surface active materials can accelerate the cracking of polyethylene when it is under stress. Although our pallets are generally stress-free, caution should be used when pallets are supported and welded fittings are used.
2. Plasticizer. Certain types of chemicals are absorbed to varying degrees by polyethylene causing swelling, softening, and loss of yield strength. If removed from the spill pallet, most plasticizers will not show a continued deleterious effect.
3. Oxidizers. This group of materials is capable of chemically degrading fluorinated polyethylene. Short term effects may not be noticeable. Spill pallets exposed to these products should be inspected before being placed back into service.

Source: http://www.newpig.com/en_US/content/current/Poly_Plus.htm, June 7, 2005.

CARBON STEEL COMPATIBILITY

Typical corrosion charts are applicable to storing chemical in fairly concentrated forms, such as 20, 50, or 100% solutions. The materials stored on steel containment devices could vary from concentrated chemicals to dilute chemicals with significant amounts of diluents that are acceptable for storage on carbon steel. In many instances these charts may not be appropriate. Perry's Chemical Engineers Handbook, 6th Edition does discuss the use of carbon steel tanks and its application for storage of various liquids.

> [Carbon Steel] is routinely used for most organic chemicals and neutral or basic aqueous solutions at moderate temperatures. It is also used routinely for the storage of concentrated sulfuric acid and caustic soda [up to 50% and 130 F]. Because of its availability, low cost, and ease of fabrication steel is frequently used in services with corrosion rates of 0.13 to 0.5 mm/year (5 to 20 mils/year), with added thickness (corrosion allowance) to assure the achievement of desired service life."

Attached a list of hazardous materials that may be transported using carbon steel packaging as an inner or outer package. Heritage reviewed the DOT Hazardous Materials Table at 49 CFR Part 172 and utilized Column 8B to determine whether steel containers (including cylinders) are specified as being acceptable for transportation of specific hazardous materials as identified in 49 CFR Part 173. The attached table is condensed from the hazardous materials table at 40 CFR Part 172 and lists chemicals that can be transported using steel packaging based on the DOT Hazardous Material Table at 49 CFR Part 172. This table does not distinguish hazardous materials that can and cannot be accepted at the facility. Rather, it is simply at tabulation of materials that can be transported and stored in steel containers.

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Acetal	3	UN1088	II	3	202
Acetaldehyde	3	UN1089	I	3	201
Acetaldehyde ammonia	9	UN1841	III	9	204
Acetaldehyde oxime	3	UN2332	III	3	203
Acetic acid, glacial [or] Acetic acid solution, [with more than 80 percent acid, by mass]	8	UN2789	II	8, 3	202
Acetic acid solution, [not less than 50 percent but not more than 80 percent acid, by mass]	8	UN2790	II	8	202
Acetic acid solution, [with more than 10 percent and less than 50 percent acid, by mass]	8	UN2790	III	8	203
Acetic anhydride	8	UN1715	II	8, 3	202
Acetone	3	UN1090	II	3	202
Acetone cyanohydrin, stabilized	6.1	UN1541	I	6.1	227
Acetone oils	3	UN1091	II	3	202
Acetonitrile	3	UN1648	II	3	202
Acetyl bromide	8	UN1716	II	8	202
Acetyl chloride	3	UN1717	II	3, 8	202
Acetyl iodide	8	UN1898	II	8	202
Acetyl methyl carbinol	3	UN2621	III	3	203
Acetylene, dissolved	2.1	UN1001		2.1	303
Acridine	6.1	UN2713	III	6.1	213
Acrolein dimer, stabilized	3	UN2607	III	3	203
Acrolein, stabilized	6.1	UN1092	I	6.1, 3	226
Acrylamide	6.1	UN2074	III	6.1	213
Acrylic acid, stabilized	8	UN2218	II	8, 3	202
Acrylonitrile, stabilized	3	UN1093	I	3, 6.1	201
Adhesives, [containing a flammable liquid]	3	UN1133	II	3	173
Adhesives, [containing a flammable liquid]	3	UN1133	II	3	173
Adhesives, [containing a flammable liquid]	3	UN1133	III	3	173
Adiponitrile	6.1	UN2205	III	6.1	203
Aerosols, [corrosive, Packing Group II or III, (each not exceeding 1 L capacity)]	2.2	UN1950		2.2, 8	None
Aerosols, [flammable, (each not exceeding 1 L capacity)]	2.1	UN1950		2.1	None
Aerosols, flammable, n.o.s. ([engine starting fluid) (each not exceeding 1 L capacity)]	2.1	UN1950		2.1	None
Aerosols, [non-flammable, (each not exceeding 1 L capacity)]	2.2	UN1950		2.2	None
Aerosols, [poison, each not exceeding 1 L capacity]	2.2	UN1950		2.2	None

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Air bag inflators, [or] Air bag modules, [or] Seat-belt pretensioners.	1.4G	UN0503	II	1.4G	62
Air bag inflators, [or] Air bag modules, [or] Seat-belt pretensioners.	9	UN3268	III	9	166
Air, compressed	2.2	UN1002		2.2	302
Air, refrigerated liquid, [(cryogenic liquid)]	2.2	UN1003		2.2, 5.1	316
Air, refrigerated liquid, [(cryogenic liquid) non-pressurized]	2.2	UN1003		2.2, 5.1	316
Alcoholates solution, n.o.s., [in alcohol]	3	UN3274	II	3, 8	202
Alcoholic beverages	3	UN3065	II	3	202
Alcoholic beverages	3	UN3065	III	3	203
Alcohols, n.o.s.	3	UN1987	I	3	201
Alcohols, n.o.s.	3	UN1987	II	3	202
Alcohols, n.o.s.	3	UN1987	III	3	203
Alcohols, flammable, toxic, n.o.s.	3	UN1986	I	3, 6.1	201
Alcohols, flammable, toxic, n.o.s.	3	UN1986	II	3, 6.1	202
Alcohols, flammable, toxic, n.o.s.	3	UN1986	III	3, 6.1	203
Aldehydes, n.o.s.	3	UN1989	I	3	201
Aldehydes, n.o.s.	3	UN1989	II	3	202
Aldehydes, n.o.s.	3	UN1989	III	3	203
Aldehydes, flammable, toxic, n.o.s.	3	UN1988	I	3, 6.1	201
Aldehydes, flammable, toxic, n.o.s.	3	UN1988	II	3, 6.1	202
Aldehydes, flammable, toxic, n.o.s.	3	UN1988	III	3, 6.1	203
Aldol	6.1	UN2839	II	6.1	202
Alkali metal alcoholates, self-heating, corrosive, n.o.s.	4.2	UN3206	II	4.2, 8	212
Alkali metal alcoholates, self-heating, corrosive, n.o.s.	4.2	UN3206	III	4.2, 8	213
Alkali metal alloys, liquid, n.o.s.	4.3	UN1421	I	4.3	201
Alkali metal amalgam, liquid	4.3	UN1389	I	4.3	201
Alkali metal amalgam, solid	4.3	UN1389	I	4.3	211
Alkali metal amides	4.3	UN1390	II	4.3	212
Alkali metal dispersions, [or] Alkaline earth metal dispersions	4.3	UN1391	I	4.3	201
Alkaline earth metal alcoholates, n.o.s.	4.2	UN3205	II	4.2	212
Alkaline earth metal alcoholates, n.o.s.	4.2	UN3205	III	4.2	213
Alkaline earth metal alloys, n.o.s.	4.3	UN1393	II	4.3	212
Alkaline earth metal amalgams	4.3	UN1392	I	4.3	211
Alkaloids, liquid, n.o.s., [or] Alkaloid salts, liquid, n.o.s.	6.1	UN3140	I	6.1	201

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Alkaloids, liquid, n.o.s., [or] Alkaloid salts, liquid, n.o.s.	6.1	UN3140	II	6.1	202
Alkaloids, liquid, n.o.s., [or] Alkaloid salts, liquid, n.o.s.	6.1	UN3140	III	6.1	203
Alkaloids, solid, n.o.s. [or] Alkaloid salts, solid, n.o.s. [poisonous]	6.1	UN1544	I	6.1	211
Alkaloids, solid, n.o.s. [or] Alkaloid salts, solid, n.o.s. [poisonous]	6.1	UN1544	II	6.1	212
Alkaloids, solid, n.o.s. [or] Alkaloid salts, solid, n.o.s. [poisonous]	6.1	UN1544	III	6.1	213
Alkyl sulfonic acids, liquid [or] Aryl sulfonic acids, liquid [with more than 5 percent free sulfuric acid]	8	UN2584	II	8	202
Alkyl sulfonic acids, liquid [or] Aryl sulfonic acids, liquid [with not more than 5 percent free sulfuric acid]	8	UN2586	III	8	203
Alkyl sulfonic acids, solid [or] Aryl sulfonic acids, solid, [with more than 5 percent free sulfuric acid]	8	UN2583	II	8	212
Alkyl sulfonic acids, solid [or] Aryl sulfonic acids, solid [with not more than 5 percent free sulfuric acid]	8	UN2585	III	8	213
Alkylphenols, liquid, n.o.s. [(including C2-C12 homologues)]	8	UN3145	I	8	201
Alkylphenols, liquid, n.o.s. [(including C2-C12 homologues)]	8	UN3145	II	8	202
Alkylphenols, liquid, n.o.s. [(including C2-C12 homologues)]	8	UN3145	III	8	203
Alkylphenols, solid, n.o.s. [(including C2-C12 homologues)]	8	UN2430	I	8	211
Alkylphenols, solid, n.o.s. [(including C2-C12 homologues)]	8	UN2430	II	8	212
Alkylphenols, solid, n.o.s. [(including C2-C12 homologues)]	8	UN2430	III	8	213
Alkylsulfuric acids	8	UN2571	II	8	202
Allyl acetate	3	UN2333	II	3, 6.1	202
Allyl alcohol	6.1	UN1098	I	6.1, 3	227
Allyl bromide	3	UN1099	I	3, 6.1	201
Allyl chloride	3	UN1100	I	3, 6.1	201
Allyl chloroformate	6.1	UN1722	I	6.1, 3, 8	227
Allyl ethyl ether	3	UN2335	II	3, 6.1	202
Allyl formate	3	UN2336	I	3, 6.1	201

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Allyl glycidyl ether	3	UN2219	III	3	203
Allyl iodide	3	UN1723	II	3, 8	202
Allyl isothiocyanate, stabilized	6.1	UN1545	II	6.1, 3	202
Allylamine	6.1	UN2334	I	6.1, 3	227
Allyltrichlorosilane, stabilized	8	UN1724	II	8, 3	202
Aluminum alkyl halides	4.2	UN3052	I	4.2, 4.3	181
Aluminum alkyl hydrides	4.2	UN3076	I	4.2, 4.3	181
Aluminum alkyls	4.2	UN3051	I	4.2, 4.3	181
Aluminum borohydride [or] Aluminum borohydride in devices	4.2	UN2870	I	4.2, 4.3	181
Aluminum bromide, anhydrous	8	UN1725	II	8	212
Aluminum bromide, solution	8	UN2580	III	8	203
Aluminum carbide	4.3	UN1394	II	4.3	212
Aluminum chloride, anhydrous	8	UN1726	II	8	212
Aluminum chloride, solution	8	UN2581	III	8	203
Aluminum ferrosilicon powder	4.3	UN1395	II	4.3, 6.1	212
Aluminum ferrosilicon powder	4.3	UN1395	III	4.3, 6.1	213
Aluminum hydride	4.3	UN2463	I	4.3	211
Aluminum, molten	9	NA9260	III	9	None
Aluminum nitrate	5.1	UN1438	III	5.1	213
Aluminum phosphide	4.3	UN1397	I	4.3, 6.1	211
Aluminum phosphide pesticides	6.1	UN3048	I	6.1	211
Aluminum powder, coated	4.1	UN1309	II	4.1	212
Aluminum powder, coated	4.1	UN1309	III	4.1	213
Aluminum powder, uncoated	4.3	UN1396	II	4.3	212
Aluminum powder, uncoated	4.3	UN1396	III	4.3	213
Aluminum resinate	4.1	UN2715	III	4.1	213
Aluminum silicon powder, uncoated	4.3	UN1398	III	4.3	213
Aluminum smelting by-products [or] Aluminum remelting by-products	4.3	UN3170	II	4.3	212
Aluminum smelting by-products [or] Aluminum remelting by-products	4.3	UN3170	III	4.3	213
Amines, flammable, corrosive, n.o.s. [or] Polyamines, flammable, corrosive, n.o.s.	3	UN2733	I	3, 8	201
Amines, flammable, corrosive, n.o.s. [or] Polyamines, flammable, corrosive, n.o.s.	3	UN2733	II	3, 8	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Amines, flammable, corrosive, n.o.s. [or] Polyamines, flammable, corrosive, n.o.s.	3	UN2733	III	3, 8	203
Amines, liquid, corrosive, flammable, n.o.s. [or] Polyamines, liquid, corrosive, flammable, n.o.s.	8	UN2734	I	8, 3	201
Amines, liquid, corrosive, flammable, n.o.s. [or] Polyamines, liquid, corrosive, flammable, n.o.s.	8	UN2734	II	8, 3	202
Amines, liquid, corrosive, n.o.s., [or] Polyamines, liquid, corrosive, n.o.s.	8	UN2735	I	8	201
Amines, liquid, corrosive, n.o.s., [or] Polyamines, liquid, corrosive, n.o.s.	8	UN2735	II	8	202
Amines, liquid, corrosive, n.o.s., [or] Polyamines, liquid, corrosive, n.o.s.	8	UN2735	III	8	203
Amines, solid, corrosive, n.o.s., [or] Polyamines, solid, corrosive n.o.s.	8	UN3259	I	8	211
Amines, solid, corrosive, n.o.s., [or] Polyamines, solid, corrosive n.o.s.	8	UN3259	II	8	212
Amines, solid, corrosive, n.o.s., [or] Polyamines, solid, corrosive n.o.s.	8	UN3259	III	8	213
2-Amino-4-chlorophenol	6.1	UN2673	II	6.1	212
2-Amino-5-diethylaminopentane	6.1	UN2946	III	6.1	203
2-Amino-4,6-Dinitrophenol, wetted [with not less than 20 percent water by mass]	4.1	UN3317	I	4.1	211
2-(2-Aminoethoxy) ethanol	8	UN3055	III	8	203
N-Aminoethylpiperazine	8	UN2815	III	8	203
Aminophenols (o-; m-; p-)	6.1	UN2512	III	6.1	213
Aminopyridines [(o-; m-; p-)]	6.1	UN2671	II	6.1	212
Ammonia, anhydrous	2.3	UN1005		2.3, 8	304
Ammonia, anhydrous	2.2	UN1005		2.2	304
Ammonia solution, [relative density less than 0.880 at 15 degrees C in water, with more than 50 percent ammonia]	2.2	UN3318		2.2	304
Ammonia solution, [relative density less than 0.880 at 15 degrees C in water, with more than 50 percent ammonia]	2.3	UN3318		2.3, 8	304
Ammonia solutions, [relative density between 0.880 and 0.957 at 15 degrees C in water, with more than 10 percent but not more than 35 percent ammonia]	8	UN2672	III	8	203
Ammonia solutions, [relative density less than 0.880 at 15 degrees C in water, with	2.2	UN2073		2.2	304

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
more than 35 percent but not more than 50 percent ammonia]					
Ammonium arsenate	6.1	UN1546	II	6.1	212
Ammonium dichromate	5.1	UN1439	II	5.1	212
Ammonium dinitro-o-cresolate	6.1	UN1843	II	6.1	212
Ammonium fluoride	6.1	UN2505	III	6.1	213
Ammonium fluorosilicate	6.1	UN2854	III	6.1	213
Ammonium hydrogen sulfate	8	UN2506	II	8	212
Ammonium hydrogendifluoride, solid	8	UN1727	II	8	212
Ammonium hydrogendifluoride, solution	8	UN2817	II	8, 6.1	202
Ammonium hydrogendifluoride, solution	8	UN2817	III	8, 6.1	203
Ammonium metavanadate	6.1	UN2859	II	6.1	212
Ammonium nitrate emulsion [or] Ammonium nitrate suspension [or] Ammonium nitrate gel, [intermediate for blasting explosives]	5.1	UN3375	II		214
Ammonium nitrate based fertilizer.	5.1	UN2067	III	5.1	213
Ammonium nitrate based fertilizer.	9	UN2071	III	9	213
Ammonium nitrate-fuel oil mixture [containing only prilled ammonium nitrate and fuel oil]	1.5D	NA0331	II	1.5D	62
Ammonium nitrate, liquid [(hot concentrated solution)]	5.1	UN2426		5.1	None
Ammonium nitrate, [with more than 0.2 percent combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance]	1.1D	UN0222	II	1.1D	62
Ammonium nitrate, [with not more than 0.2% total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance.]	5.1	UN1942	III	5.1	213
Ammonium perchlorate	1.1D	UN0402	II	1.1D	62
Ammonium perchlorate	5.1	UN1442	II	5.1	212
Ammonium persulfate	5.1	UN1444	III	5.1	213
Ammonium picrate, [dry or wetted with less than 10 percent water, by mass]	1.1D	UN0004	II	1.1D	62
Ammonium picrate, wetted [with not less than 10 percent water, by mass]	4.1	UN1310	I	4.1	211
Ammonium polysulfide, solution	8	UN2818	II	8, 6.1	202
Ammonium polysulfide, solution	8	UN2818	III	8, 6.1	203
Ammonium polyvanadate	6.1	UN2861	II	6.1	212
Ammonium sulfide solution	8	UN2683	II	8, 6.1, 3	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Ammunition, illuminating [with or without burster, expelling charge or propelling charge]	1.2G	UN0171	II	1.2G	62
Ammunition, illuminating [with or without burster, expelling charge or propelling charge]	1.3G	UN0254	II	1.3G	62
Ammunition, illuminating [with or without burster, expelling charge or propelling charge]	1.4G	UN0297	II	1.4G	62
Ammunition, incendiary [liquid or gel, with burster, expelling charge or propelling charge]	1.3J	UN0247	II	1.3J	62
Ammunition, incendiary, white phosphorus, [with burster, expelling charge or propelling charge]	1.2H	UN0243	II	1.2H	62
Ammunition, incendiary, white phosphorus, [with burster, expelling charge or propelling charge]	1.3H	UN0244	II	1.3H	62
Ammunition, incendiary [with or without burster, expelling charge, or propelling charge]	1.2G	UN0009	II	1.2G	62
Ammunition, incendiary [with or without burster, expelling charge, or propelling charge]	1.3G	UN0010	II	1.3G	62
Ammunition, incendiary [with or without burster, expelling charge or propelling charge]	1.4G	UN0300	II	1.4G	62
Ammunition, practice	1.4G	UN0362	II	1.4G	62
Ammunition, practice	1.3G	UN0488	II	1.3G	62
Ammunition, proof	1.4G	UN0363	II	1.4G	62
Ammunition smoke, white phosphorus [with burster,expelling charge, or propelling charge]	1.2H	UN0245	II	1.2H	62
Ammunition, smoke, white phosphorus [with burster, expelling charge, or propelling charge]	1.3H	UN0246	II	1.3H	62
Ammunition, smoke [with or without burster, expelling charge or propelling charge]	1.2G	UN0015	II	1.2G	62
Ammunition, smoke [with or without burster, expelling charge or propelling charge]	1.3G	UN0016	II	1.3G	62
Ammunition, smoke [with or without burster, expelling charge or propelling charge]	1.4G	UN0303	II	1.4G	62

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Ammunition, tear-producing, non-explosive, [without burster or expelling charge, non-fuzed]	6.1	UN2017	II	6.1, 8	212
Ammunition, tear-producing [with burster, expelling charge or propelling charge]	1.2G	UN0018	II	1.2G, 8, 6.1	62
Ammunition, tear-producing [with burster, expelling charge or propelling charge]	1.3G	UN0019	II	1.3G, 8, 6.1	62
Ammunition, tear-producing [with burster, expelling charge or propelling charge]	1.4G	UN0301	II	1.4G, 8, 6.1	62
Ammunition, toxic, non-explosive, [without burster or expelling charge, non-fuzed]	6.1	UN2016	II	6.1	212
Ammunition, toxic [with burster, expelling charge, or propelling charge]	1.2K	UN0020	II	1.2K, 6.1	62
Ammunition, toxic [with burster, expelling charge, or propelling charge]	1.3K	UN0021	II	1.3K, 6.1	62
Amyl acetates	3	UN1104	III	3	203
Amyl acid phosphate	8	UN2819	III	8	203
Amyl butyrates	3	UN2620	III	3	203
Amyl chlorides	3	UN1107	II	3	202
Amyl formates	3	UN1109	III	3	203
Amyl mercaptans	3	UN1111	II	3	202
n-Amyl methyl ketone	3	UN1110	III	3	203
Amyl nitrate	3	UN1112	III	3	203
Amyl nitrites	3	UN1113	II	3	202
Amylamines	3	UN1106	II	3, 8	202
Amylamines	3	UN1106	III	3, 8	203
Amyltrichlorosilane	8	UN1728	II	8	202
Aniline	6.1	UN1547	II	6.1	202
Aniline hydrochloride	6.1	UN1548	III	6.1	213
Anisidines	6.1	UN2431	III	6.1	203
Anisole	3	UN2222	III	3	203
Anisoyl chloride	8	UN1729	II	8	202
Antimony compounds, inorganic, liquid, n.o.s.	6.1	UN3141	III	6.1	203
Antimony compounds, inorganic, solid, n.o.s.	6.1	UN1549	III	6.1	213
Antimony lactate	6.1	UN1550	III	6.1	213
Antimony pentachloride, liquid	8	UN1730	II	8	202
Antimony pentachloride, solutions	8	UN1731	II	8	202
Antimony pentachloride, solutions	8	UN1731	III	8	203
Antimony pentafluoride	8	UN1732	II	8, 6.1	202
Antimony potassium tartrate	6.1	UN1551	III	6.1	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Antimony powder	6.1	UN2871	III	6.1	213
Antimony trichloride, liquid	8	UN1733	II	8	202
Antimony trichloride, solid	8	UN1733	II	8	212
Argon, compressed	2.2	UN1006		2.2	302
Argon, refrigerated liquid [(cryogenic liquid)]	2.2	UN1951		2.2	316
Arsenic	6.1	UN1558	II	6.1	212
Arsenic acid, liquid	6.1	UN1553	I	6.1	201
Arsenic acid, solid	6.1	UN1554	II	6.1	212
Arsenic bromide	6.1	UN1555	II	6.1	212
Arsenic compounds, liquid, n.o.s. [inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.]	6.1	UN1556	I	6.1	201
Arsenic compounds, liquid, n.o.s. [inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.]	6.1	UN1556	II	6.1	202
Arsenic compounds, liquid, n.o.s. [inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.]	6.1	UN1556	III	6.1	203
Arsenic compounds, solid, n.o.s. [inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.]	6.1	UN1557	I	6.1	211
Arsenic compounds, solid, n.o.s. [inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.]	6.1	UN1557	II	6.1	212
Arsenic compounds, solid, n.o.s. [inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.]	6.1	UN1557	III	6.1	213
Arsenic pentoxide	6.1	UN1559	II	6.1	212
Arsenic trichloride	6.1	UN1560	I	6.1	227
Arsenic trioxide	6.1	UN1561	II	6.1	212
Arsenical dust	6.1	UN1562	II	6.1	212
Arsenical pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2760	I	3, 6.1	201
Arsenical pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2760	II	3, 6.1	202
Arsenical pesticides, liquid, toxic	6.1	UN2994	I	6.1	201

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Arsenical pesticides, liquid, toxic	6.1	UN2994	II	6.1	202
Arsenical pesticides, liquid, toxic	6.1	UN2994	III	6.1	203
Arsenical pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN2993	I	6.1, 3	201
Arsenical pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN2993	II	6.1, 3	202
Arsenical pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN2993	III	6.1, 3	203
Arsenical pesticides, solid, toxic	6.1	UN2759	I	6.1	211
Arsenical pesticides, solid, toxic	6.1	UN2759	II	6.1	212
Arsenical pesticides, solid, toxic	6.1	UN2759	III	6.1	213
Arsine	2.3	UN2188		2.3, 2.1	192
Articles, explosive, extremely insensitive [or] Articles, EEI	1.6N	UN0486	II	1.6N	62
Articles, explosive, n.o.s.	1.4S	UN0349	II	1.4S	62
Articles, explosive, n.o.s.	1.4B	UN0350	II	1.4B	62
Articles, explosive, n.o.s.	1.4C	UN0351	II	1.4C	62
Articles, explosive, n.o.s.	1.4D	UN0352	II	1.4D	62
Articles, explosive, n.o.s.	1.4G	UN0353	II	1.4G	62
Articles, explosive, n.o.s.	1.1L	UN0354	II	1.1L	62
Articles, explosive, n.o.s.	1.2L	UN0355	II	1.2L	62
Articles, explosive, n.o.s.	1.3L	UN0356	II	1.3L	62
Articles, explosive, n.o.s.	1.1C	UN0462	II	1.1C	62
Articles, explosive, n.o.s.	1.1D	UN0463	II	1.1D	62
Articles, explosive, n.o.s.	1.1E	UN0464	II	1.1E	62
Articles, explosive, n.o.s.	1.1F	UN0465	II	1.1F	62
Articles, explosive, n.o.s.	1.2C	UN0466	II	1.2C	62
Articles, explosive, n.o.s.	1.2D	UN0467	II	1.2D	62
Articles, explosive, n.o.s.	1.2E	UN0468	II	1.2E	62
Articles, explosive, n.o.s.	1.2F	UN0469	II	1.2F	62
Articles, explosive, n.o.s.	1.3C	UN0470	II	1.3C	62
Articles, explosive, n.o.s.	1.4E	UN0471	II	1.4E	62
Articles, explosive, n.o.s.	1.4F	UN0472	II	1.4F	62
Articles, pressurized pneumatic [or] hydraulic [containing non-flammable gas]	2.2	UN3164		2.2	302, 304
Articles, pyrophoric	1.2L	UN0380	II	1.2L	62
Articles, pyrotechnic [for technical purposes]	1.1G	UN0428	II	1.1G	62
Articles, pyrotechnic [for technical purposes]	1.2G	UN0429	II	1.2G	62
Articles, pyrotechnic [for technical purposes]	1.3G	UN0430	II	1.3G	62
Articles, pyrotechnic [for technical purposes]	1.4G	UN0431	II	1.4G	62

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Articles, pyrotechnic [for technical purposes]	1.4S	UN0432	II	1.4S	62
Asbestos	9	NA2212	III	9	216
Asphalt, [at or above its flash point]	3	NA1999	III	3	203
Aviation regulated liquid, n.o.s.	9	UN3334		9	204
Aviation regulated solid, n.o.s.	9	UN3335		9	204
Azodicarbonamide	4.1	UN3242	II	4.1	212
Barium	4.3	UN1400	II	4.3	212
Barium alloys, pyrophoric	4.2	UN1854	I	4.2	181
Barium azide, [dry or wetted with less than 50 percent water, by mass]	1.1A	UN0224	II	1.1A, 6.1	62
Barium bromate	5.1	UN2719	II	5.1, 6.1	212
Barium chlorate	5.1	UN1445	II	5.1, 6.1	212
Barium compounds, n.o.s.	6.1	UN1564	II	6.1	212
Barium compounds, n.o.s.	6.1	UN1564	III	6.1	213
Barium cyanide	6.1	UN1565	I	6.1	211
Barium hypochlorite [with more than 22 percent available chlorine]	5.1	UN2741	II	5.1, 6.1	212
Barium nitrate	5.1	UN1446	II	5.1, 6.1	212
Barium oxide	6.1	UN1884	III	6.1	213
Barium perchlorate	5.1	UN1447	II	5.1, 6.1	212
Barium permanganate	5.1	UN1448	II	5.1, 6.1	212
Barium peroxide	5.1	UN1449	II	5.1, 6.1	212
Batteries, containing sodium	4.3	UN3292	II	4.3	189
Batteries, dry, containing potassium hydroxide solid, [electric, storage]	8	UN3028	III	8	213
Battery fluid, acid	8	UN2796	II	8	202
Battery fluid, alkali	8	UN2797	II	8	202
Benzaldehyde	9	UN1990	III	9	203
Benzene	3	UN1114	II	3	202
Benzene sulfonyl chloride	8	UN2225	III	8	203
Benzidine	6.1	UN1885	II	6.1	212
Benzonitrile	6.1	UN2224	II	6.1	202
Benzoquinone	6.1	UN2587	II	6.1	212
Benzotrichloride	8	UN2226	II	8	202
Benzotrifluoride	3	UN2338	II	3	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Benzoyl chloride	8	UN1736	II	8	202
Benzyl bromide	6.1	UN1737	II	6.1, 8	202
Benzyl chloride	6.1	UN1738	II	6.1, 8	202
Benzyl chloride [unstabilized]	6.1	UN1738	II	6.1, 8	202
Benzyl chloroformate	8	UN1739	I	8	201
Benzyl iodide	6.1	UN2653	II	6.1	202
Benzyldimethylamine	8	UN2619	II	8, 3	202
Benzylidene chloride	6.1	UN1886	II	6.1	202
Beryllium compounds, n.o.s.	6.1	UN1566	II	6.1	212
Beryllium compounds, n.o.s.	6.1	UN1566	III	6.1	213
Beryllium nitrate	5.1	UN2464	II	5.1, 6.1	212
Beryllium, powder	6.1	UN1567	II	6.1, 4.1	212
Bicyclo [2,2,1] hepta-2,5-diene, stabilized [or] 2,5-Norbornadiene, stabilized	3	UN2251	II	3	202
Bipyridilium pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2782	I	3, 6.1	201
Bipyridilium pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2782	II	3, 6.1	202
Bipyridilium pesticides, liquid, toxic	6.1	UN3016	I	6.1	201
Bipyridilium pesticides, liquid, toxic	6.1	UN3016	II	6.1	202
Bipyridilium pesticides, liquid, toxic	6.1	UN3016	III	6.1	203
Bipyridilium pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3015	I	6.1, 3	201
Bipyridilium pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3015	II	6.1, 3	202
Bipyridilium pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3015	III	6.1, 3	203
Bipyridilium pesticides, solid, toxic	6.1	UN2781	I	6.1	211
Bipyridilium pesticides, solid, toxic	6.1	UN2781	II	6.1	212
Bipyridilium pesticides, solid, toxic	6.1	UN2781	III	6.1	213
Bisulfate, aqueous solution	8	UN2837	II	8	202
Bisulfate, aqueous solution	8	UN2837	III	8	203
Bisulfites, aqueous solutions, n.o.s.	8	UN2693	III	8	203
Black powder, compressed [or] Gunpowder, compressed [or] Black powder, in pellets [or] Gunpowder, in pellets	1.1D	UN0028	II	1.1D	62

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Black powder [or] Gunpowder, [granular or as a meal]	1.1D	UN0027	II	1.1D	62
Black powder for small arms	4.1	NA0027	I	4.1	170
Blue asbestos [(Crocidolite)] [or] Brown asbestos [(amosite, mysorite)]	9	UN2212	II	9	216
Bombs, photo-flash	1.1F	UN0037	II	1.1F	62
Bombs, photo-flash	1.1D	UN0038	II	1.1D	62
Bombs, photo-flash	1.2G	UN0039	II	1.2G	62
Bombs, photo-flash	1.3G	UN0299	II	1.3G	62
Bombs, [with bursting charge]	1.1F	UN0033	II	1.1F	62
Bombs, [with bursting charge]	1.1D	UN0034	II	1.1D	62
Bombs, [with bursting charge]	1.2D	UN0035	II	1.2D	62
Bombs, [with bursting charge]	1.2F	UN0291	II	1.2F	62
Bombs with flammable liquid, [with bursting charge]	1.1J	UN0399	II	1.1J	62
Bombs with flammable liquid, [with bursting charge]	1.2J	UN0400	II	1.2J	62
Boosters with detonator	1.1B	UN0225	II	1.1B	62
Boosters with detonator	1.2B	UN0268	II	1.2B	62
Boosters, [without detonator]	1.1D	UN0042	II	1.1D	62
Boosters, [without detonator]	1.2D	UN0283	II	1.2D	62
Borneol	4.1	UN1312	III	4.1	213
Boron tribromide	8	UN2692	I	8, 6.1	227
Boron trichloride	2.3	UN1741		2.3, 8	304
Boron trifluoride	2.3	UN1008		2.3	302
Boron trifluoride acetic acid complex	8	UN1742	II	8	202
Boron trifluoride diethyl etherate	8	UN2604	I	8, 3	201
Boron trifluoride dihydrate	8	UN2851	II	8	212
Boron trifluoride dimethyl etherate	4.3	UN2965	I	4.3, 8, 3	201
Boron trifluoride propionic acid complex	8	UN1743	II	8	202
Bromates, inorganic, aqueous solution, n.o.s.	5.1	UN3213	II	5.1	202
Bromates, inorganic, n.o.s.	5.1	UN1450	II	5.1	212
Bromine [or] Bromine solutions	8	UN1744	I	8, 6.1	226
Bromine chloride	2.3	UN2901		2.3, 8, 5.1	304
Bromine pentafluoride	5.1	UN1745	I	5.1, 6.1, 8	228
Bromine trifluoride	5.1	UN1746	I	5.1, 6.1, 8	228
1-Bromo-3-chloropropane	6.1	UN2688	III	6.1	203

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
1-Bromo-3-methylbutane	3	UN2341	III	3	203
2-Bromo-2-nitropropane-1,3-diol	4.1	UN3241	III	4.1	213
Bromoacetic acid, [solid]	8	UN1938	II	8	212
Bromoacetic acid, [solution]	8	UN1938	II	8	202
Bromoacetone	6.1	UN1569	II	6.1, 3	193
Bromoacetyl bromide	8	UN2513	II	8	202
Bromobenzene	3	UN2514	III	3	203
Bromobenzyl cyanides, [liquid]	6.1	UN1694	I	6.1	201
Bromobenzyl cyanides, [solid]	6.1	UN1694	I	6.1	211
1-Bromobutane	3	UN1126	II	3	202
2-Bromobutane	3	UN2339	II	3	202
Bromochloromethane	6.1	UN1887	III	6.1	203
2-Bromoethyl ethyl ether	3	UN2340	II	3	202
Bromoform	6.1	UN2515	III	6.1	203
Bromomethylpropanes	3	UN2342	II	3	202
2-Bromopentane	3	UN2343	II	3	202
Bromopropanes	3	UN2344	II	3	202
Bromopropanes	3	UN2344	III	3	203
3-Bromopropyne	3	UN2345	II	3	202
Bromotrifluoroethylene	2.1	UN2419		2.1	304
Bromotrifluoromethane [or] Refrigerant gas, R 13B1.	2.2	UN1009		2.2	304
Brucine	6.1	UN1570	I	6.1	211
Bursters, [explosive]	1.1D	UN0043	II	1.1D	62
Butadienes, stabilized	2.1	UN1010		2.1	304
Butane [see also] Petroleum gases, liquefied	2.1	UN1011		2.1	304
Butanedione	3	UN2346	II	3	202
Butanols	3	UN1120	II	3	202
Butanols	3	UN1120	III	3	203
Butyl acetates	3	UN1123	II	3	202
Butyl acetates	3	UN1123	III	3	203
Butyl acid phosphate	8	UN1718	III	8	203
Butyl acrylates, stabilized	3	UN2348	III	3	203
Butyl benzenes	3	UN2709	III	3	203
sec-Butyl chloroformate	6.1	NA2742	I	6.1, 3, 8	227
n-Butyl chloroformate	6.1	UN2743	I	6.1, 8, 3	227
n-Butyl formate	3	UN1128	II	3	202
tert-Butyl hypochlorite	4.2	UN3255	I	4.2, 8	211

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
N-n-Butyl imidazole	6.1	UN2690	II	6.1	202
tert-Butyl isocyanate	6.1	UN2484	I	6.1, 3	226
n-Butyl isocyanate	6.1	UN2485	I	6.1, 3	227
Butyl mercaptans	3	UN2347	II	3	202
n-Butyl methacrylate, stabilized	3	UN2227	III	3	203
Butyl methyl ether	3	UN2350	II	3	202
Butyl nitrites	3	UN2351	I	3	201
Butyl nitrites	3	UN2351	II	3	202
Butyl nitrites	3	UN2351	III	3	203
Butyl propionates	3	UN1914	III	3	203
5-tert-Butyl-2,4,6-trinitro-m-xylene [or] Musk xylene	4.1	UN2956	III	4.1	223
Butyl vinyl ether, stabilized	3	UN2352	II	3	202
n-Butylamine	3	UN1125	II	3, 8	202
N-Butylaniline	6.1	UN2738	II	6.1	202
tert-Butylcyclohexylchloroformate	6.1	UN2747	III	6.1	203
Butylene [see also] Petroleum gases, liquefied	2.1	UN1012		2.1	304
1,2-Butylene oxide, stabilized	3	UN3022	II	3	202
Butyltoluenes	6.1	UN2667	III	6.1	203
Butyltrichlorosilane	8	UN1747	II	8, 3	202
1,4-Butynediol	6.1	UN2716	III	6.1	213
Butyraldehyde	3	UN1129	II	3	202
Butyraldoxime	3	UN2840	III	3	203
Butyric acid	8	UN2820	III	8	203
Butyric anhydride	8	UN2739	III	8	203
Butyronitrile	3	UN2411	II	3, 6.1	202
Butyryl chloride	3	UN2353	II	3, 8	202
Cacodylic acid	6.1	UN1572	II	6.1	212
Cadmium compounds	6.1	UN2570	I	6.1	211
Cadmium compounds	6.1	UN2570	II	6.1	212
Cadmium compounds	6.1	UN2570	III	6.1	213
Caesium hydroxide	8	UN2682	II	8	212
Caesium hydroxide solution	8	UN2681	II	8	202
Caesium hydroxide solution	8	UN2681	III	8	203
Calcium	4.3	UN1401	II	4.3	212
Calcium arsenate	6.1	UN1573	II	6.1	212
Calcium arsenate and calcium arsenite, mixtures, solid	6.1	UN1574	II	6.1	212
Calcium carbide	4.3	UN1402	I	4.3	211

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Calcium carbide	4.3	UN1402	II	4.3	212
Calcium chlorate	5.1	UN1452	II	5.1	212
Calcium chlorate aqueous solution	5.1	UN2429	II	5.1	202
Calcium chlorate aqueous solution	5.1	UN2429	III	5.1	203
Calcium chlorite	5.1	UN1453	II	5.1	212
Calcium cyanamide [with more than 0.1 percent of calcium carbide]	4.3	UN1403	III	4.3	213
Calcium cyanide	6.1	UN1575	I	6.1	211
Calcium dithionite [or] Calcium hydrosulfite	4.2	UN1923	II	4.2	212
Calcium hydride	4.3	UN1404	I	4.3	211
Calcium hypochlorite, dry [or] Calcium hypochlorite mixtures dry [with more than 39 percent available chlorine (8.8 percent available oxygen)]	5.1	UN1748	II	5.1	212
Calcium hypochlorite, hydrated [or] Calcium hypochlorite, hydrated mixtures, [with not less than 5.5 percent but not more than 16percent water]	5.1	UN2880	II	5.1	212
Calcium hypochlorite mixtures, dry, [with more than 10 percent but not more than 39 percent available chlorine]	5.1	UN2208	III	5.1	213
Calcium manganese silicon	4.3	UN2844	III	4.3	213
Calcium nitrate	5.1	UN1454	III	5.1	213
Calcium oxide	8	UN1910	III	8	213
Calcium perchlorate	5.1	UN1455	II	5.1	212
Calcium permanganate	5.1	UN1456	II	5.1	212
Calcium peroxide	5.1	UN1457	II	5.1	212
Calcium phosphide	4.3	UN1360	I	4.3, 6.1	211
Calcium, pyrophoric [or] Calcium alloys, pyrophoric	4.2	UN1855	I	4.2	187
Calcium resinate	4.1	UN1313	III	4.1	213
Calcium resinate, fused	4.1	UN1314	III	4.1	213
Calcium silicide	4.3	UN1405	II	4.3	212
Calcium silicide	4.3	UN1405	III	4.3	213
Camphor oil	3	UN1130	III	3	203
Camphor, [synthetic]	4.1	UN2717	III	4.1	213
Caproic acid	8	UN2829	III	8	203
Carbamate pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2758	I	3, 6.1	201
Carbamate pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2758	II	3, 6.1	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Carbamate pesticides, liquid, toxic	6.1	UN2992	I	6.1	201
Carbamate pesticides, liquid, toxic	6.1	UN2992	II	6.1	202
Carbamate pesticides, liquid, toxic	6.1	UN2992	III	6.1	203
Carbamate pesticides, liquid, toxic, flammable[, flash point not less than 23 degrees C]	6.1	UN2991	I	6.1, 3	201
Carbamate pesticides, liquid, toxic, flammable[, flash point not less than 23 degrees C]	6.1	UN2991	II	6.1, 3	202
Carbamate pesticides, liquid, toxic, flammable[, flash point not less than 23 degrees C]	6.1	UN2991	III	6.1, 3	203
Carbamate pesticides, solid, toxic	6.1	UN2757	I	6.1	211
Carbamate pesticides, solid, toxic	6.1	UN2757	II	6.1	212
Carbamate pesticides, solid, toxic	6.1	UN2757	III	6.1	213
Carbon, activated	4.2	UN1362	III	4.2	213
Carbon, [animal or vegetable origin]	4.2	UN1361	II	4.2	212
Carbon, [animal or vegetable origin]	4.2	UN1361	III	4.2	213
Carbon dioxide	2.2	UN1013		2.2	302, 304
Carbon dioxide and nitrous oxide mixtures	2.2	UN1015		2.2	None
Carbon dioxide and oxygen mixtures, compressed	2.2	UN1014		2.2, 5.1	304
Carbon dioxide, refrigerated liquid	2.2	UN2187		2.2	304
Carbon monoxide, compressed	2.3	UN1016		2.3, 2.1	302
Carbon monoxide and hydrogen mixture, compressed	2.3	UN2600		2.3, 2.1	302
Carbon monoxide, refrigerated liquid [(cryogenic liquid)]	2.3	NA9202		2.3, 2.1	316
Carbon tetrabromide	6.1	UN2516	III	6.1	213
Carbon tetrachloride	6.1	UN1846	II	6.1	202
Carbonyl fluoride	2.3	UN2417		2.3, 8	302
Carbonyl sulfide	2.3	UN2204		2.3, 2.1	304
Cartridges, flash	1.1G	UN0049	II	1.1G	62
Cartridges, flash	1.3G	UN0050	II	1.3G	62
Cartridges for weapons, blank	1.1C	UN0326	II	1.1C	62
Cartridges for weapons, blank	1.2C	UN0413	II	1.2C	62
Cartridges for weapons, blank [or] Cartridges, small arms, blank	1.4S	UN0014	II	None	62

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Cartridges for weapons, blank [or] Cartridges, small arms, blank	1.3C	UN0327	II	1.3C	62
Cartridges for weapons, blank [or] Cartridges, small arms, blank	1.4C	UN0338	II	1.4C	62
Cartridges for weapons, inert projectile	1.2C	UN0328	II	1.2C	62
Cartridges for weapons, inert projectile [or] Cartridges, small arms	1.4S	UN0012	II	None	62
Cartridges for weapons, inert projectile [or] Cartridges, small arms	1.4C	UN0339	II	1.4C	62
Cartridges for weapons, inert projectile [or] Cartridges, small arms	1.3C	UN0417	II	1.3C	62
Cartridges for weapons, [with bursting charge]	1.1F	UN0005	II	1.1F	62
Cartridges for weapons, [with bursting charge]	1.1E	UN0006	II	1.1E	62
Cartridges for weapons, [with bursting charge]	1.2F	UN0007	II	1.2F	62
Cartridges for weapons, [with bursting charge]	1.2E	UN0321	II	1.2E	62
Cartridges for weapons, [with bursting charge]	1.4F	UN0348	II	1.4F	62
Cartridges for weapons, [with bursting charge]	1.4E	UN0412	II	1.4E	62
Cartridges, oil well	1.3C	UN0277	II	1.3C	62
Cartridges, oil well	1.4C	UN0278	II	1.4C	62
Cartridges, power device	1.3C	UN0275	II	1.3C	62
Cartridges, power device	1.4C	UN0276	II	1.4C	62
Cartridges, power device	1.4S	UN0323	II	1.4S	62
Cartridges, power device	1.2C	UN0381	II	1.2C	62
Cartridges, signal	1.3G	UN0054	II	1.3G	62
Cartridges, signal	1.4G	UN0312	II	1.4G	62
Cartridges, signal	1.4S	UN0405	II	1.4S	62
Cartridges, small arms	ORM-D			None	None
Cartridges power devices [(used to project fastening devices)]	ORM-D			None	None
Cases, cartridge, empty with primer	1.4S	UN0055	II	1.4S	62
Cases, cartridges, empty with primer	1.4C	UN0379	II	1.4C	62
Cases, combustible, empty, without primer	1.4C	UN0446	II	1.4C	62
Cases, combustible, empty, without primer	1.3C	UN0447	II	1.3C	62
Castor beans [or] Castor meal [or] Castor pomace [or] Castor flake	9	UN2969	II	None	204
Caustic alkali liquids, n.o.s.	8	UN1719	II	8	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Caustic alkali liquids, n.o.s.	8	UN1719	III	8	203
Cells, containing sodium	4.3	UN3292	II	4.3	189
Celluloid, [in block, rods, rolls, sheets, tubes, etc., except scrap]	4.1	UN2000	III	4.1	213
Celluloid, scrap	4.2	UN2002	III	4.2	213
Cerium, [slabs, ingots, or rods]	4.1	UN1333	II	4.1	212
Cerium, [turnings or gritty powder]	4.3	UN3078	II	4.3	212
Cesium [or] Caesium	4.3	UN1407	I	4.3	211
Cesium nitrate [or] Caesium nitrate	5.1	UN1451	III	5.1	213
Charcoal [briquettes, shell, screenings, wood, etc.]	4.2	NA1361	III	4.2	213
Charges, bursting, plastics bonded	1.1D	UN0457	II	1.1D	62
Charges, bursting, plastics bonded	1.2D	UN0458	II	1.2D	62
Charges, bursting, plastics bonded	1.4D	UN0459	II	1.4D	62
Charges, bursting, plastics bonded	1.4S	UN0460	II	1.4S	62
Charges, demolition	1.1D	UN0048	II	1.1D	62
Charges, depth	1.1D	UN0056	II	1.1D	62
Charges, explosive, commercial [without detonator]	1.1D	UN0442	II	1.1D	62
Charges, explosive, commercial [without detonator]	1.2D	UN0443	II	1.2D	62
Charges, explosive, commercial [without detonator]	1.4D	UN0444	II	1.4D	62
Charges, explosive, commercial [without detonator]	1.4S	UN0445	II	1.4S	62
Charges, propelling	1.1C	UN0271	II	1.1C	62
Charges, propelling	1.3C	UN0272	II	1.3C	62
Charges, propelling	1.2C	UN0415	II	1.2C	62
Charges, propelling	1.4C	UN0491	II	1.4C	62
Charges, propelling, for cannon	1.3C	UN0242	II	1.3C	62
Charges, propelling, for cannon	1.1C	UN0279	II	1.1C	62
Charges, propelling, for cannon	1.2C	UN0414	II	1.2C	62
Charges, shaped, flexible, linear	1.4D	UN0237	II	1.4D	62
Charges, shaped, flexible, linear	1.1D	UN0288	II	1.1D	62
Charges, shaped, [without detonator]	1.1D	UN0059	II	1.1D	62
Charges, shaped, [without detonator]	1.2D	UN0439	II	1.2D	62
Charges, shaped, [without detonator]	1.4D	UN0440	II	1.4D	62
Charges, shaped, [without detonator]	1.4S	UN0441	II	1.4S	62
Charges, supplementary explosive	1.1D	UN0060	II	1.1D	62
Chemical kit	8	NA1760	II	8	161
Chemical kits	9	UN3316		9	161

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Chloral, anhydrous, stabilized	6.1	UN2075	II	6.1	202
Chlorate and borate mixtures	5.1	UN1458	II	5.1	212
Chlorate and borate mixtures	5.1	UN1458	III	5.1	213
Chlorate and magnesium chloride mixtures	5.1	UN1459	II	5.1	212
Chlorate and magnesium chloride mixtures	5.1	UN1459	III	5.1	213
Chlorates, inorganic, aqueous solution, n.o.s.	5.1	UN3210	II	5.1	202
Chlorates, inorganic, n.o.s.	5.1	UN1461	II	5.1	212
Chlorine	2.3	UN1017		2.3, 8	304
Chlorine pentafluoride	2.3	UN2548		2.3, 5.1, 8	304
Chlorine trifluoride	2.3	UN1749		2.3, 5.1, 8	304
Chlorite solution	8	UN1908	II	8	202
Chlorite solution	8	UN1908	III	8	203
Chlorites, inorganic, n.o.s.	5.1	UN1462	II	5.1	212
1-Chloro-1,1-difluoroethane[or] Refrigerant gas R 142b	2.1	UN2517		2.1	304
3-Chloro-4-methylphenyl isocyanate	6.1	UN2236	II	6.1	202
1-Chloro-1,2,2,2-tetrafluoroethane[or] Refrigerant gas R 124	2.2	UN1021		2.2	304
4-Chloro-o-toluidine hydrochloride	6.1	UN1579	III	6.1	213
1-Chloro-2,2,2-trifluoroethane [or] Refrigerant gas R 133a	2.2	UN1983		2.2	304
Chloroacetic acid, molten	6.1	UN3250	II	6.1, 8	202
Chloroacetic acid, solid	6.1	UN1751	II	6.1, 8	212
Chloroacetic acid, solution	6.1	UN1750	II	6.1, 8	202
Chloroacetone, stabilized	6.1	UN1695	I	6.1, 3, 8	227
Chloroacetonitrile	6.1	UN2668	II	6.1, 3	227
Chloroacetophenone [(CN), liquid]	6.1	UN1697	II	6.1	202
Chloroacetophenone [(CN), solid]	6.1	UN1697	II	6.1	212
Chloroacetyl chloride	6.1	UN1752	I	6.1, 8	227
Chloroanilines, liquid	6.1	UN2019	II	6.1	202
Chloroanilines, solid	6.1	UN2018	II	6.1	212
Chloroanisidines	6.1	UN2233	III	6.1	213
Chlorobenzene	3	UN1134	III	3	203
Chlorobenzotrifluorides	3	UN2234	III	3	203
Chlorobenzyl chlorides	6.1	UN2235	III	6.1	203
Chlorobutanes	3	UN1127	II	3	202
Chlorocresols, [liquid]	6.1	UN2669	II	6.1	202
Chlorocresols, [solid]	6.1	UN2669	II	6.1	212

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Chlorodifluorobromomethane[or] Refrigerant gas R 12B1	2.2	UN1974		2.2	304
Chlorodifluoromethane and chloropentafluoroethane mixture [or] Refrigerant gas R 502 [with fixed boiling point, with approximately 49 percent chlorodifluoromethane]	2.2	UN1973		2.2	304
Chlorodifluoromethane [or] Refrigerant gas R 22	2.2	UN1018		2.2	304
Chlorodinitrobenzenes, liquid.	6.1	UN1577	II	6.1	202
Chlorodinitrobenzenes, solid.	6.1	UN1577	II	6.1	212
2-Chloroethanal	6.1	UN2232	I	6.1	227
Chloroform	6.1	UN1888	III	6.1	203
Chloroformates, toxic, corrosive, flammable, n.o.s.	6.1	UN2742	II	6.1, 8, 3	202
Chloroformates, toxic, corrosive, n.o.s.	6.1	UN3277	II	6.1, 8	202
Chloromethyl chloroformate	6.1	UN2745	II	6.1, 8	202
Chloromethyl ethyl ether	3	UN2354	II	3, 6.1	202
Chloronitroanilines	6.1	UN2237	III	6.1	213
Chloronitrobenzene, [ortho, liquid]	6.1	UN1578	II	6.1	202
Chloronitrobenzenes [meta or para, solid]	6.1	UN1578	II	6.1	212
Chloronitrotoluenes, [liquid]	6.1	UN2433	III	6.1	203
Chloronitrotoluenes, [solid]	6.1	UN2433	III	6.1	213
Chloropentafluoroethane [or] Refrigerant gas R 115	2.2	UN1020		2.2	304
Chlorophenolates, liquid [or] Phenolates, liquid	8	UN2904	III	8	203
Chlorophenolates, solid [or] Phenolates, solid	8	UN2905	III	8	213
Chlorophenols, liquid	6.1	UN2021	III	6.1	203
Chlorophenols, solid	6.1	UN2020	III	6.1	213
Chlorophenyltrichlorosilane	8	UN1753	II	8	202
Chloropicrin	6.1	UN1580	I	6.1	227
Chloropicrin and methyl bromide mixtures	2.3	UN1581		2.3	193
Chloropicrin and methyl chloride mixtures	2.3	UN1582		2.3	193
Chloropicrin mixtures, n.o.s.	6.1	UN1583	I	6.1	201
Chloropicrin mixtures, n.o.s.	6.1	UN1583	II	6.1	202
Chloropicrin mixtures, n.o.s.	6.1	UN1583	III	6.1	203
Chloropivaloyl chloride	6.1	NA9263	I	6.1, 8	227
Chloroplatinic acid, solid	8	UN2507	III	8	213
Chloroprene, stabilized	3	UN1991	I	3, 6.1	201
2-Chloropropane	3	UN2356	I	3	201

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
3-Chloropropanol-1	6.1	UN2849	III	6.1	203
2-Chloropropene	3	UN2456	I	3	201
2-Chloropropionic acid	8	UN2511	III	8	203
2-Chloropyridine	6.1	UN2822	II	6.1	202
Chlorosilanes, corrosive, flammable, n.o.s.	8	UN2986	II	8, 3	202
Chlorosilanes, corrosive, n.o.s.	8	UN2987	II	8	202
Chlorosilanes, flammable, corrosive, n.o.s.	3	UN2985	II	3, 8	201
Chlorosilanes, toxic, corrosive, flammable, n.o.s.	3.1	UN3362	II	6.1, 3, 8	202
Chlorosilanes, toxic, corrosive, n.o.s.	6.1	UN3361	II	6.1, 8	202
Chlorosilanes, water-reactive, flammable, corrosive, n.o.s.	4.3	UN2988	I	4.3, 3, 8	201
Chlorosulfonic acid [(with or without sulfur trioxide)]	8	UN1754	I	8, 6.1	227
Chlorotoluenes	3	UN2238	III	3	203
Chlorotoluidines [liquid]	6.1	UN2239	III	6.1	203
Chlorotoluidines [solid]	6.1	UN2239	III	6.1	213
Chlorotrifluoromethane and trifluoromethane azeotropic mixture [or] Refrigerant gas R 503 [with approximately 60 percent chlorotrifluoromethane]	2.2	UN2599		2.2	304
Chlorotrifluoromethane [or] Refrigerant gas R 13	2.2	UN1022		2.2	304
Chromic acid solution	8	UN1755	II	8	202
Chromic acid solution	8	UN1755	III	8	203
Chromic fluoride, solid	8	UN1756	II	8	212
Chromic fluoride, solution	8	UN1757	II	8	202
Chromic fluoride, solution	8	UN1757	III	8	203
Chromium nitrate	5.1	UN2720	III	5.1	213
Chromium oxychloride	8	UN1758	I	8	201
Chromium trioxide, anhydrous	5.1	UN1463	II	5.1, 8	212
Chromosulfuric acid	8	UN2240	I	8	201
Coal gas, compressed	2.3	UN1023		2.3, 2.1	302
Coal tar distillates, flammable	3	UN1136	II	3	202
Coal tar distillates, flammable	3	UN1136	III	3	203
Coating solution ([includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining])	3	UN1139	I	3	201

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Coating solution ([includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining])	3	UN1139	II	3	202
Coating solution ([includes surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining])	3	UN1139	III	3	203
Cobalt naphthenates, powder	4.1	UN2001	III	4.1	213
Cobalt resinate, precipitated	4.1	UN1318	III	4.1	213
Combustible liquid, n.o.s.	Combustible liq	NA1993	III	None	203
Components, explosive train, n.o.s.	1.2B	UN0382	II	1.2B	62
Components, explosive train, n.o.s.	1.4B	UN0383	II	1.4B	62
Components, explosive train, n.o.s.	1.4S	UN0384	II	1.4S	62
Components, explosive train, n.o.s.	1.1B	UN0461	II	1.1B	62
Compounds, cleaning liquid	8	NA1760	I	8	201
Compounds, cleaning liquid	8	NA1760	II	8	202
Compounds, cleaning liquid	8	NA1760	III	8	203
Compounds, cleaning liquid	3	NA1993	I	3	201
Compounds, cleaning liquid	3	NA1993	II	3	202
Compounds, cleaning liquid	3	NA1993	III	3	203
Compounds, tree killing, liquid [or] Compounds, weed killing, liquid	8	NA1760	I	8	201
Compounds, tree killing, liquid [or] Compounds, weed killing, liquid	8	NA1760	II	8	202
Compounds, tree killing, liquid [or] Compounds, weed killing, liquid	8	NA1760	III	8	203
Compounds, tree killing, liquid [or] Compounds, weed killing, liquid	3	NA1993	I	3	201
Compounds, tree killing, liquid [or] Compounds, weed killing, liquid	3	NA1993	II	3	202
Compounds, tree killing, liquid [or] Compounds, weed killing, liquid	3	NA1993	III	3	203
Compounds, tree killing, liquid [or] Compounds, weed killing, liquid	6.1	NA2810	I	6.1	201
Compounds, tree killing, liquid [or] Compounds, weed killing, liquid	6.1	NA2810	II	6.1	202
Compounds, tree killing, liquid [or] Compounds, weed killing, liquid	6.1	NA2810	III	6.1	203
Compressed gas, flammable, n.o.s.	2.1	UN1954		2.1	302, 305

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Compressed gas, n.o.s.	2.2	UN1956		2.2	302, 305
Compressed gas, oxidizing, n.o.s.	2.2	UN3156		2.2, 5.1	302
Compressed gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone A]	2.3	UN3304		2.3, 8	192
Compressed gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone B]	2.3	UN3304		2.3, 8	302, 305
Compressed gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone C]	2.3	UN3304		2.3, 8	302, 305
Compressed gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone D]	2.3	UN3304		2.3, 8	302, 305
Compressed gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone A]	2.3	UN3305		2.3, 2.1, 8	192
Compressed gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone B]	2.3	UN3305		2.3, 2.1, 8	302, 305
Compressed gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone C]	2.3	UN3305		2.3, 2.1, 8	302, 305
Compressed gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone D]	2.3	UN3305		2.3, 2.1, 8	302, 305
Compressed gas, toxic, flammable, n.o.s. [Inhalation hazard Zone A]	2.3	UN1953		2.3, 2.1	192
Compressed gas, toxic, flammable, n.o.s. [Inhalation hazard Zone B]	2.3	UN1953		2.3, 2.1	302, 305
Compressed gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone C]	2.3	UN1953		2.3, 2.1	302, 305
Compressed gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone D]	2.3	UN1953		2.3, 2.1	302, 305
Compressed gas, toxic, n.o.s. [Inhalation Hazard Zone A]	2.3	UN1955		2.3	192
Compressed gas, toxic, n.o.s. [Inhalation Hazard Zone B]	2.3	UN1955		2.3	302, 305
Compressed gas, toxic, n.o.s. [Inhalation Hazard Zone C]	2.3	UN1955		2.3	302, 305
Compressed gas, toxic, n.o.s. [Inhalation Hazard Zone D]	2.3	UN1955		2.3	302, 305
Compressed gas, toxic, oxdizing, corrosive, n.o.s. [Inhalation Hazard Zone A]	2.3	UN3306		2.3, 5.1, 8	192
Compressed gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone B]	2.3	UN3306		2.3, 5.1, 8	302, 305
Compressed gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone C]	2.3	UN3306		2.3, 5.1, 8	302, 305

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Compressed gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone D]	2.3	UN3306		2.3, 5.1, 8	302, 305
Compressed gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone A]	2.3	UN3303		2.3, 5.1	192
Compressed gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone B]	2.3	UN3303		2.3, 5.1	302, 305
Compressed gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone C]	2.3	UN3303		2.3, 5.1	302, 305
Compressed gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone D]	2.3	UN3303		2.3, 5.1	302, 305
Consumer commodity	ORM-D			None	156, 306
Contrivances, water-activated, [with burster, expelling charge or propelling charge]	1.2L	UN0248	II	1.2L	62
Contrivances, water-activated, [with burster, expelling charge or propelling charge]	1.3L	UN0249	II	1.3L	62
Copper acetoarsenite	6.1	UN1585	II	6.1	212
Copper arsenite	6.1	UN1586	II	6.1	212
Copper based pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2776	I	3, 6.1	201
Copper based pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2776	II	3, 6.1	202
Copper based pesticides, liquid, toxic	6.1	UN3010	I	6.1	201
Copper based pesticides, liquid, toxic	6.1	UN3010	II	6.1	202
Copper based pesticides, liquid, toxic	6.1	UN3010	III	6.1	203
Copper based pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN3009	I	6.1, 3	201
Copper based pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN3009	II	6.1, 3	202
Copper based pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN3009	III	6.1, 3	203
Copper based pesticides, solid, toxic	6.1	UN2775	I	6.1	211
Copper based pesticides, solid, toxic	6.1	UN2775	II	6.1	212
Copper based pesticides, solid, toxic	6.1	UN2775	III	6.1	213
Copper chlorate	5.1	UN2721	II	5.1	212
Copper chloride	8	UN2802	III	8	213
Copper cyanide	6.1	UN1587	II	6.1	204
Copra	4.2	UN1363	III	4.2	213
Cord, detonating, [flexible]	1.1D	UN0065	II	1.1D	62

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Cord, detonating, [flexible]	1.4D	UN0289	II	1.4D	62
Cord detonating [or] Fuse detonating [metal clad]	1.2D	UN0102	II	1.2D	62
Cord, detonating [or] Fuse, detonating [metal clad]	1.1D	UN0290	II	1.1D	62
Cord, detonating, mild effect [or] Fuse, detonating, mild effect [metal clad]	1.4D	UN0104	II	1.4D	62
Cord, igniter	1.4G	UN0066	II	1.4G	62
Corrosive liquid, acidic, inorganic, n.o.s.	8	UN3264	I	8	201
Corrosive liquid, acidic, inorganic, n.o.s.	8	UN3264	II	8	202
Corrosive liquid, acidic, inorganic, n.o.s.	8	UN3264	III	8	203
Corrosive liquid, acidic, organic, n.o.s.	8	UN3265	I	8	201
Corrosive liquid, acidic, organic, n.o.s.	8	UN3265	II	8	202
Corrosive liquid, acidic, organic, n.o.s.	8	UN3265	III	8	203
Corrosive liquid, basic, inorganic, n.o.s.	8	UN3266	I	8	201
Corrosive liquid, basic, inorganic, n.o.s.	8	UN3266	II	8	202
Corrosive liquid, basic, inorganic, n.o.s.	8	UN3266	III	8	203
Corrosive liquid, basic, organic, n.o.s.	8	UN3267	I	8	201
Corrosive liquid, basic, organic, n.o.s.	8	UN3267	II	8	202
Corrosive liquid, basic, organic, n.o.s.	8	UN3267	III	8	203
Corrosive liquid, self-heating, n.o.s.	8	UN3301	I	8, 4.2	201
Corrosive liquid, self-heating, n.o.s.	8	UN3301	II	8, 4.2	202
Corrosive liquids, flammable, n.o.s.	8	UN2920	I	8, 3	201
Corrosive liquids, flammable, n.o.s.	8	UN2920	II	8, 3	202
Corrosive liquids, n.o.s.	8	UN1760	I	8	201
Corrosive liquids, n.o.s.	8	UN1760	II	8	202
Corrosive liquids, n.o.s.	8	UN1760	III	8	203
Corrosive liquids, oxidizing, n.o.s.	8	UN3093	I	8, 5.1	201
Corrosive liquids, oxidizing, n.o.s.	8	UN3093	II	8, 5.1	202
Corrosive liquids, toxic, n.o.s.	8	UN2922	I	8, 6.1	201
Corrosive liquids, toxic, n.o.s.	8	UN2922	II	8, 6.1	202
Corrosive liquids, toxic, n.o.s.	8	UN2922	III	8, 6.1	203
Corrosive liquids, water-reactive, n.o.s.	8	UN3094	I	8, 4.3	201
Corrosive liquids, water-reactive, n.o.s.	8	UN3094	II	8, 4.3	202
Corrosive solid, acidic, inorganic, n.o.s.	8	UN3260	I	8	211
Corrosive solid, acidic, inorganic, n.o.s.	8	UN3260	II	8	212
Corrosive solid, acidic, inorganic, n.o.s.	8	UN3260	III	8	213
Corrosive solid, acidic, organic, n.o.s.	8	UN3261	I	8	211
Corrosive solid, acidic, organic, n.o.s.	8	UN3261	II	8	212
Corrosive solid, acidic, organic, n.o.s.	8	UN3261	III	8	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Corrosive solid, basic, inorganic, n.o.s.	8	UN3262	I	8	211
Corrosive solid, basic, inorganic, n.o.s.	8	UN3262	II	8	212
Corrosive solid, basic, inorganic, n.o.s.	8	UN3262	III	8	213
Corrosive solid, basic, organic, n.o.s.	8	UN3263	I	8	211
Corrosive solid, basic, organic, n.o.s.	8	UN3263	II	8	212
Corrosive solid, basic, organic, n.o.s.	8	UN3263	III	8	213
Corrosive solids, flammable, n.o.s.	8	UN2921	I	8, 4.1	211
Corrosive solids, flammable, n.o.s.	8	UN2921	II	8, 4.1	212
Corrosive solids, n.o.s.	8	UN1759	I	8	211
Corrosive solids, n.o.s.	8	UN1759	II	8	212
Corrosive solids, n.o.s.	8	UN1759	III	8	213
Corrosive solids, oxidizing, n.o.s.	8	UN3084	I	8, 5.1	211
Corrosive solids, oxidizing, n.o.s.	8	UN3084	II	8, 5.1	212
Corrosive solids, self-heating, n.o.s.	8	UN3095	I	8, 4.2	211
Corrosive solids, self-heating, n.o.s.	8	UN3095	II	8, 4.2	212
Corrosive solids, toxic, n.o.s.	8	UN2923	I	8, 6.1	211
Corrosive solids, toxic, n.o.s.	8	UN2923	II	8, 6.1	212
Corrosive solids, toxic, n.o.s.	8	UN2923	III	8, 6.1	213
Corrosive solids, water-reactive, n.o.s.	8	UN3096	I	8, 4.3	211
Corrosive solids, water-reactive, n.o.s.	8	UN3096	II	8, 4.3	212
Cotton	9	NA1365		9	None
Cotton waste, oily	4.2	UN1364	III	4.2	213
Cotton, wet	4.2	UN1365	III	4.2	204
Coumarin derivative pesticides, liquid, flammable, toxic, [flash point less than 23 degrees C]	3	UN3024	I	3, 6.1	201
Coumarin derivative pesticides, liquid, flammable, toxic, [flash point less than 23 degrees C]	3	UN3024	II	3, 6.1	202
Coumarin derivative pesticides, liquid, toxic	6.1	UN3026	I	6.1	201
Coumarin derivative pesticides, liquid, toxic	6.1	UN3026	II	6.1	202
Coumarin derivative pesticides, liquid, toxic	6.1	UN3026	III	6.1	203
Coumarin derivative pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN3025	I	6.1, 3	201
Coumarin derivative pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN3025	II	6.1, 3	202
Coumarin derivative pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN3025	III	6.1, 3	203

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Coumarin derivative pesticides, solid, toxic	6.1	UN3027	I	6.1	211
Coumarin derivative pesticides, solid, toxic	6.1	UN3027	II	6.1	212
Coumarin derivative pesticides, solid, toxic	6.1	UN3027	III	6.1	213
Cresols, liquid	6.1	UN2076	II	6.1, 8	202
Cresols, solid	6.1	UN2076	II	6.1, 8	202
Cresylic acid	6.1	UN2022	II	6.1, 8	202
Crotonaldehyde, stabilized	6.1	UN1143	I	6.1, 3	227
Crotonic acid [liquid]	8	UN2823	III	8	203
Crotonic acid, [solid]	8	UN2823	III	8	213
Crotonylene	3	UN1144	I	3	201
Cupriethylenediamine solution	8	UN1761	II	8, 6.1	202
Cupriethylenediamine solution	8	UN1761	III	8, 6.1	203
Cutters, cable, explosive	1.4S	UN0070	II	1.4S	62
Cyanide solutions, n.o.s.	6.1	UN1935	I	6.1	201
Cyanide solutions, n.o.s.	6.1	UN1935	II	6.1	202
Cyanide solutions, n.o.s.	6.1	UN1935	III	6.1	203
Cyanides, inorganic, solid, n.o.s.	6.1	UN1588	I	6.1	211
Cyanides, inorganic, solid, n.o.s.	6.1	UN1588	II	6.1	212
Cyanides, inorganic, solid, n.o.s.	6.1	UN1588	III	6.1	213
Cyanogen	2.3	UN1026		2.3, 2.1	304
Cyanogen bromide	6.1	UN1889	I	6.1, 8	211
Cyanogen chloride, stabilized	2.3	UN1589		2.3, 8	192
Cyanuric chloride	8	UN2670	II	8	212
Cyclobutane	2.1	UN2601		2.1	304
Cyclobutyl chloroformate	6.1	UN2744	II	6.1, 8, 3	202
1,5,9-Cyclododecatriene	6.1	UN2518	III	6.1	203
Cycloheptane	3	UN2241	II	3	202
Cycloheptatriene	3	UN2603	II	3, 6.1	202
Cycloheptene	3	UN2242	II	3	202
Cyclohexane	3	UN1145	II	3	202
Cyclohexanone	3	UN1915	III	3	203
Cyclohexene	3	UN2256	II	3	202
Cyclohexenyltrichlorosilane	8	UN1762	II	8	202
Cyclohexyl acetate	3	UN2243	III	3	203
Cyclohexyl isocyanate	6.1	UN2488	I	6.1, 3	227
Cyclohexyl mercaptan	3	UN3054	III	3	203
Cyclohexylamine	8	UN2357	II	8, 3	202
Cyclohexyltrichlorosilane	8	UN1763	II	8	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Cyclooctadienes	3	UN2520	III	3	203
Cyclooctatetraene	3	UN2358	II	3	202
Cyclopentane	3	UN1146	II	3	202
Cyclopentanol	3	UN2244	III	3	203
Cyclopentanone	3	UN2245	III	3	203
Cyclopentene	3	UN2246	II	3	202
Cyclopropane	2.1	UN1027		2.1	304
Cyclotetramethylenetetranitramine, desensitized [or] Octogen, desensitized [or] HMX, desensitized	1.1D	UN0484	II	1.1D	62
Cyclotetramethylenetetranitramine, wetted [or] HMX, wetted [or] Octogen, wetted [with not less than 15 percent water, by mass]	1.1D	UN0226	II	1.1D	62
Cyclotrimethylenetrinitramine, desensitized [or] Cyclonite, desensitized [or] Hexogen, desensitized [or] RDX, desensitized	1.1D	UN0483	II	1.1D	62
Cyclotrimethylenetrinitramine, wetted [or] Cyclonite, wetted [or] Hexogen, wetted [or] RDX, wetted [with not less than 15 percent water by mass]	1.1D	UN0072	II	1.1D	62
Cymenes	3	UN2046	III	3	203
Decaborane	4.1	UN1868	II	4.1, 6.1	212
Decahydronaphthalene	3	UN1147	III	3	203
n-Decane	3	UN2247	III	3	203
Deflagrating metal salts of aromatic nitroderivatives, n.o.s.	1.3C	UN0132	II	1.3C	62
Detonator assemblies, non-electric [for blasting]	1.1B	UN0360	II	1.1B	62
Detonator assemblies, non-electric, [for blasting]	1.4B	UN0361	II	1.4B	62
Detonator, assemblies, non-electric [for blasting]	1.4S	UN0500	II	1.4S	62
Detonators, electric, [for blasting]	1.1B	UN0030	II	1.1B	62
Detonators, electric, [for blasting]	1.4B	UN0255	II	1.4B	62
Detonators, electric [for blasting]	1.4S	UN0456	II	1.4S	62
Detonators for ammunition	1.1B	UN0073	II	1.1B	62
Detonators for ammunition	1.2B	UN0364	II	1.2B	62
Detonators for ammunition	1.4B	UN0365	II	1.4B	62
Detonators for ammunition	1.4S	UN0366	II	1.4S	62
Detonators, non-electric, [for blasting]	1.1B	UN0029	II	1.1B	62
Detonators, non-electric, [for blasting]	1.4B	UN0267	II	1.4B	62

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Detonators, non-electric,[for blasting]	1.4S	UN0455	II	1.4S	62
Deuterium, compressed	2.1	UN1957		2.1	302
Devices, small, hydrocarbon gas powered [or] Hydrocarbon gas refills for small devices [with release device]	2.1	UN3150		2.1	304
Di-n-amylamine	3	UN2841	III	3, 6.1	203
Di-n-butylamine	8	UN2248	II	8, 3	202
1,2-Di-(dimethylamino)ethane	3	UN2372	II	3	202
Diacetone alcohol	3	UN1148	II	3	202
Diacetone alcohol	3	UN1148	III	3	203
Diallylamine	3	UN2359	II	3, 6.1, 8	202
Diallylether	3	UN2360	II	3, 6.1	202
4,4'-Diaminodiphenyl methane	6.1	UN2651	III	6.1	213
Diazodinitrophenol, wetted [with not less than 40 percent water or mixture of alcohol and water, by mass]	1.1A	UN0074	II	1.1A	62
Dibenzyldichlorosilane	8	UN2434	II	8	202
Diborane	2.3	UN1911		2.3, 2.1	302
Diborane mixtures	2.1	NA1911		2.1	302
1,2-Dibromobutan-3-one	6.1	UN2648	II	6.1	202
Dibromochloropropane	6.1	UN2872	III	6.1	203
Dibromodifluoromethane[, R12B2]	9	UN1941	III	None	203
Dibromomethane	6.1	UN2664	III	6.1	203
Dibutyl ethers	3	UN1149	III	3	203
Dibutylaminoethanol	6.1	UN2873	III	6.1	203
1,1-Dichloro-1-nitroethane	6.1	UN2650	II	6.1	202
3,5-Dichloro-2,4,6-trifluoropyridine	6.1	NA9264	I	6.1	227
Dichloroacetic acid	8	UN1764	II	8	202
1,3-Dichloroacetone	6.1	UN2649	II	6.1	212
Dichloroacetyl chloride	8	UN1765	II	8	202
Dichloroanilines, liquid	6.1	UN1590	II	6.1	202
Dichloroanilines, solid	6.1	UN1590	II	6.1	212
o-Dichlorobenzene	6.1	UN1591	III	6.1	203
2,2'-Dichlorodiethyl ether	6.1	UN1916	II	6.1, 3	202
Dichlorodifluoromethane and difluoroethane azeotropic mixture [or] Refrigerant gas R 500 [with approximately 74 percent dichlorodifluoromethane]	2.2	UN2602		2.2	304

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Dichlorodifluoromethane [or] Refrigerant gas R 12	2.2	UN1028		2.2	304
Dichlorodimethyl ether, symmetrical	6.1	UN2249	I	6.1, 3	201
1,1-Dichloroethane	3	UN2362	II	3	202
1,2-Dichloroethylene	3	UN1150	II	3	202
Dichlorofluoromethane [or] Refrigerant gas R21	2.2	UN1029		2.2	304
Dichloroisocyanuric acid, dry [or] Dichloroisocyanuric acid salts	5.1	UN2465	II	5.1	212
Dichloroisopropyl ether	6.1	UN2490	II	6.1	202
Dichloromethane	6.1	UN1593	III	6.1	203
Dichloropentanes	3	UN1152	III	3	203
Dichlorophenyl isocyanates	6.1	UN2250	II	6.1	212
Dichlorophenyltrichlorosilane	8	UN1766	II	8	202
1,2-Dichloropropane	3	UN1279	II	3	202
1,3-Dichloropropanol-2	6.1	UN2750	II	6.1	202
Dichloropropenes	3	UN2047	II	3	202
Dichloropropenes	3	UN2047	III	3	203
Dichlorosilane	2.3	UN2189		2.3, 2.1, 8	304
1,2-Dichloro-1,1,2,2- tetrafluoroethane [or] Refrigerant gas R 114	2.2	UN1958		2.2	304
Dicyclohexylamine	8	UN2565	III	8	203
Dicyclohexylammonium nitrite	4.1	UN2687	III	4.1	213
Dicyclopentadiene	3	UN2048	III	3	203
Didymium nitrate	5.1	UN1465	III	5.1	213
Diesel fuel	3	NA1993	III	None	203
Diesel fuel	3	UN1202	III	3	203
Diethoxymethane	3	UN2373	II	3	202
3,3-Diethoxypropene	3	UN2374	II	3	202
Diethyl carbonate	3	UN2366	III	3	203
Diethyl ether [or] Ethyl ether	3	UN1155	I	3	201
Diethyl ketone	3	UN1156	II	3	202
Diethyl sulfate	6.1	UN1594	II	6.1	202
Diethyl sulfide	3	UN2375	II	3	202
Diethylamine	3	UN1154	II	3, 8	202
2-Diethylaminoethanol	8	UN2686	II	8, 3	202
3-Diethyamino-propylamine.	3	UN2684	III	3, 8	203
N, N-Diethylaniline	6.1	UN2432	III	6.1	203
Diethylbenzene	3	UN2049	III	3	203
Diethyldichlorosilane	8	UN1767	II	8, 3	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Diethyleneglycol dinitrate, desensitized [with not less than 25 percent non-volatile water-insoluble phlegmatizer, by mass]	1.1D	UN0075	II	1.1D	62
Diethylenetriamine	8	UN2079	II	8	202
N,N-Diethylethylenediamine	8	UN2685	II	8, 3	202
Diethylthiophosphoryl chloride	8	UN2751	II	8	212
Diethylzinc	4.2	UN1366	I	4.2, 4.3	181
1,1-Difluoroethane [or] Refrigerant gas R 152a	2.1	UN1030		2.1	304
1,1-Difluoroethylene [or] Refrigerant gas R 1132a	2.1	UN1959		2.1	304
Difluoromethane [or] Refrigerant gas R 32	2.1	UN3252		2.1	302
Difluorophosphoric acid, anhydrous	8	UN1768	II	8	202
2,3-Dihydropyran	3	UN2376	II	3	202
Diisobutyl ketone	3	UN1157	III	3	203
Diisobutylamine	3	UN2361	III	3, 8	203
Diisobutylene, isomeric compounds	3	UN2050	II	3	202
Diisooctyl acid phosphate	8	UN1902	III	8	203
Diisopropyl ether	3	UN1159	II	3	202
Diisopropylamine	3	UN1158	II	3, 8	202
Diketene, stabilized	6.1	UN2521	I	6.1, 3	227
1,2-Dimethoxyethane	3	UN2252	II	3	202
1,1-Dimethoxyethane	3	UN2377	II	3	202
Dimethyl carbonate	3	UN1161	II	3	202
Dimethyl disulfide	3	UN2381	II	3	202
Dimethyl ether	2.1	UN1033		2.1	304
Dimethyl-N-propylamine	3	UN2266	II	3, 8	202
Dimethyl sulfate	6.1	UN1595	I	6.1, 8	227
Dimethyl sulfide	3	UN1164	II	3	202
Dimethyl thiophosphoryl chloride	6.1	UN2267	II	6.1, 8	202
Dimethylamine, anhydrous	2.1	UN1032		2.1	304
Dimethylamine solution	3	UN1160	II	3, 8	202
2-Dimethylaminoacetonitrile	3	UN2378	II	3, 6.1	202
2-Dimethylaminoethanol	8	UN2051	II	8, 3	202
2-Dimethylaminoethyl acrylate	6.1	UN3302	II	6.1	202
2-Dimethylaminoethyl methacrylate	6.1	UN2522	II	6.1	202
N,N-Dimethylaniline	6.1	UN2253	II	6.1	202
2,3-Dimethylbutane	3	UN2457	II	3	202
1,3-Dimethylbutylamine	3	UN2379	II	3, 8	202
Dimethylcarbamoyl chloride	8	UN2262	II	8	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Dimethylcyclohexanes	3	UN2263	II	3	202
N, N-Dimethylcyclohexylamine	8	UN2264	II	8, 3	202
Dimethyldichlorosilane	3	UN1162	II	3, 8	202
Dimethyldiethoxysilane	3	UN2380	II	3	202
Dimethyldioxanes	3	UN2707	II	3	202
Dimethyldioxanes	3	UN2707	III	3	203
N,N-Dimethylformamide	3	UN2265	III	3	203
Dimethylhydrazine, symmetrical	6.1	UN2382	I	6.1, 3	227
Dimethylhydrazine, unsymmetrical	6.1	UN1163	I	6.1, 3, 8	227
2,2-Dimethylpropane	2.1	UN2044		2.1	304
Dimethylzinc	4.2	UN1370	I	4.2, 4.3	181
Dinitro-o-cresol, [solid]	6.1	UN1598	II	6.1	212
Dinitro-o-cresol, [solution]	6.1	UN1598	II	6.1	202
Dinitroanilines	6.1	UN1596	II	6.1	212
Dinitrobenzenes, [liquid]	6.1	UN1597	II	6.1	202
Dinitrobenzenes, [solid]	6.1	UN1597	II	6.1	212
Dinitrogen tetroxide	2.3	UN1067		2.3, 5.1, 8	336
Dinitroglycoluril [or] Dingu	1.1D	UN0489	II	1.1D	62
Dinitrophenol, [dry or wetted with less than 15 percent water, by mass]	1.1D	UN0076	II	1.1D, 6.1	62
Dinitrophenol solutions	6.1	UN1599	II	6.1	202
Dinitrophenol solutions	6.1	UN1599	III	6.1	203
Dinitrophenol, wetted [with not less than 15 percent water, by mass]	4.1	UN1320	I	4.1, 6.1	211
Dinitrophenolates [alkali metals, dry or wetted with less than 15 percent water, by mass]	1.3C	UN0077	II	1.3C, 6.1	62
Dinitrophenolates, wetted [with not less than 15 percent water, by mass]	4.1	UN1321	I	4.1, 6.1	211
Dinitroresorcinol, [dry or wetted with less than 15 percent water, by mass]	1.1D	UN0078	II	1.1D	62
Dinitroresorcinol, wetted [with not less than 15 percent water, by mass]	4.1	UN1322	I	4.1	211
Dinitrosobenzene	1.3C	UN0406	II	1.3C	62
Dinitrotoluenes, [liquid]	6.1	UN2038	II	6.1	202
Dinitrotoluenes, molten	6.1	UN1600	II	6.1	202
Dinitrotoluenes, [solid]	6.1	UN2038	II	6.1	212
Dioxane	3	UN1165	II	3	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Dioxolane	3	UN1166	II	3	202
Dipentene	3	UN2052	III	3	203
Diphenylamine chloroarsine	6.1	UN1698	I	6.1	201
Diphenylchloroarsine, liquid	6.1	UN1699	I	6.1	201
Diphenylchloroarsine, solid	6.1	UN1699	I	6.1	211
Diphenyldichlorosilane	8	UN1769	II	8	202
Diphenylmethyl bromide	8	UN1770	II	8	212
Dipicryl sulfide, [dry or wetted with less than 10 percent water, by mass]	1.1D	UN0401	II	1.1D	62
Dipicryl sulfide, wetted [with not less than 10 percent water, by mass]	4.1	UN2852	I	4.1	211
Di-n-propyl ether	3	UN2384	II	3	202
Dipropyl ketone	3	UN2710	III	3	203
Dipropylamine	3	UN2383	II	3, 8	202
Disinfectant, liquid, corrosive, n.o.s.	8	UN1903	I	8	201
Disinfectants, liquid, corrosive n.o.s.	8	UN1903	II	8	202
Disinfectants, liquid, corrosive n.o.s.	8	UN1903	III	8	203
Disinfectants, liquid, toxic, n.o.s.	6.1	UN3142	I	6.1	201
Disinfectants, liquid, toxic, n.o.s.	6.1	UN3142	II	6.1	202
Disinfectants, liquid, toxic, n.o.s.	6.1	UN3142	III	6.1	203
Disinfectants, solid, toxic, n.o.s.	6.1	UN1601	II	6.1	212
Disinfectants, solid, toxic, n.o.s.	6.1	UN1601	III	6.1	213
Disodium trioxosilicate	8	UN3253	III	8	213
Divinyl ether, stabilized	3	UN1167	I	3	201
Dodecyltrichlorosilane	8	UN1771	II	8	202
Dyes, liquid, corrosive, n.o.s. or Dye intermediates, liquid, corrosive, n.o.s.	8	UN2801	I	8	201
Dyes, liquid, corrosive, n.o.s. or Dye intermediates, liquid, corrosive, n.o.s.	8	UN2801	II	8	202
Dyes, liquid, corrosive, n.o.s. or Dye intermediates, liquid, corrosive, n.o.s.	8	UN2801	III	8	203
Dyes, liquid, toxic, n.o.s. [or] Dye intermediates, liquid, toxic, n.o.s.	6.1	UN1602	II	6.1	202
Dyes, liquid, toxic, n.o.s. [or] Dye intermediates, liquid, toxic, n.o.s.	6.1	UN1602	III	6.1	203
Dyes, solid, corrosive, n.o.s. [or] Dye intermediates, solid, corrosive, n.o.s.	8	UN3147	I	8	211
Dyes, solid, corrosive, n.o.s. [or] Dye intermediates, solid, corrosive, n.o.s.	8	UN3147	II	8	212
Dyes, solid, corrosive, n.o.s. [or] Dye intermediates, solid, corrosive, n.o.s.	8	UN3147	III	8	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Dyes, solid, toxic, n.o.s. [or] Dye intermediates, solid, toxic, n.o.s.	6.1	UN3143	I	6.1	211
Dyes, solid, toxic, n.o.s. [or] Dye intermediates, solid, toxic, n.o.s.	6.1	UN3143	II	6.1	212
Dyes, solid, toxic, n.o.s. [or] Dye intermediates, solid, toxic, n.o.s.	6.1	UN3143	III	6.1	213
Elevated temperature liquid, flammable, n.o.s.[, with flash point above 37.8 C, at or above its flash point]	3	UN3256	III	3	None
Elevated temperature liquid, n.o.s., [at or above 100 C and below its flash point (including molten metals, molten salts, etc.)]	9	UN3257	III	9	None
Elevated temperature solid, n.o.s., [at or above 240 C, see §173.247(h)(4)]	9	UN3258	III	9	None
Environmentally hazardous substances, liquid, n.o.s.	9	UN3082	III	9	203
Environmentally hazardous substances, solid, n.o.s.	9	UN3077	III	9	213
Epibromohydrin	6.1	UN2558	I	6.1, 3	201
Epichlorohydrin	6.1	UN2023	II	6.1, 3	202
1,2-Epoxy-3-ethoxypropane	3	UN2752	III	3	203
Esters, n.o.s.	3	UN3272	II	3	202
Esters, n.o.s.	3	UN3272	III	3	203
Ethane	2.1	UN1035		2.1	304
Ethane-Propane mixture, refrigerated liquid	2.1	NA1961		2.1	316
Ethane, refrigerated liquid	2.1	UN1961		2.1	None
Ethanol [or] Ethyl alcohol [or] Ethanol solutions [or] Ethyl alcohol solutions	3	UN1170	II	3	202
Ethanol [or] Ethyl alcohol [or] Ethanol solutions [or] Ethyl alcohol solutions	3	UN1170	III	3	203
Ethanolamine [or] Ethanolamine solutions	8	UN2491	III	8	203
Ethers, n.o.s.	3	UN3271	II	3	202
Ethers, n.o.s.	3	UN3271	III	3	203
Ethyl acetate	3	UN1173	II	3	202
Ethyl acrylate, stabilized	3	UN1917	II	3	202
Ethyl amyl ketone	3	UN2271	III	3	203
N-Ethyl-N-benzylaniline	6.1	UN2274	III	6.1	203
Ethyl borate	3	UN1176	II	3	202
Ethyl bromide	6.1	UN1891	II	6.1	202
Ethyl bromoacetate	6.1	UN1603	II	6.1, 3	202
Ethyl butyl ether	3	UN1179	II	3	202
Ethyl butyrate	3	UN1180	III	3	203

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Ethyl chloride	2.1	UN1037		2.1	322
Ethyl chloroacetate	6.1	UN1181	II	6.1, 3	202
Ethyl chloroformate	6.1	UN1182	I	6.1, 3, 8	227
Ethyl 2-chloropropionate	3	UN2935	III	3	203
Ethyl chlorothioformate	8	UN2826	II	8, 6.1, 3	227
Ethyl crotonate	3	UN1862	II	3	202
Ethyl fluoride [or] Refrigerant gas R161	2.1	UN2453		2.1	304
Ethyl formate	3	UN1190	II	3	202
Ethyl isobutyrate	3	UN2385	II	3	202
Ethyl isocyanate	3	UN2481	I	3, 6.1	226
Ethyl lactate	3	UN1192	III	3	203
Ethyl mercaptan	3	UN2363	I	3	201
Ethyl methacrylate, stabilized.	3	UN2277	II	3	202
Ethyl methyl ether	2.1	UN1039		2.1	201
Ethyl methyl ketone [or] Methyl ethyl ketone	3	UN1193	II	3	202
Ethyl nitrite solutions	3	UN1194	I	3, 6.1	201
Ethyl orthoformate	3	UN2524	III	3	203
Ethyl oxalate	6.1	UN2525	III	6.1	203
Ethyl phosphonothioic dichloride, anhydrous	6.1	NA2927	I	6.1, 8	227
Ethyl phosphonous dichloride, anhydrous [pyrophoric liquid]	6.1	NA2845	I	6.1, 4.2	227
Ethyl phosphorodichloridate	6.1	NA2927	I	6.1, 8	227
Ethyl propionate	3	UN1195	II	3	202
Ethyl propyl ether	3	UN2615	II	3	202
Ethylacetylene, stabilized	2.1	UN2452		2.1	304
Ethylamine	2.1	UN1036		2.1	321
Ethylamine, aqueous solution [with not less than 50 percent but not more than 70 percent ethylamine]	3	UN2270	II	3, 8	202
N-Ethylaniline	6.1	UN2272	III	6.1	203
2-Ethylaniline	6.1	UN2273	III	6.1	203
Ethylbenzene	3	UN1175	II	3	202
N-Ethylbenzyltoluidines liquid	6.1	UN2753	III	6.1	203
N-Ethylbenzyltoluidines solid	6.1	UN2753	III	6.1	213
2-Ethylbutanol	3	UN2275	III	3	203
2-Ethylbutyl acetate	3	UN1177	III	3	203
2-Ethylbutyraldehyde	3	UN1178	II	3	202
Ethyldichloroarsine	6.1	UN1892	I	6.1	227

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Ethyldichlorosilane	4.3	UN1183	I	4.3, 8, 3	201
Ethylene, acetylene and propylene in mixture, refrigerated liquid [with at least 71.5 percent ethylene with not more than 22.5 percent acetylene and not more than 6 percent propylene]	2.1	UN3138		2.1	304
Ethylene chlorohydrin	6.1	UN1135	I	6.1, 3	227
Ethylene	2.1	UN1962		2.1	304
Ethylene dibromide	6.1	UN1605	I	6.1	227
Ethylene dichloride	3	UN1184	II	3, 6.1	202
Ethylene glycol diethyl ether	3	UN1153	II	3	202
Ethylene glycol diethyl ether	3	UN1153	III	3	203
Ethylene glycol monoethyl ether	3	UN1171	III	3	203
Ethylene glycol monoethyl ether acetate	3	UN1172	III	3	203
Ethylene glycol monomethyl ether	3	UN1188	III	3	203
Ethylene glycol monomethyl ether acetate	3	UN1189	III	3	203
Ethylene oxide and carbon dioxide mixture [with more than 87 percent ethylene oxide]	2.3	UN3300		2.3, 2.1	304
Ethylene oxide and carbon dioxide mixtures [with more than 9 percent but not more than 87 percent ethylene oxide]	2.1	UN1041		2.1	304
Ethylene oxide and carbon dioxide mixtures [with not more than 9 percent ethylene oxide]	2.2	UN1952		2.2	304
Ethylene oxide and chlorotetrafluoroethane mixture [with not more than 8.8 percent ethylene oxide]	2.2	UN3297		2.2	304
Ethylene oxide and dichlorodifluoromethane mixture, [with not more than 12.5 percent ethylene oxide]	2.2	UN3070		2.2	304
Ethylene oxide and pentafluoroethane mixture [with not more than 7.9 percent ethylene oxide]	2.2	UN3298		2.2	304
Ethylene oxide and propylene oxide mixtures[, with not more than 30 percent ethylene oxide]	3	UN2983	I	3, 6.1	201
Ethylene oxide and tetrafluoroethane mixture [with not more than 5.6 percent ethylene oxide]	2.2	UN3299		2.2	304
Ethylene oxide [or] Ethylene oxide with nitrogen [up to a total pressure of 1MPa (10 bar) at 50 degrees C]	2.3	UN1040		2.3, 2.1	323

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Ethylene, refrigerated liquid [(cryogenic liquid)]	2.1	UN1038		2.1	316
Ethylenediamine	8	UN1604	II	8, 3	202
Ethyleneimine, stabilized	6.1	UN1185	I	6.1, 3	226
2-Ethylhexyl chloroformate	6.1	UN2748	II	6.1, 8	202
2-Ethylhexylamine	3	UN2276	III	3, 8	203
Ethylphenyldichlorosilane	8	UN2435	II	8	202
1-Ethylpiperidine	3	UN2386	II	3, 8	202
N-Ethyltoluidines	6.1	UN2754	II	6.1	202
Ethyltrichlorosilane	3	UN1196	II	3, 8	202
Explosive, blasting, type A	1.1D	UN0081	II	1.1D	62
Explosive, blasting, type B	1.1D	UN0082	II	1.1D	62
Explosive, blasting, type B [or] Agent blasting, Type B	1.5D	UN0331	II	1.5D	62
Explosive, blasting, type C	1.1D	UN0083	II	1.1D	62
Explosive, blasting, type D	1.1D	UN0084	II	1.1D	62
Explosive, blasting, type E	1.1D	UN0241	II	1.1D	62
Explosive, blasting, type E [or] Agent blasting, Type E	1.5D	UN0332	II	1.5D	62
Extracts, aromatic, liquid	3	UN1169	II	3	202
Extracts, aromatic, liquid	3	UN1169	III	3	203
Extracts, flavoring, liquid	3	UN1197	II	3	202
Extracts, flavoring, liquid	3	UN1197	III	3	203
Ferric arsenate	6.1	UN1606	II	6.1	212
Ferric arsenite	6.1	UN1607	II	6.1	212
Ferric chloride, anhydrous	8	UN1773	III	8	213
Ferric chloride, solution	8	UN2582	III	8	203
Ferric nitrate	5.1	UN1466	III	5.1	213
Ferrocerium	4.1	UN1323	II	4.1	212
Ferrosilicon[, with 30 percent or more but less than 90 percent silicon]	4.3	UN1408	III	4.3, 6.1	213
Ferrous arsenate	6.1	UN1608	II	6.1	212
Ferrous chloride, solid	8	NA1759	II	8	212
Ferrous chloride, solution	8	NA1760	II	8	202
Ferrous metal borings [or] Ferrous metal shavings [or] Ferrous metal turnings [or] Ferrous metal cuttings [in a form liable to self-heating]	4.2	UN2793	III	4.2	213
Fertilizer ammoniating solution [with free ammonia]	2.2	UN1043		2.2	304

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Fibers, animal [or] Fibers, vegetable [burnt, wet or damp].	4.2	UN1372	III		213
Fibers, vetetable, dry	4.1	UN3360		4.1	213
Fibers [or] Fabrics, animal [or] vegetable [or] Synthetic, n.o.s. [with animal or vegetable oil]	4.2	UN1373	III	4.2	213
Fibers [or] Fabrics impregnated with weakly nitrated nitrocellulose, n.o.s.	4.1	UN1353	III	4.1	213
Films, nitrocellulose base, [gelatine coated (except scrap)]	4.1	UN1324	III	4.1	183
Fire extinguisher charges, [corrosive liquid]	8	UN1774	II	8	202
Fire extinguishers [containing compressed or liquefied gas]	2.2	UN1044		2.2	309
Firelighters, solid [with flammable liquid]	4.1	UN2623	III	4.1	213
Fireworks	1.1G	UN0333	II	1.1G	62
Fireworks	1.2G	UN0334	II	1.2G	62
Fireworks	1.3G	UN0335	II	1.3G	62
Fireworks	1.4G	UN0336	II	1.4G	62
Fireworks	1.4S	UN0337	II	1.4S	62
First aid kits	9	UN3316		9	161
Fish meal, unstablized [or] Fish scrap, unstabilized	4.2	UN1374	II	4.2	212
Flammable liquid, toxic, corrosive, n.o.s.	3	UN3286	I	3, 6.1, 8	201
Flammable liquid, toxic, corrosive, n.o.s.	3	UN3286	II	3, 6.1, 8	202
Flammable liquids, corrosive, n.o.s.	3	UN2924	I	3, 8	201
Flammable liquids, corrosive, n.o.s.	3	UN2924	II	3, 8	202
Flammable liquids, corrosive, n.o.s.	3	UN2924	III	3, 8	203
Flammable liquids, n.o.s.	3	UN1993	I	3	201
Flammable liquids, n.o.s.	3	UN1993	II	3	202
Flammable liquids, n.o.s.	3	UN1993	III	3	203
Flammable liquids, toxic, n.o.s.	3	UN1992	I	3, 6.1	201
Flammable liquids, toxic, n.o.s.	3	UN1992	II	3, 6.1	202
Flammable liquids, toxic, n.o.s.	3	UN1992	III	3, 6.1	203
Flammable solid, corrosive, inorganic, n.o.s.	4.1	UN3180	II	4.1, 8	212
Flammable solid, corrosive, inorganic, n.o.s.	4.1	UN3180	III	4.1, 8	213
Flammable solid, inorganic, n.o.s.	4.1	UN3178	II	4.1	212
Flammable solid, inorganic, n.o.s.	4.1	UN3178	III	4.1	213
Flammable solid, organic, molten, n.o.s.	4.1	UN3176	II	4.1	212
Flammable solid, organic, molten, n.o.s.	4.1	UN3176	III	4.1	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Flammable solid, oxidizing, n.o.s.	4.1	UN3097	II	4.1, 5.1	214
Flammable solid, oxidizing, n.o.s.	4.1	UN3097	III	4.1, 5.1	214
Flammable solid, toxic, inorganic, n.o.s.	4.1	UN3179	II	4.1, 6.1	212
Flammable solid, toxic, inorganic, n.o.s.	4.1	UN3179	III	4.1, 6.1	213
Flammable solids, corrosive, organic, n.o.s.	4.1	UN2925	II	4.1, 8	212
Flammable solids, corrosive, organic, n.o.s.	4.1	UN2925	III	4.1, 8	213
Flammable solids, organic, n.o.s.	4.1	UN1325	II	4.1	212
Flammable solids, organic, n.o.s.	4.1	UN1325	III	4.1	213
Flammable solids, toxic, organic, n.o.s.	4.1	UN2926	II	4.1, 6.1	212
Flammable solids, toxic, organic, n.o.s.	4.1	UN2926	III	4.1, 6.1	213
Flares, aerial	1.3G	UN0093	II	1.3G	62
Flares, aerial	1.4G	UN0403	II	1.4G	62
Flares, aerial	1.4S	UN0404	II	1.4S	62
Flares, aerial	1.1G	UN0420	II	1.1G	62
Flares, aerial	1.2G	UN0421	II	1.2G	62
Flares, surface	1.3G	UN0092	II	1.3G	62
Flares, surface	1.1G	UN0418	II	1.1G	62
Flares, surface	1.2G	UN0419	II	1.2G	62
Flash powder	1.1G	UN0094	II	1.1G	62
Flash powder	1.3G	UN0305	II	1.3G	62
Fluorine, compressed	2.3	UN1045		2.3, 5.1, 8	302
Fluoroacetic acid	6.1	UN2642	I	6.1	211
Fluoroanilines	6.1	UN2941	III	6.1	203
Fluorobenzene	3	UN2387	II	3	202
Fluoroboric acid	8	UN1775	II	8	202
Fluorophosphoric acid anhydrous	8	UN1776	II	8	202
Fluorosilicates, n.o.s.	6.1	UN2856	III	6.1	213
Fluorosilicic acid	8	UN1778	II	8	202
Fluorosulfonic acid	8	UN1777	I	8	201
Fluorotoluenes	3	UN2388	II	3	202
Formaldehyde, solutions, flammable	3	UN1198	III	3, 8	203
Formaldehyde, solutions, [with not less than 25 percent formaldehyde]	8	UN2209	III	8	203
Formic acid	8	UN1779	II	8	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Fracturing devices, explosive, [without detonators for oil wells]	1.1D	UN0099	II	1.1D	62
Fuel, aviation, turbine engine	3	UN1863	I	3	201
Fuel, aviation, turbine engine	3	UN1863	II	3	202
Fuel, aviation, turbine engine	3	UN1863	III	3	203
Fuel oil [(No. 1, 2, 4, 5, or 6)]	3	NA1993	III	3	203
Fumaryl chloride	8	UN1780	II	8	202
Furaldehydes	6.1	UN1199	II	6.1, 3	202
Furan	3	UN2389	I	3	201
Furfuryl alcohol	6.1	UN2874	III	6.1	203
Furfurylamine	3	UN2526	III	3, 8	203
Fuse, igniter [tubular metal clad]	1.4G	UN0103	II	1.4G	62
Fuse, non-detonating [instantaneous or quickmatch]	1.3G	UN0101	II	1.3G	62
Fuse, safety	1.4S	UN0105	II	1.4S	62
Fusee ([railway or highway])	4.1	NA1325	II	4.1	184
Fusel oil	3	UN1201	II	3	202
Fusel oil	3	UN1201	III	3	203
Fuzes, detonating	1.1B	UN0106	II	1.1B	62
Fuzes, detonating	1.2B	UN0107	II	1.2B	62
Fuzes, detonating	1.4B	UN0257	II	1.4B	62
Fuzes, detonating	1.4S	UN0367	II	1.4S	62
Fuzes, detonating, [with protective features]	1.1D	UN0408	II	1.1D	62
Fuzes, detonating, [with protective features]	1.2D	UN0409	II	1.2D	62
Fuzes, detonating, [with protective features]	1.4D	UN0410	II	1.4D	62
Fuzes, igniting	1.3G	UN0316	II	1.3G	62
Fuzes, igniting	1.4G	UN0317	II	1.4G	62
Fuzes, igniting	1.4S	UN0368	II	1.4S	62
Gallium	8	UN2803	III	8	162
Gas cartridges, [(flammable) without a release device, non-refillable]	2.1	UN2037		2.1	304
Gas generator assemblies (aircraft), [containing a non-flammable non-toxic gas and a propellant cartridge]	2.2			2.2	335
Gas oil	3	UN1202	III	3	203
Gas, refrigerated liquid, flammable, n.o.s. [(cryogenic liquid)]	2.1	UN3312		2.1	316
Gas, refrigerated liquid, n.o.s. [(cryogenic liquid)]	2.2	UN3158		2.2	316
Gas, refrigerated liquid, oxidizing, n.o.s. [(cryogenic liquid)]	2.2	UN3311		2.2, 5.1	316

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Gas sample, non-pressurized, flammable, n.o.s., [not refrigerated liquid]	2.1	UN3167		2.1	302, 304
Gas sample, non-pressurized, toxic, flammable, n.o.s., [not refrigerated liquid]	2.3	UN3168		2.3, 2.1	302
Gas sample, non-pressurized, toxic, n.o.s., [not refrigerated liquid]	2.3	UN3169		2.3	302, 304
Gasohol [gasoline mixed with ethyl alcohol, with not more than 20 percent alcohol]	3	NA1203	II	3	202
Gasoline	3	UN1203	II	3	202
Germane	2.3	UN2192		2.3, 2.1	302
Glycerol alpha-monochlorohydrin	6.1	UN2689	III	6.1	203
Glycidaldehyde	3	UN2622	II	3, 6.1	202
Grenades, [hand or rifle, with bursting charge]	1.1D	UN0284	II	1.1D	62
Grenades, [hand or rifle, with bursting charge]	1.2D	UN0285	II	1.2D	62
Grenades, [hand or rifle, with bursting charge]	1.1F	UN0292	II	1.1F	62
Grenades, [hand or rifle, with bursting charge]	1.2F	UN0293	II	1.2F	62
Grenades, practice, [hand or rifle]	1.4S	UN0110	II	1.4S	62
Grenades, practice, [hand or rifle]	1.3G	UN0318	II	1.3G	62
Grenades, practice, [hand or rifle]	1.2G	UN0372	II	1.2G	62
Grenades practice [Hand or rifle]	1.4G	UN0452	II	1.4G	62
Guanidine nitrate	5.1	UN1467	III	5.1	213
Guanyl nitrosaminoguanylidene hydrazine, wetted [with not less than 30 percent water, by mass]	1.1A	UN0113	II	1.1A	62
Guanyl nitrosaminoguanyltetrazene, wetted [or] Tetrazene, wetted [with not less than 30 percent water or mixture of alcohol and water, by mass]	1.1A	UN0114	II	1.1A	62
Hafnium powder, dry	4.2	UN2545	I	4.2	211
Hafnium powder, dry	4.2	UN2545	II	4.2	212
Hafnium powder, dry	4.2	UN2545	III	4.2	213
Hafnium powder, wetted [with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns]	4.1	UN1326	II	4.1	212

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Hazardous waste, liquid, n.o.s.	9	NA3082	III	9	203
Hazardous waste, solid, n.o.s.	9	NA3077	III	9	213
Heating oil, light	3	UN1202	III	3	203
Helium, compressed	2.2	UN1046		2.2	302
Helium, refrigerated liquid [(cryogenic liquid)]	2.2	UN1963		2.2	316
Heptafluoropropane [or] Refrigerant gas R 227	2.2	UN3296		2.2	304
n-Heptaldehyde	3	UN3056	III	3	203
Heptanes	3	UN1206	II	3	202
n-Heptene	3	UN2278	II	3	202
Hexachloroacetone	6.1	UN2661	III	6.1	203
Hexachlorobenzene	6.1	UN2729	III	6.1	203
Hexachlorobutadiene	6.1	UN2279	III	6.1	203
Hexachlorocyclopentadiene	6.1	UN2646	I	6.1	227
Hexachlorophene	6.1	UN2875	III	6.1	213
Hexadecyltrichlorosilane	8	UN1781	II	8	202
Hexadienes	3	UN2458	II	3	202
Hexaethyl tetraphosphate and compressed gas mixtures	2.3	UN1612		2.3	334
Hexaethyl tetraphosphate, [liquid]	6.1	UN1611	II	6.1	202
Hexaethyl tetraphosphate, [solid]	6.1	UN1611	II	6.1	212
Hexafluoroacetone	2.3	UN2420		2.3, 8	304
Hexafluoroacetone hydrate	6.1	UN2552	II	6.1	202
Hexafluoroethane, [or] Refrigerant gas R 116	2.2	UN2193		2.2	304
Hexafluorophosphoric acid	8	UN1782	II	8	202
Hexafluoropropylene compressed [or] Refrigerant gas R 1216	2.2	UN1858		2.2	304
Hexaldehyde	3	UN1207	III	3	203
Hexamethylene diisocyanate	6.1	UN2281	II	6.1	202
Hexamethylenediamine, solid	8	UN2280	III	8	213
Hexamethylenediamine solution	8	UN1783	II	8	202
Hexamethylenediamine solution	8	UN1783	III	8	203
Hexamethyleneimine	3	UN2493	II	3, 8	202
Hexamethylenetetramine	4.1	UN1328	III	4.1	213
Hexanes	3	UN1208	II	3	202
Hexanitrodiphenylamine [or] Dipicrylamine [or] Hexyl	1.1D	UN0079	II	1.1D	62
Hexanitrostilbene	1.1D	UN0392	II	1.1D	62
Hexanols	3	UN2282	III	3	203
1-Hexene	3	UN2370	II	3	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Hexolite, [or] Hexotol [dry or wetted with less than 15 percent water, by mass]	1.1D	UN0118	II	1.1D	62
Hexotonal	1.1D	UN0393	II	1.1D	62
Hexyltrichlorosilane	8	UN1784	II	8	202
Hydrazine, anhydrous	8	UN2029	I	8, 3, 6.1	201
Hydrazine, aqueous solution [with not more than 37 percent hydrazine, by mass]	6.1	UN3293	III	6.1	203
Hydrazine aqueous solution, [with more than 37% hydrazine, by mass]	8	UN2030	I	8, 6.1	201
Hydrazine aqueous solution, [with more than 37% hydrazine, by mass]	8	UN2030	II	8, 6.1	202
Hydrazine aqueous solution, [with more than 37% hydrazine, by mass]	8	UN2030	III	8, 6.1	203
Hydriodic acid	8	UN1787	II	8	202
Hydriodic acid	8	UN1787	III	8	203
Hydrobromic acid, [with more than 49 percent hydrobromic acid]	8	UN1788	II	8	202
Hydrobromic acid, [with more than 49 percent hydrobromic acid]	8	UN1788	III	8	203
Hydrobromic acid, [with not more than 49 percent hydrobromic acid]	8	UN1788	II	8	202
Hydrobromic acid, [with not more than 49 percent hydrobromic acid]	8	UN1788	III	8	203
Hydrocarbon gas mixture, compressed, n.o.s.	2.1	UN1964		2.1	302
Hydrocarbon gas mixture, liquefied, n.o.s.	2.1	UN1965		2.1	304
Hydrocarbons, liquid, n.o.s.	3	UN3295	I	3	201
Hydrocarbons, liquid, n.o.s.	3	UN3295	II	3	202
Hydrocarbons, liquid, n.o.s.	3	UN3295	III	3	203
Hydrochloric acid	8	UN1789	II	8	202
Hydrochloric acid	8	UN1789	III	8	203
Hydrocyanic acid, aqueous solutions [or] Hydrogen cyanide, aqueous solutions [with not more than 20 percent hydrogen cyanide]	6.1	UN1613	I	6.1	195
Hydrocyanic acid, aqueous solutions [with less than 5 percent hydrogen cyanide]	6.1	NA1613	II	6.1	195
Hydrofluoric acid and Sulfuric acid mixtures	8	UN1786	I	8, 6.1	201
Hydrofluoric acid, [with more than 60 percent strength]	8	UN1790	I	8, 6.1	201
Hydrofluoric acid, [with not more than 60 percent strength]	8	UN1790	II	8, 6.1	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Hydrogen and Methane mixtures, compressed	2.1	UN2034		2.1	302
Hydrogen bromide, anhydrous	2.3	UN1048		2.3, 8	304
Hydrogen chloride, anhydrous	2.3	UN1050		2.3, 8	304
Hydrogen chloride, refrigerated liquid	2.3	UN2186		2.3, 8	None
Hydrogen, compressed	2.1	UN1049		2.1	302
Hydrogen cyanide, solution in alcohol [with not more than 45 percent hydrogen cyanide]	6.1	UN3294	I	6.1, 3	227
Hydrogen cyanide, stabilized [with less than 3 percent water]	6.1	UN1051	I	6.1, 3	195
Hydrogen cyanide, stabilized, [with less than 3 percent water and absorbed in a porous inert material]	6.1	UN1614	I	6.1	195
Hydrogen fluoride, anhydrous	8	UN1052	I	8, 6.1	163
Hydrogen iodide, anhydrous	2.3	UN2197		2.3	304
Hydrogen peroxide and peroxyacetic acid mixtures, stabilized [with acids, water and not more than 5 percent peroxyacetic acid]	5.1	UN3149	II	5.1, 8	202
Hydrogen peroxide, aqueous solutions [with more than 40 percent but not more than 60 percent hydrogen peroxide (stabilized as necessary)]	5.1	UN2014	II	5.1, 8	202
Hydrogen peroxide, aqueous solutions [with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary)]	5.1	UN2014	II	5.1, 8	202
Hydrogen peroxide, aqueous solutions [with not less than 8 percent but less than 20 percent hydrogen peroxide (stabilized as necessary)]	5.1	UN2984	III	5.1	203
Hydrogen peroxide, stabilized [or] Hydrogen peroxide aqueous solutions, stabilized [with more than 60 percent hydrogen peroxide]	5.1	UN2015	I	5.1, 8	201
Hydrogen, refrigerated liquid [(cryogenic liquid)]	2.1	UN1966		2.1	316
Hydrogen selenide, anhydrous	2.3	UN2202		2.3, 2.1	192
Hydrogen sulfide	2.3	UN1053		2.3, 2.1	304
Hydrogendifluorides, n.o.s. [solid]	8	UN1740	II	8	212
Hydrogendifluorides, n.o.s. [solid]	8	UN1740	III	8	213
Hydrogendifluorides, n.o.s. [solutions]	8	UN1740	II	8	202
Hydrogendifluorides, n.o.s. [solutions]	8	UN1740	III	8	203

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Hydroquinone	6.1	UN2662	III	6.1	213
Hydroxylamine sulfate	8	UN2865	III	8	213
Hypochlorite solutions	8	UN1791	II	8	202
Hypochlorite solutions	8	UN1791	III	8	203
Hypochlorites, inorganic, n.o.s.	5.1	UN3212	II	5.1	212
Igniters	1.1G	UN0121	II	1.1G	62
Igniters	1.2G	UN0314	II	1.2G	62
Igniters	1.3G	UN0315	II	1.3G	62
Igniters	1.4G	UN0325	II	1.4G	62
Igniters	1.4S	UN0454	II	1.4S	62
3,3'-Iminodipropylamine	8	UN2269	III	8	203
Infectious substances, affecting animals [only]	6.2	UN2900		6.2	196
Infectious substances, affecting humans	6.2	UN2814		6.2	196
Insecticide gases, n.o.s.	2.2	UN1968		2.2	304
Insecticide gases, flammable, n.o.s.	2.1	UN3354		2.1	304
Insecticide gases, toxic, flammable, n.o.s. [Inhalation hazard Zone A]	2.3	UN3355		2.3, 2.1	192
Insecticide gases, toxic, flammable, n.o.s. [Inhalation hazard Zone B]	2.3	UN3355		2.3, 2.1	302, 305
Insecticide gases, toxic, flammable, n.o.s. [Inhalation hazard Zone C]	2.3	UN3355		2.3, 2.1	302, 305
Insecticide gases, toxic, flammable, n.o.s. [Inhalation hazard Zone D]	2.3	UN3355		2.3, 2.1	302, 305
Insecticide gases, toxic, n.o.s.	2.3	UN1967		2.3	193, 334
Iodine monochloride	8	UN1792	II	8	212
Iodine pentafluoride	5.1	UN2495	I	5.1, 6.1, 8	205
2-Iodobutane	3	UN2390	II	3	202
Iodomethylpropanes	3	UN2391	II	3	202
Iodopropanes	3	UN2392	III	3	203
Iron oxide, spent, [or] Iron sponge, spent [obtained from coal gas purification]	4.2	UN1376	III	4.2	213
Iron pentacarbonyl	6.1	UN1994	I	6.1, 3	226
Isobutane [see also] Petroleum gases, liquefied	2.1	UN1969		2.1	304
Isobutanol [or] Isobutyl alcohol	3	UN1212	III	3	203
Isobutyl acetate	3	UN1213	II	3	202
Isobutyl acrylate, stabilized	3	UN2527	III	3	203

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Isobutyl chloroformate	6.1	NA2742	I	6.1, 3, 8	227
Isobutyl formate	3	UN2393	II	3	202
Isobutyl isobutyrate	3	UN2528	III	3	203
Isobutyl isocyanate	3	UN2486	I	3, 6.1	226
Isobutyl methacrylate, stabilized	3	UN2283	III	3	203
Isobutyl propionate	3	UN2394	III	3	203
Isobutylamine	3	UN1214	II	3, 8	202
Isobutylene [see also] Petroleum gases, liquefied	2.1	UN1055		2.1	304
Isobutyraldehyde [or] Isobutyl aldehyde	3	UN2045	II	3	202
Isobutyric acid	3	UN2529	III	3, 8	203
Isobutyronitrile	3	UN2284	II	3, 6.1	202
Isobutyryl chloride	3	UN2395	II	3, 8	202
Isocyanates, flammable, toxic, n.o.s. [or] Isocyanate solutions, flammable, toxic, n.o.s. [flash point less than 23 degrees C]	3	UN2478	II	3, 6.1	202
Isocyanates, toxic, flammable, n.o.s. [or] Isocyanate solutions, toxic, flammable, n.o.s., [flash point not less than 23 degrees C but not more than 61 degrees C and boiling point less than 300 degrees C]	6.1	UN3080	II	6.1, 3	202
Isocyanates, toxic, n.o.s. [or] Isocyanate solutions, toxic, n.o.s., [flash point more than 61 degrees C and boiling point less than 300 degrees C]	6.1	UN2206	II	6.1	202
Isocyanates, toxic, n.o.s. [or] Isocyanate solutions, toxic, n.o.s., [flash point more than 61 degrees C and boiling point less than 300 degrees C]	6.1	UN2206	III	6.1	203
Isocyanatobenzotrifluorides	6.1	UN2285	II	6.1, 3	202
Isoheptenes	3	UN2287	II	3	202
Isohexenes	3	UN2288	II	3	202
Isooctenes	3	UN1216	II	3	202
Isopentenes	3	UN2371	I	3	201
Isophorone diisocyanate	6.1	UN2290	III	6.1	203
Isophoronediamine	8	UN2289	III	8	203
Isoprene, stabilized	3	UN1218	I	3	201
Isopropanol [or] Isopropyl alcohol	3	UN1219	II	3	202
Isopropenyl acetate	3	UN2403	II	3	202
Isopropenylbenzene	3	UN2303	III	3	203
Isopropyl acetate	3	UN1220	II	3	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Isopropyl acid phosphate	8	UN1793	III	8	213
Isopropyl butyrate	3	UN2405	III	3	203
Isopropyl chloroacetate	3	UN2947	III	3	203
Isopropyl chloroformate	6.1	UN2407	I	6.1, 3, 8	227
Isopropyl 2-chloropropionate	3	UN2934	III	3	203
Isopropyl isobutyrate	3	UN2406	II	3	202
Isopropyl isocyanate	3	UN2483	I	3, 6.1	226
Isopropyl nitrate	3	UN1222	II	3	202
Isopropyl propionate	3	UN2409	II	3	202
Isopropylamine	3	UN1221	I	3, 8	201
Isopropylbenzene	3	UN1918	III	3	203
Isosorbide dinitrate mixture [with not less than 60 percent lactose, mannose, starch or calcium hydrogen phosphate]	4.1	UN2907	II	4.1	212
Isosorbide-5-mononitrate	4.1	UN3251	III	4.1	213
Jet perforating guns, charged oil well, with detonator	1.1D	NA0124	II	1.1D	62
Jet perforating guns, charged oil well, with detonator	1.4D	NA0494	II	1.4D	62
Jet perforating guns, charged [oil well, without detonator]	1.1D	UN0124	II	1.1D	62
Jet perforating guns, charged, [oil well, without detonator]	1.4D	UN0494	II	1.4D	62
Kerosene	3	UN1223	III	3	203
Ketones, liquid, n.o.s.	3	UN1224	I	3	201
Ketones, liquid, n.o.s.	3	UN1224	II	3	202
Ketones, liquid, n.o.s.	3	UN1224	III	3	203
Krypton, compressed	2.2	UN1056		2.2	302
Krypton, refrigerated liquid [(cryogenic liquid)]	2.2	UN1970		2.2	None
Lead acetate	6.1	UN1616	III	6.1	213
Lead arsenates	6.1	UN1617	II	6.1	212
Lead arsenites	6.1	UN1618	II	6.1	212
Lead azide, wetted [with not less than 20 percent water or mixture of alcohol and water, by mass]	1.1A	UN0129	II	1.1A	62
Lead compounds, soluble, n.o.s.	6.1	UN2291	III	6.1	213
Lead cyanide	6.1	UN1620	II	6.1	212
Lead dioxide	5.1	UN1872	III	5.1	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Lead nitrate	5.1	UN1469	II	5.1, 6.1	212
Lead perchlorate, solid	5.1	UN1470	II	5.1, 6.1	212
Lead perchlorate, solution	5.1	UN1470	II	5.1, 6.1	202
Lead phosphite, dibasic	4.1	UN2989	II	4.1	212
Lead phosphite, dibasic	4.1	UN2989	III	4.1	213
Lead styphnate, wetted [or] Lead trinitroresorcinate, wetted [with not less than 20 percent water or mixture of alcohol and water, by mass]	1.1A	UN0130	II	1.1A	62
Lead sulfate [with more than 3 percent free acid]	8	UN1794	II	8	212
Lighters, fuse	1.4S	UN0131	II	1.4S	62
Lighters [or] Lighter refills [containing flammable gas]	2.1	UN1057		2.1	21, 308
Liquefied gas, flammable, n.o.s.	2.1	UN3161		2.1	304
Liquefied gas, n.o.s.	2.2	UN3163		2.2	304
Liquefied gas, oxidizing, n.o.s.	2.2	UN3157		2.2, 5.1	304
Liquefied gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone A]	2.3	UN3308		2.3, 8	192
Liquefied gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone B]	2.3	UN3308		2.3, 8	304
Liquefied gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone C]	2.3	UN3308		2.3, 8	304
Liquefied gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone D]	2.3	UN3308		2.3, 8	304
Liquefied gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone A]	2.3	UN3309		2.3, 2.1, 8	192
Liquefied gas toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone B]	2.3	UN3309		2.3, 2.1, 8	304
Liquefied gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone C]	2.3	UN3309		2.3, 2.1, 8	304
Liquefied gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone D]	2.3	UN3309		2.3, 2.1, 8	304
Liquefied gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone A]	2.3	UN3160		2.3, 2.1	192
Liquefied gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone B]	2.3	UN3160		2.3, 2.1	304
Liquefied gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone C]	2.3	UN3160		2.3, 2.1	304

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Liquefied gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone D]	2.3	UN3160		2.3, 2.1	304
Liquefied gas, toxic, n.o.s. [Inhalation Hazard Zone A]	2.3	UN3162		2.3	192
Liquefied gas, toxic, n.o.s. [Inhalation Hazard Zone B]	2.3	UN3162		2.3	304
Liquefied gas, toxic, n.o.s. [Inhalation Hazard Zone C]	2.3	UN3162		2.3	304
Liquefied gas, toxic, n.o.s. [Inhalation Hazard Zone D]	2.3	UN3162		2.3	304
Liquefied gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone A]	2.3	UN3310		2.3, 5.1, 8	192
Liquefied gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone B]	2.3	UN3310		2.3, 5.1, 8	304
Liquefied gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone C]	2.3	UN3310		2.3, 5.1, 8	304
Liquefied gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone D]	2.3	UN3310		2.3, 5.1, 8	304
Liquefied gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone A]	2.3	UN3307		2.3, 5.1	192
Liquefied gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone B]	2.3	UN3307		2.3, 5.1	304
Liquefied gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone C]	2.3	UN3307		2.3, 5.1	304
Liquefied gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone D]	2.3	UN3307		2.3, 5.1	304
Liquefied gases, [non-flammable charged with nitrogen, carbon dioxide or air]	2.2	UN1058		2.2	304
Lithium	4.3	UN1415	I	4.3	211
Lithium alkyls	4.2	UN2445	I	4.2, 4.3	181
Lithium aluminum hydride	4.3	UN1410	I	4.3	211
Lithium aluminum hydride, ethereal	4.3	UN1411	I	4.3, 3	201
Lithium batteries, contained in equipment	9	UN3091	II	9	185
Lithium batteries packed with equipment	9	UN3091	II	9	185
Lithium battery	9	UN3090	II	9	185
Lithium borohydride	4.3	UN1413	I	4.3	211
Lithium ferrosilicon	4.3	UN2830	II	4.3	212
Lithium hydride	4.3	UN1414	I	4.3	211
Lithium hydride, fused solid	4.3	UN2805	II	4.3	212
Lithium hydroxide	8	UN2680	II	8	212
Lithium hydroxide, solution	8	UN2679	II	8	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Lithium hydroxide, solution	8	UN2679	III	8	203
Lithium hypochlorite, dry [with more than 39% available chlorine (8.8% available oxygen) or] Lithium hypochlorite mixtures, dry [with more than 39% available chlorine (8.8% available oxygen)]	5.1	UN1471	II	5.1	212
Lithium nitrate	5.1	UN2722	III	5.1	213
Lithium nitride	4.3	UN2806	I	4.3	211
Lithium peroxide	5.1	UN1472	II	5.1	212
Lithium silicon	4.3	UN1417	II	4.3	212
London purple	6.1	UN1621	II	6.1	212
Magnesium alkyls	4.2	UN3053	I	4.2, 4.3	181
Magnesium aluminum phosphide	4.3	UN1419	I	4.3, 6.1	211
Magnesium arsenate	6.1	UN1622	II	6.1	212
Magnesium bromate	5.1	UN1473	II	5.1	212
Magnesium chlorate	5.1	UN2723	II	5.1	212
Magnesium diamide	4.2	UN2004	II	4.2	212
Magnesium diphenyl	4.2	UN2005	I	4.2	187
Magnesium fluorosilicate	6.1	UN2853	III	6.1	213
Magnesium granules, coated, [particle size not less than 149 microns]	4.3	UN2950	III	4.3	213
Magnesium hydride	4.3	UN2010	I	4.3	211
Magnesium [or] Magnesium alloys [with more than 50 percent magnesium in pellets, turnings or ribbons]	4.1	UN1869	III	4.1	213
Magnesium nitrate	5.1	UN1474	III	5.1	213
Magnesium perchlorate	5.1	UN1475	II	5.1	212
Magnesium peroxide	5.1	UN1476	II	5.1	212
Magnesium phosphide	4.3	UN2011	I	4.3, 6.1	211
Magnesium, powder [or] Magnesium alloys, powder	4.3	UN1418	I	4.3, 4.2	211
Magnesium, powder [or] Magnesium alloys, powder	4.3	UN1418	II	4.3, 4.2	212
Magnesium, powder [or] Magnesium alloys, powder	4.3	UN1418	III	4.3, 4.2	213
Magnesium silicide	4.3	UN2624	II	4.3	212
Maleic anhydride	8	UN2215	III	8	213
Malononitrile	6.1	UN2647	II	6.1	212

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Maneb [or] Maneb preparations [with not less than 60 percent maneb]	4.2	UN2210	III	4.2, 4.3	213
Maneb stabilized [or] Maneb preparations, stabilized [against self-heating]	4.3	UN2968	III	4.3	213
Manganese nitrate	5.1	UN2724	III	5.1	213
Manganese resinate	4.1	UN1330	III	4.1	213
Mannitol hexanitrate, wetted [or] Nitromannite, wetted [with not less than 40 percent water, or mixture of alcohol and water, by mass]	1.1D	UN0133	II	1.1D	62
Matches, fusee	4.1	UN2254	III	4.1	186
Matches, safety [(book, card or strike on box)]	4.1	UN1944	III	4.1	186
Matches, strike anywhere	4.1	UN1331	III	4.1	186
Matches, wax, Vesta	4.1	UN1945	III	4.1	186
Medicine, liquid, flammable, toxic, n.o.s.	3	UN3248	II	3, 6.1	202
Medicine, liquid, flammable, toxic, n.o.s.	3	UN3248	III	3, 6.1	203
Medicine, liquid, toxic, n.o.s.	6.1	UN1851	II	6.1	202
Medicine, liquid, toxic, n.o.s.	6.1	UN1851	III	6.1	203
Medicine, solid, toxic, n.o.s.	6.1	UN3249	II	6.1	212
Medicine, solid, toxic, n.o.s.	6.1	UN3249	III	6.1	213
Mercaptans, liquid, flammable, n.o.s. [or] Mercaptan mixture, liquid, flammable, n.o.s.	3	UN3336	I	3	201
Mercaptans, liquid, flammable, n.o.s. [or] Mercaptan mixture, liquid, flammable, n.o.s.	3	UN3336	II	3	202
Mercaptans, liquid, flammable, n.o.s. [or] Mercaptan mixture, liquid, flammable, n.o.s.	3	UN3336	III	3	203
Mercaptans, liquid, flammable, toxic, n.o.s. [or] Mercaptan mixtures, liquid, flammable, toxic, n.o.s.	3	UN1228	II	3, 6.1	202
Mercaptans, liquid, flammable, toxic, n.o.s. [or] Mercaptan mixtures, liquid, flammable, toxic, n.o.s.	3	UN1228	III	3, 6.1	203
Mercaptans, liquid, toxic, flammable, n.o.s. [or] Mercaptan mixtures, liquid, toxic, flammable, n.o.s.[, flash point not less than 23 degrees C]	6.1	UN3071	II	6.1, 3	202
5-Mercaptotetrazol-1-acetic acid	1.4C	UN0448	II	1.4C	62
Mercuric arsenate	6.1	UN1623	II	6.1	212
Mercuric chloride	6.1	UN1624	II	6.1	212
Mercuric nitrate	6.1	UN1625	II	6.1	212
Mercuric potassium cyanide	6.1	UN1626	I	6.1	211

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Mercurous nitrate	6.1	UN1627	II	6.1	212
Mercury	8	UN2809	III	8	164
Mercury acetate	6.1	UN1629	II	6.1	212
Mercury ammonium chloride	6.1	UN1630	II	6.1	212
Mercury based pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2778	I	3, 6.1	201
Mercury based pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2778	II	3, 6.1	202
Mercury based pesticides, liquid, toxic	6.1	UN3012	I	6.1	201
Mercury based pesticides, liquid, toxic	6.1	UN3012	II	6.1	202
Mercury based pesticides, liquid, toxic	6.1	UN3012	III	6.1	203
Mercury based pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3011	I	6.1, 3	201
Mercury based pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3011	II	6.1, 3	202
Mercury based pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3011	III	6.1, 3	203
Mercury based pesticides, solid, toxic	6.1	UN2777	I	6.1	211
Mercury based pesticides, solid, toxic	6.1	UN2777	II	6.1	212
Mercury based pesticides, solid, toxic	6.1	UN2777	III	6.1	213
Mercury benzoate	6.1	UN1631	II	6.1	212
Mercury bromides	6.1	UN1634	II	6.1	212
Mercury compounds, liquid, n.o.s.	6.1	UN2024	I	6.1	201
Mercury compounds, liquid, n.o.s.	6.1	UN2024	II	6.1	202
Mercury compounds, liquid, n.o.s.	6.1	UN2024	III	6.1	203
Mercury compounds, solid, n.o.s.	6.1	UN2025	I	6.1	211
Mercury compounds, solid, n.o.s.	6.1	UN2025	II	6.1	212
Mercury compounds, solid, n.o.s.	6.1	UN2025	III	6.1	213
Mercury [contained in manufactured articles]	8	UN2809	III	8	164
Mercury cyanide	6.1	UN1636	II	6.1	212
Mercury fulminate, wetted [with not less than 20 percent water, or mixture of alcohol and water, by mass]	1.1A	UN0135	II	1.1A	62
Mercury gluconate	6.1	UN1637	II	6.1	212
Mercury iodide, [solid]	6.1	UN1638	II	6.1	212
Mercury iodide, [solution]	6.1	UN1638	II	6.1	202
Mercury nucleate	6.1	UN1639	II	6.1	212
Mercury oleate	6.1	UN1640	II	6.1	212

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Mercury oxide	6.1	UN1641	II	6.1	212
Mercury oxycyanide, desensitized	6.1	UN1642	II	6.1	212
Mercury potassium iodide	6.1	UN1643	II	6.1	212
Mercury salicylate	6.1	UN1644	II	6.1	212
Mercury sulfates	6.1	UN1645	II	6.1	212
Mercury thiocyanate	6.1	UN1646	II	6.1	212
Mesityl oxide	3	UN1229	III	3	203
Metal alkyl halides, water-reactive n.o.s. [or] Metal aryl halides, water-reactive, n.o.s.	4.2	UN3049	I	4.2, 4.3	181
Metal alkyl hydrides, water-reactive, n.o.s. [or] Metal aryl hydrides, water-reactive, n.o.s.	4.2	UN3050	I	4.2, 4.3	181
Metal alkyls, water-reactive, n.o.s. [or] Metal aryls, water-reactive n.o.s.	4.2	UN2003	I	4.2, 4.3	181
Metal carbonyls, n.o.s.	6.1	UN3281	I	6.1	201
Metal carbonyls, n.o.s.	6.1	UN3281	II	6.1	202
Metal carbonyls, n.o.s.	6.1	UN3281	III	6.1	203
Metal catalyst, dry	4.2	UN2881	I	4.2	187
Metal catalyst, dry	4.2	UN2881	II	4.2	187
Metal catalyst, dry	4.2	UN2881	III	4.2	187
Metal catalyst, wetted [with a visible excess of liquid]	4.2	UN1378	II	4.2	212
Metal hydrides, flammable, n.o.s.	4.1	UN3182	II	4.1	212
Metal hydrides, flammable, n.o.s.	4.1	UN3182	III	4.1	213
Metal hydrides, water reactive, n.o.s.	4.3	UN1409	I	4.3	211
Metal hydrides, water reactive, n.o.s.	4.3	UN1409	II	4.3	212
Metal powder, self-heating, n.o.s.	4.2	UN3189	II	4.2	212
Metal powder, self-heating, n.o.s.	4.2	UN3189	III	4.2	213
Metal powders, flammable, n.o.s.	4.1	UN3089	II	4.1	212
Metal powders, flammable, n.o.s.	4.1	UN3089	III	4.1	213
Metal salts of organic compounds, flammable, n.o.s.	4.1	UN3181	II	4.1	212
Metal salts of organic compounds, flammable, n.o.s.	4.1	UN3181	III	4.1	213
Metaldehyde	4.1	UN1332	III	4.1	213
Metallic substance, water-reactive, n.o.s.	4.3	UN3208	I	4.3	211
Metallic substance, water-reactive, n.o.s.	4.3	UN3208	II	4.3	212
Metallic substance, water-reactive, n.o.s.	4.3	UN3208	III	4.3	213
Metallic substance, water-reactive, self-heating, n.o.s.	4.3	UN3209	I	4.3, 4.2	211
Metallic substance, water-reactive, self-heating, n.o.s.	4.3	UN3209	II	4.3, 4.2	212

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Metallic substance, water-reactive, self-heating, n.o.s.	4.3	UN3209	III	4.3, 4.2	213
Methacrylaldehyde, stabilized	3	UN2396	II	3, 6.1	202
Methacrylic acid, stabilized	8	UN2531	II	8	202
Methacrylonitrile, stabilized	3	UN3079	I	3, 6.1	227
Methallyl alcohol	3	UN2614	III	3	203
Methane, compressed [or] Natural gas, compressed [(with high methane content)]	2.1	UN1971		2.1	302
Methane, refrigerated liquid [(cryogenic liquid)] [or] Natural gas, refrigerated liquid [(cryogenic liquid), with high methane content)]	2.1	UN1972		2.1	None
Methanesulfonyl chloride	6.1	UN3246	I	6.1, 8	227
Methanol	3	UN1230	II	3, 6.1	202
Methanol	3	UN1230	II	3	202
4-Methoxy-4-methylpentan-2-one	3	UN2293	III	3	203
1-Methoxy-2-propanol	3	UN3092	III	3	203
Methoxymethyl isocyanate	3	UN2605	I	3, 6.1	226
Methyl acetate	3	UN1231	II	3	202
Methyl acetylene and propadiene mixtures, stabilized	2.1	UN1060		2.1	304
Methyl acrylate, stabilized	3	UN1919	II	3	202
Methyl allyl chloride	3	UN2554	II	3	202
Methyl bromide	2.3	UN1062		2.3	193
Methyl bromide and ethylene dibromide mixtures, liquid	6.1	UN1647	I	6.1	227
Methyl bromoacetate	6.1	UN2643	II	6.1	202
2-Methyl-1-butene	3	UN2459	I	3	201
2-Methyl-2-butene	3	UN2460	II	3	202
3-Methyl-1-butene	3	UN2561	I	3	201
Methyl tert-butyl ether	3	UN2398	II	3	202
Methyl butyrate	3	UN1237	II	3	202
Methyl chloride, [or] Refrigerant gas R 40	2.1	UN1063		2.1	304
Methyl chloride and methylene chloride mixtures	2.1	UN1912		2.1	304
Methyl chloroacetate	6.1	UN2295	I	6.1, 3	201
Methyl chloroformate	6.1	UN1238	I	6.1, 3, 8	226
Methyl chloromethyl ether	6.1	UN1239	I	6.1, 3	226
Methyl 2-chloropropionate	3	UN2933	III	3	203
Methyl dichloroacetate	6.1	UN2299	III	6.1	203

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
2-Methyl-5-ethylpyridine	6.1	UN2300	III	6.1	203
Methyl fluoride, [or] Refrigerant gas R 41	2.1	UN2454		2.1	304
Methyl formate	3	UN1243	I	3	201
2-Methyl-2-heptanethiol	6.1	UN3023	I	6.1, 3	227
Methyl iodide	6.1	UN2644	I	6.1	227
Methyl isobutyl carbinol	3	UN2053	III	3	203
Methyl isobutyl ketone	3	UN1245	II	3	202
Methyl isocyanate	6.1	UN2480	I	6.1, 3	226
Methyl isopropenyl ketone, stabilized	3	UN1246	II	3	202
Methyl isothiocyanate	6.1	UN2477	I	6.1, 3	227
Methyl isovalerate	3	UN2400	II	3	202
Methyl magnesium bromide, in ethyl ether	4.3	UN1928	I	4.3, 3	201
Methyl mercaptan	2.3	UN1064		2.3, 2.1	304
Methyl methacrylate monomer, stabilized	3	UN1247	II	3	202
Methyl orthosilicate	6.1	UN2606	I	6.1, 3	227
Methyl phosphonic dichloride	6.1	NA9206	I	6.1, 8	227
Methyl phosphonous dichloride, [pyrophoric liquid]	6.1	NA2845	I	6.1, 4.2	227
Methyl propionate	3	UN1248	II	3	202
Methyl propyl ether	3	UN2612	II	3	202
Methyl propyl ketone	3	UN1249	II	3	202
Methyl trichloroacetate	6.1	UN2533	III	6.1	203
Methyl vinyl ketone, stabilized	6.1	UN1251	I	6.1, 3, 8	226
Methylal	3	UN1234	II	3	202
Methylamine, anhydrous	2.1	UN1061		2.1	304
Methylamine, aqueous solution	3	UN1235	II	3, 8	202
Methylamyl acetate	3	UN1233	III	3	203
N-Methylaniline	6.1	UN2294	III	6.1	203
alpha-Methylbenzyl alcohol	6.1	UN2937	III	6.1	203
3-Methylbutan-2-one	3	UN2397	II	3	202
N-Methylbutylamine	3	UN2945	II	3, 8	202
Methylchlorosilane	2.3	UN2534		2.3, 2.1, 8	226
Methylcyclohexane	3	UN2296	II	3	202
Methylcyclohexanols, [flammable]	3	UN2617	III	3	203
Methylcyclohexanone	3	UN2297	III	3	203
Methylcyclopentane	3	UN2298	II	3	202
Methyldichloroarsine	6.1	NA1556	I	6.1	192

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Methyldichlorosilane	4.3	UN1242	I	4.3, 8, 3	201
2-Methlybutanal	3	UN3371	II		202
2-Methylfuran	3	UN2301	II	3	202
5-Methylhexan-2-one	3	UN2302	III	3	203
Methylhydrazine	6.1	UN1244	I	6.1, 3, 8	226
4-Methylmorpholine [or] n-methylmorpholine	3	UN2535	II	3, 8	202
Methylpentadienes	3	UN2461	II	3	202
2-Methylpentan-2-ol	3	UN2560	III	3	203
Methylphenyldichlorosilane	8	UN2437	II	8	202
1-Methylpiperidine	3	UN2399	II	3, 8	202
Methyltetrahydrofuran	3	UN2536	II	3	202
Methyltrichlorosilane	3	UN1250	I	3, 8	201
alpha-Methylvaleraldehyde	3	UN2367	II	3	202
Mines [with bursting charge]	1.1F	UN0136	II	1.1F	62
Mines [with bursting charge]	1.1D	UN0137	II	1.1D	62
Mines [with bursting charge]	1.2D	UN0138	II	1.2D	62
Mines [with bursting charge]	1.2F	UN0294	II	1.2F	62
Model rocket motor	1.4C	NA0276	II	1.4C	62
Model rocket motor	1.4S	NA0323	II	1.4S	62
Molybdenum pentachloride	8	UN2508	III	8	213
Morpholine	8	UN2054	I	8, 3	201
Motor fuel anti-knock mixtures	6.1	UN1649	I	6.1, 3	201
Naphthalene, crude [or] Naphthalene, refined	4.1	UN1334	III	4.1	213
beta-Naphthylamine	6.1	UN1650	II	6.1	212
alpha-Naphthylamine	6.1	UN2077	III	6.1	213
Naphthalene, molten	4.1	UN2304	III	4.1	213
Naphthylthiourea	6.1	UN1651	II	6.1	212
Naphthylurea	6.1	UN1652	II	6.1	212
Neon, compressed	2.2	UN1065		2.2	302
Neon, refrigerated liquid [(cryogenic liquid)]	2.2	UN1913		2.2	316
Nickel carbonyl	6.1	UN1259	I	6.1, 3	198
Nickel cyanide	6.1	UN1653	II	6.1	212
Nickel nitrate	5.1	UN2725	III	5.1	213
Nickel nitrite	5.1	UN2726	III	5.1	213
Nicotine	6.1	UN1654	II	6.1	202
Nicotine compounds, liquid, n.o.s. [or] Nicotine preparations, liquid, n.o.s.	6.1	UN3144	I	6.1	201

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Nicotine compounds, liquid, n.o.s. [or] Nicotine preparations, liquid, n.o.s.	6.1	UN3144	II	6.1	202
Nicotine compounds, liquid, n.o.s. [or] Nicotine preparations, liquid, n.o.s.	6.1	UN3144	III	6.1	203
Nicotine compounds, solid, n.o.s. [or] Nicotine preparations, solid, n.o.s.	6.1	UN1655	I	6.1	211
Nicotine compounds, solid, n.o.s. [or] Nicotine preparations, solid, n.o.s.	6.1	UN1655	II	6.1	212
Nicotine compounds, solid, n.o.s. [or] Nicotine preparations, solid, n.o.s.	6.1	UN1655	III	6.1	213
Nicotine hydrochloride [or] Nicotine hydrochloride solution	6.1	UN1656	II	6.1	202
Nicotine salicylate	6.1	UN1657	II	6.1	212
Nicotine sulfate, [solid]	6.1	UN1658	II	6.1	212
Nicotine sulfate, [solution]	6.1	UN1658	II	6.1	202
Nicotine tartrate	6.1	UN1659	II	6.1	212
Nitrates, inorganic, aqueous solution, n.o.s.	5.1	UN3218	II	5.1	202
Nitrates, inorganic, aqueous solution, n.o.s.	5.1	UN3218	III	5.1	203
Nitrates, inorganic, n.o.s.	5.1	UN1477	II	5.1	212
Nitrates, inorganic, n.o.s.	5.1	UN1477	III	5.1	213
Nitric acid, red fuming	8	UN2032	I	8, 5.1, 6.1	227
Nitric oxide, compressed	2.3	UN1660		2.3, 5.1, 8	337
Nitric oxide and dinitrogen tetroxide mixtures [or] Nitric oxide and nitrogen dioxide mixtures	2.3	UN1975		2.3, 5.1, 8	337
Nitriles, flammable, toxic, n.o.s.	3	UN3273	I	3, 6.1	201
Nitriles, flammable, toxic, n.o.s.	3	UN3273	II	3, 6.1	202
Nitriles, toxic, flammable, n.o.s.	6.1	UN3275	I	6.1, 3	201
Nitriles, toxic, flammable, n.o.s.	6.1	UN3275	II	6.1, 3	202
Nitriles, toxic, n.o.s.	6.1	UN3276	I	6.1	201
Nitriles, toxic, n.o.s.	6.1	UN3276	II	6.1	202
Nitriles, toxic, n.o.s.	6.1	UN3276	III	6.1	203
Nitrites, inorganic, aqueous solution, n.o.s.	5.1	UN3219	II	5.1	202
Nitrites, inorganic, aqueous solution, n.o.s.	5.1	UN3219	III	5.1	203
Nitrites, inorganic, n.o.s.	5.1	UN2627	II	5.1	212
3-Nitro-4-chlorobenzotrifluoride	6.1	UN2307	II	6.1	202
Nitro urea	1.1D	UN0147	II	1.1D	62
Nitroanilines ([o-; m-; p-;])	6.1	UN1661	II	6.1	212
Nitroanisole	6.1	UN2730	III	6.1	213
Nitrobenzene	6.1	UN1662	II	6.1	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Nitrobenzenesulfonic acid	8	UN2305	II	8	202
5-Nitrobenzotriazol	1.1D	UN0385	II	1.1D	62
Nitrobenzotrifluorides	6.1	UN2306	II	6.1	202
Nitrobromobenzenes [liquid]	6.1	UN2732	III	6.1	203
Nitrobromobenzenes [solid]	6.1	UN2732	III	6.1	213
Nitrocellulose, [dry or wetted with less than 25 percent water (or alcohol), by mass]	1.1D	UN0340	II	1.1D	62
Nitrocellulose membrane filters, [with not more than 12.6% nitrogen, by dry mass]	4.1	UN3270	II	4.1	212
Nitrocellulose, plasticized [with not less than 18 percent plasticizing substance, by mass]	1.3C	UN0343	II	1.3C	62
Nitrocellulose, solution, flammable [with not more than 12.6 percent nitrogen, by mass, and not more than 55 percent nitrocellulose]	3	UN2059	II	3	202
Nitrocellulose, solution, flammable [with not more than 12.6 percent nitrogen, by mass, and not more than 55 percent nitrocellulose]	3	UN2059	III	3	203
Nitrocellulose, [unmodified or plasticized with less than 18 percent plasticizing substance, by mass]	1.1D	UN0341	II	1.1D	62
Nitrocellulose, wetted [with not less than 25 percent alcohol, by mass]	1.3C	UN0342	II	1.3C	62
Nitrocellulose with alcohol [with not less than 25 percent alcohol by mass, and with not more than 12.6 percent nitrogen, by dry mass]	4.1	UN2556	II	4.1	212
Nitrocellulose, [with not more than 12.6 percent nitrogen, by dry mass, or] Nitrocellulose mixture with pigment [or] Nitrocellulose mixture with plasticizer [or] Nitrocellulose mixture with pigment and plasticizer	4.1	UN2557	II	4.1	212
Nitrocellulose with water [with not less than 25 percent water, by mass]	4.1	UN2555	II	4.1	212
Nitrocresols	6.1	UN2446	III	6.1	213
Nitroethane	3	UN2842	III	3	203
Nitrogen, compressed	2.2	UN1066		2.2	302
Nitrogen, refrigerated liquid [cryogenic liquid]	2.2	UN1977		2.2	316
Nitrogen trifluoride	2.2	UN2451		2.2, 5.1	302
Nitrogen trioxide	2.3	UN2421		2.3, 5.1, 8	336

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Nitroglycerin, desensitized [with not less than 40 percent non-volatile water insoluble phlegmatizer, by mass]	1.1D	UN0143	II	1.1D, 6.1	62
Nitroglycerin mixture, desensitized, liquid, flammable, n.o.s. [with not more than 30 percent nitroglycerin, by mass]	3	UN3343		3	214
Nitroglycerin mixture, desensitized, liquid, n.o.s. [with not more than 30% nitroglycerin, by mass]	3	UN3357	II	3	202
Nitroglycerin mixture, desensitized, solid, n.o.s. [with more than 2 percent but not more than 10 percent nitroglycerin, by mass]	4.1	UN3319	II	4.1	None
Nitroglycerin, solution in alcohol, [with more than 1 percent but not more than 5 percent nitroglycerin]	3	UN3064	II	3	202
Nitroglycerin, solution in alcohol, [with more than 1 percent but not more than 10 percent nitrogylcerin]	1.1D	UN0144	II	1.1D	62
Nitroglycerin solution in alcohol [with not more than 1 percent nitroglycerin]	3	UN1204	II	3	202
Nitroguanidine [or] Picrite, [dry or wetted with less than 20 percent water, by mass]	1.1D	UN0282	II	1.1D	62
Nitroguanidine, wetted [or] Picrite, wetted [with not less than 20 percent water, by mass]	4.1	UN1336	I	4.1	211
Nitrohydrochloric acid	8	UN1798	I	8	201
Nitromethane	3	UN1261	II	3	202
Nitronaphthalene	4.1	UN2538	III	4.1	213
4-Nitrophenylhydrazine, [with not less than 30% water, by mass]	4.1	UN3376	I	4.1	211
Nitrophenols ([o-; m-; p-;])	6.1	UN1663	III	6.1	213
Nitropropanes	3	UN2608	III	3	203
p-Nitrosodimethylaniline	4.2	UN1369	II	4.2	212
Nitrostarch, [dry or wetted with less than 20 percent water, by mass]	1.1D	UN0146	II	1.1D	62
Nitrostarch, wetted [with not less than 20 percent water, by mass]	4.1	UN1337	I	4.1	211
Nitrosyl chloride	2.3	UN1069		2.3, 8	304
Nitrosylsulfuric acid	8	UN2308	II	8	202
Nitrotoluenes, [liquid] [o-; m-; p-;]	6.1	UN1664	II	6.1	202
Nitrotoluenes, [solid] [m-, or p-]	6.1	UN1664	II	6.1	212
Nitrotoluidines (mono)	6.1	UN2660	III	6.1	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Nitrotriazolone [or] NTO	1.1D	UN0490	II	1.1D	62
Nitrous oxide	2.2	UN1070		2.2, 5.1	304
Nitrous oxide, refrigerated liquid	2.2	UN2201		2.2, 5.1	304
Nitroxylenes, (o-; m-; p-)	6.1	UN1665	II	6.1	202
Nonanes	3	UN1920	III	3	203
Nonyltrichlorosilane	8	UN1799	II	8	202
Octadecyltrichlorosilane	8	UN1800	II	8	202
Octadiene	3	UN2309	II	3	202
Octafluorobut-2-ene [or] Refrigerant gas R 1318	2.2	UN2422		2.2	304
Octafluorocyclobutane, [or] Refrigerant gas RC 318	2.2	UN1976		2.2	304
Octafluoropropane[or] Refrigerant gas R 218	2.2	UN2424		2.2	304
Octanes	3	UN1262	II	3	202
Octolite [or] Octol, [dry or wetted with less than 15 percent water, by mass]	1.1D	UN0266	II	1.1D	62
Octonal	1.1D	UN0496		1.1D	62
Octyl aldehydes	3	UN1191	III	3	203
Octyltrichlorosilane	8	UN1801	II	8	202
Oil gas, compressed	2.3	UN1071		2.3, 2.1	304
Organic peroxide type B, liquid	5.2	UN3101	II	5.2, 1	225
Organic peroxide type B, liquid, temperature controlled	5.2	UN3111	II	5.2, 1	225
Organic peroxide type B, solid	5.2	UN3102	II	5.2, 1	225
Organic peroxide type B, solid, temperature controlled	5.2	UN3112	II	5.2, 1	225
Organic peroxide type C, liquid	5.2	UN3103	II	5.2	225
Organic peroxide type C, liquid, temperature controlled	5.2	UN3113	II	5.2	225
Organic peroxide type C, solid	5.2	UN3104	II	5.2	225
Organic peroxide type C, solid, temperature controlled	5.2	UN3114	II	5.2	225
Organic peroxide type D, liquid	5.2	UN3105	II	5.2	225
Organic peroxide type D, liquid, temperature controlled	5.2	UN3115	II	5.2	225
Organic peroxide type D, solid	5.2	UN3106	II	5.2	225
Organic peroxide type D, solid, temperature controlled	5.2	UN3116	II	5.2	225
Organic peroxide type E, liquid	5.2	UN3107	II	5.2	225

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Organic peroxide type E, liquid, temperature controlled	5.2	UN3117	II	5.2	225
Organic peroxide type E, solid	5.2	UN3108	II	5.2	225
Organic peroxide type E, solid, temperature controlled	5.2	UN3118	II	5.2	225
Organic peroxide type F, liquid	5.2	UN3109	II	5.2	225
Organic peroxide type F, liquid, temperature controlled	5.2	UN3119	II	5.2	225
Organic peroxide type F, solid	5.2	UN3110	II	5.2	225
Organic peroxide type F, solid, temperature controlled	5.2	UN3120	II	5.2	225
Organic phosphate, mixed with compressed gas [or] Organic phosphate compound, mixed with compressed gas [or] Organic phosphorus compound, mixed with compressed gas	2.3	NA1955		2.3	334
Organic pigments, self-heating	4.2	UN3313	II	4.2	212
Organic pigments, self-heating	4.2	UN3313	III	4.2	213
Organoarsenic compound, n.o.s.	6.1	UN3280	I	6.1	211
Organoarsenic compound, n.o.s.	6.1	UN3280	II	6.1	212
Organoarsenic compound, n.o.s.	6.1	UN3280	III	6.1	213
Organochlorine pesticides liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2762	I	3, 6.1	201
Organochlorine pesticides liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2762	II	3, 6.1	202
Organochlorine pesticides, liquid, toxic	6.1	UN2996	I	6.1	201
Organochlorine pesticides, liquid, toxic	6.1	UN2996	II	6.1	202
Organochlorine pesticides, liquid, toxic	6.1	UN2996	III	6.1	203
Organochlorine pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN2995	I	6.1, 3	201
Organochlorine pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN2995	II	6.1, 3	202
Organochlorine pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN2995	III	6.1, 3	203
Organochlorine pesticides, solid, toxic	6.1	UN2761	I	6.1	211
Organochlorine pesticides, solid, toxic	6.1	UN2761	II	6.1	212
Organochlorine pesticides, solid, toxic	6.1	UN2761	III	6.1	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Organometallic compound [or] Compound solution [or] Compound dispersion, water-reactive, flammable, n.o.s.	4.3	UN3207	I	4.3, 3	201
Organometallic compound [or] Compound solution [or] Compound dispersion, water-reactive, flammable, n.o.s.	4.3	UN3207	II	4.3, 3	202
Organometallic compound [or] Compound solution [or] Compound dispersion, water-reactive, flammable, n.o.s.	4.3	UN3207	III	4.3, 3	203
Organometallic compound, solid, water-reactive, flammable, n.o.s.	4.3	UN3372	I	4.3, 4.1	211
Organometallic compound, solid, water-reactive, flammable, n.o.s.	4.3	UN3372	II	4.3, 4.1	212
Organometallic compound, solid, water-reactive, flammable, n.o.s.	4.3	UN3372	III	4.3, 4.1	213
Organometallic compound, toxic n.o.s.	6.1	UN3282	I	6.1	211
Organometallic compound, toxic n.o.s.	6.1	UN3282	II	6.1	212
Organometallic compound, toxic n.o.s.	6.1	UN3282	III	6.1	213
Organophosphorus compound, toxic, flammable, n.o.s.	6.1	UN3279	I	6.1, 3	201
Organophosphorus compound, toxic, flammable, n.o.s.	6.1	UN3279	II	6.1, 3	202
Organophosphorus compound, toxic n.o.s.	6.1	UN3278	I	6.1	201
Organophosphorus compound, toxic n.o.s.	6.1	UN3278	II	6.1	202
Organophosphorus compound, toxic n.o.s.	6.1	UN3278	III	6.1	203
Organophosphorus pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2784	I	3, 6.1	201
Organophosphorus pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2784	II	3, 6.1	202
Organophosphorus pesticides, liquid, toxic	6.1	UN3018	I	6.1	201
Organophosphorus pesticides, liquid, toxic	6.1	UN3018	II	6.1	202
Organophosphorus pesticides, liquid, toxic	6.1	UN3018	III	6.1	203
Organophosphorus pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3017	I	6.1, 3	201
Organophosphorus pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3017	II	6.1, 3	202
Organophosphorus pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3017	III	6.1, 3	203

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Organophosphorus pesticides, solid, toxic	6.1	UN2783	I	6.1	211
Organophosphorus pesticides, solid, toxic	6.1	UN2783	II	6.1	212
Organophosphorus pesticides, solid, toxic	6.1	UN2783	III	6.1	213
Organotin compounds, liquid, n.o.s.	6.1	UN2788	I	6.1	201
Organotin compounds, liquid, n.o.s.	6.1	UN2788	II	6.1	202
Organotin compounds, liquid, n.o.s.	6.1	UN2788	III	6.1	203
Organotin compounds, solid, n.o.s.	6.1	UN3146	I	6.1	211
Organotin compounds, solid, n.o.s.	6.1	UN3146	II	6.1	212
Organotin compounds, solid, n.o.s.	6.1	UN3146	III	6.1	213
Organotin pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2787	I	3, 6.1	201
Organotin pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2787	II	3, 6.1	202
Organotin pesticides, liquid, toxic	6.1	UN3020	I	6.1	201
Organotin pesticides, liquid, toxic	6.1	UN3020	II	6.1	202
Organotin pesticides, liquid, toxic	6.1	UN3020	III	6.1	203
Organotin pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3019	I	6.1, 3	201
Organotin pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3019	II	6.1, 3	202
Organotin pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3019	III	6.1, 3	203
Organotin pesticides, solid, toxic	6.1	UN2786	I	6.1	211
Organotin pesticides, solid, toxic	6.1	UN2786	II	6.1	212
Organotin pesticides, solid, toxic	6.1	UN2786	III	6.1	213
Osmium tetroxide	6.1	UN2471	I	6.1	211
Other regulated substances, liquid, n.o.s.	9	NA3082	III	9	203
Other regulated substances, solid, n.o.s.	9	NA3077	III	9	213
Oxidizing liquid, corrosive, n.o.s.	5.1	UN3098	I	5.1, 8	201
Oxidizing liquid, corrosive, n.o.s.	5.1	UN3098	II	5.1, 8	202
Oxidizing liquid, corrosive, n.o.s.	5.1	UN3098	III	5.1, 8	203
Oxidizing liquid, n.o.s.	5.1	UN3139	I	5.1	201
Oxidizing liquid, n.o.s.	5.1	UN3139	II	5.1	202
Oxidizing liquid, n.o.s.	5.1	UN3139	III	5.1	203
Oxidizing liquid, toxic, n.o.s.	5.1	UN3099	I	5.1, 6.1	201
Oxidizing liquid, toxic, n.o.s.	5.1	UN3099	II	5.1, 6.1	202
Oxidizing liquid, toxic, n.o.s.	5.1	UN3099	III	5.1, 6.1	203
Oxidizing solid, corrosive, n.o.s.	5.1	UN3085	I	5.1, 8	211

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Oxidizing solid, corrosive, n.o.s.	5.1	UN3085	II	5.1, 8	212
Oxidizing solid, corrosive, n.o.s.	5.1	UN3085	III	5.1, 8	213
Oxidizing solid, flammable, n.o.s.	5.1	UN3137	I	5.1, 4.1	214
Oxidizing solid, n.o.s.	5.1	UN1479	I	5.1	211
Oxidizing solid, n.o.s.	5.1	UN1479	II	5.1	212
Oxidizing solid, n.o.s.	5.1	UN1479	III	5.1	213
Oxidizing solid, self-heating, n.o.s.	5.1	UN3100	II	5.1, 4.2	214
Oxidizing solid, toxic, n.o.s.	5.1	UN3087	I	5.1, 6.1	211
Oxidizing solid, toxic, n.o.s.	5.1	UN3087	II	5.1, 6.1	212
Oxidizing solid, toxic, n.o.s.	5.1	UN3087	III	5.1, 6.1	213
Oxidizing solid, water-reactive, n.o.s.	5.1	UN3121		5.1, 4.3	214
Oxygen, compressed	2.2	UN1072		2.2, 5.1	302
Oxygen difluoride, compressed	2.3	UN2190		2.3, 5.1, 8	304
Oxygen generator, chemical [(including when contained in associated equipment, e.g., passenger service units (PSUs), portable breathing equipment (PBE), etc).]	5.1	UN3356	II	5.1	212
Oxygen generator, chemical, spent	9	NA3356	III	9	213
Oxygen, refrigerated liquid [(cryogenic liquid)]	2.2	UN1073		2.2, 5.1	316
Paint [including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler, and liquid lacquer base]	3	UN1263	I	3	201
Paint [including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler, and liquid lacquer base]	3	UN1263	II	3	173
Paint [including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler, and liquid lacquer base]	3	UN1263	III	3	173
Paint [or] Paint related material	8	UN3066	II	8	173
Paint [or] Paint related material	8	UN3066	III	8	173
Paint related material [including paint thinning, drying, removing, or reducing compound]	3	UN1263	I	3	201

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Paint related material [including paint thinning, drying, removing, or reducing compound]	3	UN1263	II	3	173
Paint related material [including paint thinning, drying, removing, or reducing compound]	3	UN1263	III	3	173
Paper, unsaturated oil treated [incompletely dried (including carbon paper)]	4.2	UN1379	III	4.2	213
Paraformaldehyde	4.1	UN2213	III	4.1	213
Paraldehyde	3	UN1264	III	3	203
Parathion and compressed gas mixture	2.3	NA1967		2.3	334
Pentaborane	4.2	UN1380	I	4.2, 6.1	205
Pentachloroethane	6.1	UN1669	II	6.1	202
Pentachlorophenol	6.1	UN3155	II	6.1	212
Pentaerythrite tetranitrate mixture, desensitized, solid, n.o.s. [with more than 10 percent but not more than 20 percent PETN, by mass]	4.1	UN3344	II	4.1	214
Pentaerythrite tetranitrate [or] Pentaerythritol tetranitrate [or] PETN, [with not less than 7 percent wax by mass]	1.1D	UN0411	II	1.1D	62
Pentaerythrite tetranitrate, wetted [or] Pentaerythritol tetranitrate, wetted, [or] PETN, wetted [with not less than 25 percent water, by mass, or] Pentaerythrite tetranitrate, [or] Pentaerythritol tetranitrate [or] PETN, desensitized [with not less than 15 percent phlegmatizer by mass]	1.1D	UN0150	II	1.1D	62
Pentafluoroethane [or] Refrigerant gas R 125	2.2	UN3220		2.2	304
Pentamethylheptane	3	UN2286	III	3	203
Pentane-2,4-dione	3	UN2310	III	3, 6.1	203
Pentanes	3	UN1265	I	3	201
Pentanes	3	UN1265	II	3	202
Pentanols	3	UN1105	II	3	202
Pentanols	3	UN1105	III	3	203
1-Pentene [(n-amylene)]	3	UN1108	I	3	201
1-Pentol	8	UN2705	II	8	202
Pentolite, [dry or wetted with less than 15 percent water, by mass]	1.1D	UN0151	II	1.1D	62
Perchlorates, inorganic, aqueous solution, n.o.s.	5.1	UN3211	II	5.1	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Perchlorates, inorganic, aqueous solution, n.o.s.	5.1	UN3211	III	5.1	202
Perchlorates, inorganic, n.o.s.	5.1	UN1481	II	5.1	212
Perchlorates, inorganic, n.o.s.	5.1	UN1481	III	5.1	213
Perchloric acid [with more than 50 percent but not more than 72 percent acid, by mass]	5.1	UN1873	I	5.1, 8	201
Perchloric acid [with not more than 50 percent acid by mass]	8	UN1802	II	8, 5.1	202
Perchloromethyl mercaptan	6.1	UN1670	I	6.1	227
Perchloryl fluoride	2.3	UN3083		2.3, 5.1	302
Perfluoro(ethyl vinyl ether)	2.1	UN3154		2.1	302, 304
Perfluoro(methyl vinyl ether)	2.1	UN3153		2.1	302, 304
Perfumery products [with flammable solvents]	3	UN1266	II	3	202
Perfumery products [with flammable solvents]	3	UN1266	III	3	203
Permanganates, inorganic, aqueous solution, n.o.s.	5.1	UN3214	II	5.1	202
Permanganates, inorganic, n.o.s.	5.1	UN1482	II	5.1	212
Permanganates, inorganic, n.o.s.	5.1	UN1482	III	5.1	213
Peroxides, inorganic, n.o.s.	5.1	UN1483	II	5.1	212
Peroxides, inorganic, n.o.s.	5.1	UN1483	III	5.1	213
Persulfates, inorganic, aqueous solution, n.o.s.	5.1	UN3216	III	5.1	203
Persulfates, inorganic, n.o.s.	5.1	UN3215	III	5.1	213
Pesticides, liquid, flammable, toxic, [flash point less than 23 degrees C]	3	UN3021	I	3, 6.1	201
Pesticides, liquid, flammable, toxic, [flash point less than 23 degrees C]	3	UN3021	II	3, 6.1	202
Pesticides, liquid, toxic, flammable, n.o.s. [flash point not less than 23 degrees C]	6.1	UN2903	I	6.1, 3	201
Pesticides, liquid, toxic, flammable, n.o.s. [flash point not less than 23 degrees C]	6.1	UN2903	II	6.1, 3	202
Pesticides, liquid, toxic, flammable, n.o.s. [flash point not less than 23 degrees C]	6.1	UN2903	III	6.1, 3	203
Pesticides, liquid, toxic, n.o.s.	6.1	UN2902	I	6.1	201
Pesticides, liquid, toxic, n.o.s.	6.1	UN2902	II	6.1	202
Pesticides, liquid, toxic, n.o.s.	6.1	UN2902	III	6.1	203
Pesticides, solid, toxic, n.o.s.	6.1	UN2588	I	6.1	211

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Pesticides, solid, toxic, n.o.s.	6.1	UN2588	II	6.1	212
Pesticides, solid, toxic, n.o.s.	6.1	UN2588	III	6.1	213
Petroleum crude oil	3	UN1267	I	3	201
Petroleum crude oil	3	UN1267	II	3	202
Petroleum crude oil	3	UN1267	III	3	203
Petroleum distillates, n.o.s. [or] Petroleum products, n.o.s.	3	UN1268	I	3	201
Petroleum distillates, n.o.s. [or] Petroleum products, n.o.s.	3	UN1268	II	3	202
Petroleum distillates, n.o.s. [or] Petroleum products, n.o.s.	3	UN1268	III	3	203
Petroleum gases, liquefied [or] Liquefied petroleum gas	2.1	UN1075		2.1	304
Petroleum oil	3	NA1270	I	3	201
Petroleum oil	3	NA1270	II	3	202
Petroleum oil	3	NA1270	III	3	203
Phenacyl bromide	6.1	UN2645	II	6.1	212
Phenetidines	6.1	UN2311	III	6.1	203
Phenol, molten	6.1	UN2312	II	6.1	202
Phenol, solid	6.1	UN1671	II	6.1	212
Phenol solutions	6.1	UN2821	II	6.1	202
Phenol solutions	6.1	UN2821	III	6.1	203
Phenolsulfonic acid, liquid	8	UN1803	II	8	202
Phenoxyacetic acid derivative pesticide, liquid, flammable, toxic [flash point less than 23 degrees C.]	3	UN3346	I	3, 6.1	201
Phenoxyacetic acid derivative pesticide, liquid, flammable, toxic [flash point less than 23 degrees C.]	3	UN3346	II	3, 6.1	202
Phenoxyacetic acid derivative pesticide, liquid, toxic	6.1	UN3348	I	6.1	201
Phenoxyacetic acid derivative pesticide, liquid, toxic	6.1	UN3348	II	6.1	202
Phenoxyacetic acid derivative pesticide, liquid, toxic	6.1	UN3348	III	6.1	203
Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3347	I	6.1, 3	201
Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3347	II	6.1, 3	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3347	III	6.1, 3	203
Phenoxyacetic acid derivative pesticide, solid, toxic	6.1	UN3345	I	6.1	211
Phenoxyacetic acid derivative pesticide, solid, toxic	6.1	UN3345	II	6.1	212
Phenoxyacetic acid derivative pesticide, solid, toxic	6.1	UN3345	III	6.1	213
Phenyl chloroformate	6.1	UN2746	II	6.1, 8	202
Phenyl isocyanate	6.1	UN2487	I	6.1, 3	227
Phenyl mercaptan	6.1	UN2337	I	6.1, 3	227
Phenyl phosphorus dichloride	8	UN2798	II	8	202
Phenyl phosphorus thiodichloride	8	UN2799	II	8	202
Phenyl urea pesticides, liquid, toxic	6.1	UN3002	I	6.1	201
Phenyl urea pesticides, liquid, toxic	6.1	UN3002	II	6.1	202
Phenyl urea pesticides, liquid, toxic	6.1	UN3002	III	6.1	203
Phenylacetonitrile, liquid	6.1	UN2470	III	6.1	203
Phenylacetyl chloride	8	UN2577	II	8	202
Phenylcarbylamine chloride	6.1	UN1672	I	6.1	227
Phenylenediamines [(o-, m-, p-)]	6.1	UN1673	III	6.1	213
Phenylhydrazine	6.1	UN2572	II	6.1	202
Phenylmercuric acetate	6.1	UN1674	II	6.1	212
Phenylmercuric compounds, n.o.s.	6.1	UN2026	I	6.1	211
Phenylmercuric compounds, n.o.s.	6.1	UN2026	II	6.1	212
Phenylmercuric compounds, n.o.s.	6.1	UN2026	III	6.1	213
Phenylmercuric hydroxide	6.1	UN1894	II	6.1	212
Phenylmercuric nitrate	6.1	UN1895	II	6.1	212
Phenyltrichlorosilane	8	UN1804	II	8	202
Phosgene	2.3	UN1076		2.3, 8	192
9-Phosphabicyclononanes [or] Cyclooctadiene phosphines	4.2	UN2940	II	4.2	212
Phosphine	2.3	UN2199		2.3, 2.1	192
Phosphoric acid, liquid	8	UN1805	III	8	203
Phosphoric acid, solid	8	UN1805	III	8	213
Phosphorous acid	8	UN2834	III	8	213
Phosphorus, amorphous	4.1	UN1338	III	4.1	213
Phosphorus heptasulfide, [free from yellow or white phosphorus]	4.1	UN1339	II	4.1	212
Phosphorus oxybromide	8	UN1939	II	8	212

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Phosphorus oxybromide, molten	8	UN2576	II	8	202
Phosphorus oxychloride	8	UN1810	II	8, 6.1	227
Phosphorus pentabromide	8	UN2691	II	8	212
Phosphorus pentachloride	8	UN1806	II	8	212
Phosphorus	2.3	UN2198		2.3, 8	302, 304
Phosphorus pentasulfide, [free from yellow or white phosphorus]	4.3	UN1340	II	4.3, 4.1	212
Phosphorus pentoxide	8	UN1807	II	8	212
Phosphorus sesquisulfide, [free from yellow or white phosphorus]	4.1	UN1341	II	4.1	212
Phosphorus tribromide	8	UN1808	II	8	202
Phosphorus trichloride	6.1	UN1809	I	6.1, 8	227
Phosphorus trioxide	8	UN2578	III	8	213
Phosphorus trisulfide, [free from yellow or white phosphorus]	4.1	UN1343	II	4.1	212
Phosphorus, white dry [or] Phosphorus, white, under water [or] Phosphorus white, in solution [or] Phosphorus, yellow dry [or] Phosphorus, yellow, under water [or] Phosphorus, yellow, in solution	4.2	UN1381	I	4.2, 6.1	188
Phosphorus white, molten	4.2	UN2447	I	4.2, 6.1	188
Phthalic anhydride [with more than .05 percent maleic anhydride]	8	UN2214	III	8	213
Picolines	3	UN2313	III	3	203
Pine oil	3	UN1272	III	3	203
alpha-Pinene	3	UN2368	III	3	203
Piperazine	8	UN2579	III	8	213
Piperidine	8	UN2401	I	8, 3	201
Plastic molding compound [in dough, sheet or extruded rope form evolving flammable vapor]	9	UN3314	III	9	221
Plastics, nitrocellulose-based, self-heating, n.o.s.	4.2	UN2006	III	4.2	213
Polychlorinated biphenyls, liquid	9	UN2315	II	9	202
Polychlorinated biphenyls, solid	9	UN2315	II	9	212
Polyester resin kit	3	UN3269		3	225
Polyhalogenated biphenyls, liquid [or] Polyhalogenated terphenyls liquid	9	UN3151	II	9	204
Polyhalogenated biphenyls, solid [or] Polyhalogenated terphenyls, solid	9	UN3152	II	9	204

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Polymeric beads, expandable, [evolving flammable vapor]	9	UN2211	III	9	221
Potassium	4.3	UN2257	I	4.3	211
Potassium arsenate	6.1	UN1677	II	6.1	212
Potassium arsenite	6.1	UN1678	II	6.1	212
Potassium borohydride	4.3	UN1870	I	4.3	211
Potassium bromate	5.1	UN1484	II	5.1	212
Potassium chlorate	5.1	UN1485	II	5.1	212
Potassium chlorate, aqueous solution	5.1	UN2427	II	5.1	202
Potassium chlorate, aqueous solution	5.1	UN2427	III	5.1	203
Potassium cuprocyanide	6.1	UN1679	II	6.1	212
Potassium cyanide	6.1	UN1680	I	6.1	211
Potassium dithionite [or] Potassium hydrosulfite	4.2	UN1929	II	4.2	212
Potassium fluoride	6.1	UN1812	III	6.1	213
Potassium fluoroacetate	6.1	UN2628	I	6.1	211
Potassium fluorosilicate	6.1	UN2655	III	6.1	213
Potassium hydrogen sulfate	8	UN2509	II	8	212
Potassium hydrogendifluoride, [solid]	8	UN1811	II	8, 6.1	212
Potassium hydrogendifluoride, [solution]	8	UN1811	II	8, 6.1	202
Potassium hydroxide, solid	8	UN1813	II	8	212
Potassium hydroxide, solution	8	UN1814	II	8	202
Potassium hydroxide, solution	8	UN1814	III	8	203
Potassium, metal alloys	4.3	UN1420	I	4.3	211
Potassium metavanadate	6.1	UN2864	II	6.1	212
Potassium monoxide	8	UN2033	II	8	212
Potassium nitrate	5.1	UN1486	III	5.1	213
Potassium nitrate and sodium nitrite mixtures	5.1	UN1487	II	5.1	212
Potassium nitrite	5.1	UN1488	II	5.1	212
Potassium perchlorate, solid	5.1	UN1489	II	5.1	212
Potassium perchlorate, solution	5.1	UN1489	II	5.1	202
Potassium permanganate	5.1	UN1490	II	5.1	212
Potassium peroxide	5.1	UN1491	I	5.1	211
Potassium persulfate	5.1	UN1492	III	5.1	213
Potassium phosphide	4.3	UN2012	I	4.3, 6.1	211
Potassium sodium alloys	4.3	UN1422	I	4.3	211
Potassium sulfide, anhydrous [or] Potassium sulfide [with less than 30 percent water of crystallization]	4.2	UN1382	II	4.2	212

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Potassium sulfide, hydrated [with not less than 30 percent water of crystallization]	8	UN1847	II	8	212
Potassium superoxide	5.1	UN2466	I	5.1	211
Powder cake, wetted [or] Powder paste, wetted [with not less than 17 percent alcohol by mass]	1.1C	UN0433	II	1.1C	62
Powder cake, wetted [or] Powder paste, wetted [with not less than 25 percent water, by mass]	1.3C	UN0159	II	1.3C	62
Powder, smokeless	1.1C	UN0160	II	1.1C	62
Powder, smokeless	1.3C	UN0161	II	1.3C	62
Primers, cap type	1.4S	UN0044	II	None	62
Primers, cap type	1.1B	UN0377	II	1.1B	62
Primers, cap type	1.4B	UN0378	II	1.4B	62
Primers, tubular	1.3G	UN0319	II	1.3G	62
Primers, tubular	1.4G	UN0320	II	1.4G	62
Primers, tubular	1.4S	UN0376	II	None	62
Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]	3	UN1210	I	3	173
Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]	3	UN1210	II	3	173
Printing ink, [flammable or] Printing ink related material [(including printing ink thinning or reducing compound), flammable]	3	UN1210	III	3	173
Projectiles, [inert with tracer]	1.4S	UN0345	II	1.4S	62
Projectiles, [inert, with tracer]	1.3G	UN0424	II	1.3G	62
Projectiles, [inert, with tracer]	1.4G	UN0425	II	1.4G	62
Projectiles, [with burster or expelling charge]	1.2D	UN0346	II	1.2D	62
Projectiles, [with burster or expelling charge]	1.4D	UN0347	II	1.4D	62
Projectiles, [with burster or expelling charge]	1.2F	UN0426	II	1.2F	62
Projectiles, [with burster or expelling charge]	1.4F	UN0427	II	1.4F	62
Projectiles, [with burster or expelling charge]	1.2G	UN0434	II	1.2G	62
Projectiles, [with burster or expelling charge]	1.4G	UN0435	II	1.4G	62
Projectiles, [with bursting charge]	1.1F	UN0167	II	1.1F	62
Projectiles, [with bursting charge]	1.1D	UN0168	II	1.1D	62
Projectiles, [with bursting charge]	1.2D	UN0169	II	1.2D	62
Projectiles, [with bursting charge]	1.2F	UN0324	II	1.2F	62
Projectiles, [with bursting charge]	1.4D	UN0344	II	1.4D	62
Propadiene, stabilized	2.1	UN2200		2.1	304

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Propane [see also] Petroleum gases, liquefied	2.1	UN1978		2.1	304
Propanethiols	3	UN2402	II	3	202
n-Propanol [or] Propyl alcohol, normal	3	UN1274	II	3	202
n-Propanol [or] Propyl alcohol, normal	3	UN1274	III	3	203
Propellant, liquid	1.3C	UN0495	II	1.3C	62
Propellant, liquid	1.1C	UN0497	II	1.1C	62
Propellant, solid	1.1C	UN0498	II	1.1C	62
Propellant, solid	1.3C	UN0499	II	1.3C	62
Propellant, solid	1.4C	UN0501		1.4C	62
Propionaldehyde	3	UN1275	II	3	202
Propionic acid	8	UN1848	III	8	203
Propionic anhydride	8	UN2496	III	8	203
Propionitrile	3	UN2404	II	3, 6.1	202
Propionyl chloride	3	UN1815	II	3, 8	202
n-Propyl acetate	3	UN1276	II	3	202
n-Propyl benzene	3	UN2364	III	3	203
1-Chloropropane	3	UN1278	II	3	202
n-Propyl chloroformate	6.1	UN2740	I	6.1, 3, 8	227
Propyl formates	3	UN1281	II	3	202
n-Propyl isocyanate	6.1	UN2482	I	6.1, 3	226
n-Propyl nitrate	3	UN1865	II	3	202
Propylamine	3	UN1277	II	3, 8	202
Propylene [see also] Petroleum gases, liquefied	2.1	UN1077		2.1	304
Propylene chlorohydrin	6.1	UN2611	II	6.1, 3	202
Propylene oxide	3	UN1280	I	3	201
Propylene tetramer	3	UN2850	III	3	203
1,2-Propylenediamine	8	UN2258	II	8, 3	202
Propyleneimine, stabilized	3	UN1921	I	3, 6.1	201
Propyltrichlorosilane	8	UN1816	II	8, 3	202
Pyrethroid pesticide, liquid, flammable, toxic, [flash point less than 23 degrees C]	3	UN3350	I	3, 6.1	201
Pyrethroid pesticide, liquid, flammable, toxic, [flash point less than 23 degrees C]	3	UN3350	II	3, 6.1	202
Pyrethroid pesticide, liquid toxic	6.1	UN3352	I	6.1	211
Pyrethroid pesticide, liquid toxic	6.1	UN3352	II	6.1	212
Pyrethroid pesticide, liquid toxic	6.1	UN3352	III	6.1	213
Pyrethroid pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3351	I	6.1, 3	201

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Pyrethroid pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3351	II	6.1, 3	202
Pyrethroid pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3351	III	6.1, 3	203
Pyrethroid pesticide, solid, toxic	6.1	UN3349	I	6.1	211
Pyrethroid pesticide, solid, toxic	6.1	UN3349	II	6.1	212
Pyrethroid pesticide, solid, toxic	6.1	UN3349	III	6.1	213
Pyridine	3	UN1282	II	3	202
Pyrophoric liquid, inorganic, n.o.s.	4.2	UN3194	I	4.2	181
Pyrophoric liquids, organic, n.o.s.	4.2	UN2845	I	4.2	181
Pyrophoric metals, n.o.s., [or] Pyrophoric alloys, n.o.s.	4.2	UN1383	I	4.2	187
Pyrophoric organometallic compound, water-reactive, n.o.s.	4.2	UN3203	I	4.2, 4.3	187
Pyrophoric solid, inorganic, n.o.s.	4.2	UN3200	I	4.2	187
Pyrophoric solids, organic, n.o.s.	4.2	UN2846	I	4.2	187
Pyrosulfuryl chloride	8	UN1817	II	8	202
Pyrrolidine	3	UN1922	II	3, 8	202
Quinoline	6.1	UN2656	III	6.1	203
Radioactive material, excepted package-articles manufactured from natural [or] depleted uranium [or] natural thorium	7	UN2910		None	422, 426
Radioactive material, excepted package-articles manufactured from natural uranium [or] depleted uranium [or] natural thorium	7	UN2909		None	422, 426
Radioactive material, excepted package-empty package [or] empty packaging	7	UN2910		Empty	428
Radioactive material, excepted package-empty packaging	7	UN2908		Empty	422, 428
Radioactive material, excepted package-instruments [or] articles	7	UN2910		None	422, 424
Radioactive material, excepted package-instruments [or] articles	7	UN2911		None	422, 424
Radioactive material, excepted package-limited quantity of material	7	UN2910		None	421, 422
Radioactive material, uranium hexafluoride [non fissile or fissile-excepted]	7	UN2978		7, 8	420, 427
Radioactive material, uranium hexafluoride, fissile	7	UN2977		7, 8	417, 420
Rags, oily	4.2	UN1856	III	4.2	213
Rare gases and nitrogen mixtures, compressed	2.2	UN1981		2.2	302

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Rare gases and oxygen mixtures, compressed	2.2	UN1980		2.2	302
Rare gases mixtures, compressed	2.2	UN1979		2.2	302
RDX and HMX mixtures, wetted [with not less than 15 percent water by mass] [or] RDX and HMX mixtures, desensitized [with not less than 10 percent phlegmatizer by mass]	1.1D	UN0391	II	1.1D	62
Receptacles, small, containing gas (gas cartridges) [flammable, without release device, not refillable and not exceeding 1 L capacity]	2.1	UN2037		2.1	304
Receptacles, small, containing gas (gas cartridges) [non-flammable, without release device, not refillable and not exceeding 1 L capacity]	2.2	UN2037		2.2	304
Refrigerant gas R 404A	2.2	UN3337		2.2	304
Refrigerant gas R 407A	2.2	UN3338		2.2	304
Refrigerant gas R 407B	2.2	UN3339		2.2	304
Refrigerant gas R 407C	2.2	UN3340		2.2	304
Refrigerant gases, n.o.s.	2.2	UN1078		2.2	304
Refrigerant gases, n.o.s. [or] Dispersant gases, n.o.s.	2.1	NA1954		2.1	304
Refrigerating machines, [containing flammable, non-toxic, liquefied gas]	2.1	UN3358		2.1	306
Refrigerating machines, [containing non-flammable, non-toxic, liquefied or compressed gas or ammonia solution (UN2672)]	2.2	UN2857		2.2	306
Regulated medical waste	6.2	UN3291	II	6.2	197
Release devices, explosive	1.4S	UN0173	II	1.4S	62
Resin solution, [flammable]	3	UN1866	I	3	201
Resin solution, [flammable]	3	UN1866	II	3	173
Resin solution, [flammable]	3	UN1866	III	3	173
Resorcinol	6.1	UN2876	III	6.1	213
Rivets, explosive	1.4S	UN0174	II	1.4S	62
Rocket motors	1.3C	UN0186	II	1.3C	62
Rocket motors	1.1C	UN0280	II	1.1C	62
Rocket motors	1.2C	UN0281	II	1.2C	62
Rocket motors, liquid fueled	1.2J	UN0395	II	1.2J	62
Rocket motors, liquid fueled	1.3J	UN0396	II	1.3J	62

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Rocket motors with hypergolic liquids [with or without an expelling charge]	1.3L	UN0250	II	1.3L	62
Rocket motors with hypergolic liquids [with or without an expelling charge]	1.2L	UN0322	II	1.2L	62
Rockets, line-throwing	1.2G	UN0238	II	1.2G	62
Rockets, line-throwing	1.3G	UN0240	II	1.3G	62
Rockets, line-throwing	1.4G	UN0453	II	1.4G	62
Rockets, liquid fueled [with bursting charge]	1.1J	UN0397	II	1.1J	62
Rockets, liquid fueled [with bursting charge]	1.2J	UN0398	II	1.2J	62
Rockets, [with bursting charge]	1.1F	UN0180	II	1.1F	62
Rockets, [with bursting charge]	1.1E	UN0181	II	1.1E	62
Rockets, [with bursting charge]	1.2E	UN0182	II	1.2E	62
Rockets, [with bursting charge]	1.2F	UN0295	II	1.2F	62
Rockets, [with expelling charge]	1.2C	UN0436	II	1.2C	62
Rockets, [with expelling charge]	1.3C	UN0437	II	1.3C	62
Rockets, [with expelling charge]	1.4C	UN0438	II	1.4C	62
Rockets, [with inert head]	1.3C	UN0183	II	1.3C	62
Rockets, [with inert head]	1.2C	UN0502		1.2C	62
Rosin oil	3	UN1286	II	3	202
Rubber scrap [or] shoddy, [powdered or granulated, not exceeding 840 microns and rubber contend exceeding 45%]	4.1	UN1345	II	4.1	212
Rosin oil	3	UN1286	III	3	203
Rubber solution	3	UN1287	II	3	202
Rubber solution	3	UN1287	III	3	203
Rubidium	4.3	UN1423	I	4.3	211
Rubidium hydroxide	8	UN2678	II	8	212
Rubidium hydroxide solution	8	UN2677	II	8	202
Rubidium hydroxide solution	8	UN2677	III	8	203
Samples, explosive, [other than initiating explosives]		UN0190	II		62
Seed cake, [containing vegetable oil solvent extractions and expelled seeds, with not more than 10 percent of oil and when the amount of moisture is higher than 11 percent, with not more than 20 percent of oil and moisture combined]	4.2	UN1386	III	None	213
Seed cake [with more than 1.5 percent oil and not more than 11 percent moisture]	4.2	UN1386	III	None	213
Seed cake [with not more than 1.5 percent oil and not more than 11 percent moisture]	4.2	UN2217	III	None	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Selenates [or] Selenites	6.1	UN2630	I	6.1	211
Selenic acid	8	UN1905	I	8	211
Selenium compound, n.o.s.	6.1	UN3283	I	6.1	211
Selenium compound, n.o.s.	6.1	UN3283	II	6.1	212
Selenium compound, n.o.s.	6.1	UN3283	III	6.1	213
Selenium disulfide	6.1	UN2657	II	6.1	212
Selenium hexafluoride	2.3	UN2194		2.3, 8	302
Selenium oxychloride	8	UN2879	I	8, 6.1	201
Self-defense spray, non-pressurized	9	NA3334	III	9	203
Self-heating liquid, corrosive, inorganic, n.o.s.	4.2	UN3188	II	4.2, 8	202
Self-heating liquid, corrosive, inorganic, n.o.s.	4.2	UN3188	III	4.2, 8	203
Self-heating liquid, corrosive, organic, n.o.s.	4.2	UN3185	II	4.2, 8	202
Self-heating liquid, corrosive, organic, n.o.s.	4.2	UN3185	III	4.2, 8	203
Self-heating liquid, inorganic, n.o.s.	4.2	UN3186	II	4.2	202
Self-heating liquid, inorganic, n.o.s.	4.2	UN3186	III	4.2	203
Self-heating liquid, organic, n.o.s.	4.2	UN3183	II	4.2	202
Self-heating liquid, organic, n.o.s.	4.2	UN3183	III	4.2	203
Self-heating liquid, toxic, inorganic, n.o.s.	4.2	UN3187	II	4.2, 6.1	202
Self-heating liquid, toxic, inorganic, n.o.s.	4.2	UN3187	III	4.2, 6.1	203
Self-heating liquid, toxic, organic, n.o.s.	4.2	UN3184	II	4.2, 6.1	202
Self-heating liquid, toxic, organic, n.o.s.	4.2	UN3184	III	4.2, 6.1	203
Self-heating solid, corrosive, inorganic, n.o.s.	4.2	UN3192	II	4.2, 8	212
Self-heating solid, corrosive, inorganic, n.o.s.	4.2	UN3192	III	4.2, 8	213
Self-heating, solid, corrosive, organic, n.o.s.	4.2	UN3126	II	4.2, 8	212
Self-heating, solid, corrosive, organic, n.o.s.	4.2	UN3126	III	4.2, 8	213
Self-heating solid, inorganic, n.o.s.	4.2	UN3190	II	4.2	212
Self-heating solid, inorganic, n.o.s.	4.2	UN3190	III	4.2	213
Self-heating, solid, organic, n.o.s.	4.2	UN3088	II	4.2	212
Self-heating, solid, organic, n.o.s.	4.2	UN3088	III	4.2	213
Self-heating, solid, oxidizing, n.o.s.	4.2	UN3127		4.2, 5.1	214
Self-heating solid, toxic, inorganic, n.o.s.	4.2	UN3191	II	4.2, 6.1	212
Self-heating solid, toxic, inorganic, n.o.s.	4.2	UN3191	III	4.2, 6.1	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Self-heating, solid, toxic, organic, n.o.s.	4.2	UN3128	II	4.2, 6.1	212
Self-heating, solid, toxic, organic, n.o.s.	4.2	UN3128	III	4.2, 6.1	213
Self-reactive liquid type B	4.1	UN3221	II	4.1	224
Self-reactive liquid type B, temperature controlled	4.1	UN3231	II	4.1	224
Self-reactive liquid type C	4.1	UN3223	II	4.1	224
Self-reactive liquid type C, temperature controlled	4.1	UN3233	II	4.1	224
Self-reactive liquid type D	4.1	UN3225	II	4.1	224
Self-reactive liquid type D, temperature controlled	4.1	UN3235	II	4.1	224
Self-reactive liquid type E	4.1	UN3227	II	4.1	224
Self-reactive liquid type E, temperature controlled	4.1	UN3237	II	4.1	224
Self-reactive liquid type F	4.1	UN3229	II	4.1	224
Self-reactive liquid type F, temperature controlled	4.1	UN3239	II	4.1	224
Self-reactive solid type B	4.1	UN3222	II	4.1	224
Self-reactive solid type B, temperature controlled	4.1	UN3232	II	4.1	224
Self-reactive solid type C	4.1	UN3224	II	4.1	224
Self-reactive solid type C, temperature controlled	4.1	UN3234	II	4.1	224
Self-reactive solid type D	4.1	UN3226	II	4.1	224
Self-reactive solid type D, temperature controlled	4.1	UN3236	II	4.1	224
Self-reactive solid type E	4.1	UN3228	II	4.1	224
Self-reactive solid type E, temperature controlled	4.1	UN3238	II	4.1	224
Self-reactive solid type F	4.1	UN3230	II	4.1	224
Self-reactive solid type F, temperature controlled	4.1	UN3240	II	4.1	224
Shale oil	3	UN1288	I	3	201
Shale oil	3	UN1288	II	3	202
Shale oil	3	UN1288	III	3	203
Signal devices, hand	1.4G	UN0191	II	1.4G	62
Signal devices, hand	1.4S	UN0373	II	1.4S	62
Signals, distress, [ship]	1.1G	UN0194	II	1.1G	62
Signals, distress, [ship]	1.3G	UN0195	II	1.3G	62
Signals, railway track, explosive	1.1G	UN0192	II	1.1G	62

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Signals, railway track, explosive	1.4S	UN0193	II	1.4S	62
Signals, railway track, explosive	1.3G	UN0492		1.3G	62
Signals, railway track, explosive	1.4G	UN0493		1.4G	62
Signals, smoke	1.1G	UN0196	II	1.1G	62
Signals, smoke	1.4G	UN0197	II	1.4G	62
Signals, smoke	1.2G	UN0313	II	1.2G	62
Signals, smoke	1.3G	UN0487	II	1.3G	62
Silane	2.1	UN2203		2.1	302
Silicon powder, amorphous	4.1	UN1346	III	4.1	213
Silicon tetrachloride	8	UN1818	II	8	202
Silicon tetrafluoride	2.3	UN1859		2.3, 8	302
Silver arsenite	6.1	UN1683	II	6.1	212
Silver cyanide	6.1	UN1684	II	6.1	212
Silver nitrate	5.1	UN1493	II	5.1	212
Silver picrate, wetted [with not less than 30 percent water, by mass]	4.1	UN1347	I	4.1	211
Sludge, acid	8	UN1906	II	8	202
Smokeless powder for small arms ([100 pounds or less])	4.1	NA3178	I	4.1	171
Soda lime [with more than 4 percent sodium hydroxide]	8	UN1907	III	8	213
Sodium	4.3	UN1428	I	4.3	211
Sodium aluminate, solid	8	UN2812	III	8	213
Sodium aluminate, solution	8	UN1819	II	8	202
Sodium aluminate, solution	8	UN1819	III	8	203
Sodium aluminum hydride	4.3	UN2835	II	4.3	212
Sodium ammonium vanadate	6.1	UN2863	II	6.1	212
Sodium arsanilate	6.1	UN2473	III	6.1	213
Sodium arsenate	6.1	UN1685	II	6.1	212
Sodium arsenite, aqueous solutions	6.1	UN1686	II	6.1	202
Sodium arsenite, aqueous solutions	6.1	UN1686	III	6.1	203
Sodium arsenite, solid	6.1	UN2027	II	6.1	212
Sodium azide	6.1	UN1687	II	6.1	212
Sodium borohydride	4.3	UN1426	I	4.3	211
Sodium borohydride and sodium hydroxide solution, [with not more than 12 percent sodium borohydride and not more than 40 percent sodium hydroxide by mass]	8	UN3320	II	8	202
Sodium borohydride and sodium hydroxide solution, [with not more than 12 percent	8	UN3320	III	8	203

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
sodium borohydride and not more than 40 percent sodium hydroxide by mass]					
Sodium bromate	5.1	UN1494	II	5.1	212
Sodium cacodylate	6.1	UN1688	II	6.1	212
Sodium chlorate	5.1	UN1495	II	5.1	212
Sodium chlorate, aqueous solution	5.1	UN2428	II	5.1	202
Sodium chlorate, aqueous solution	5.1	UN2428	III	5.1	203
Sodium chlorite	5.1	UN1496	II	5.1	212
Sodium chloroacetate	6.1	UN2659	III	6.1	213
Sodium cuprocyanide, solid	6.1	UN2316	I	6.1	211
Sodium cuprocyanide, solution	6.1	UN2317	I	6.1	201
Sodium cyanide	6.1	UN1689	I	6.1	211
Sodium dinitro-o-cresolate, [dry or wetted with less than 15 percent water, by mass]	1.3C	UN0234	II	1.3C	62
Sodium dinitro-o-cresolate, wetted [with not less than 10 percent water, by mass]	4.1	UN3369	I	4.1	211
Sodium dinitro-o-cresolate, wetted [with not less than 15 percent water, by mass]	4.1	UN1348	I	4.1, 6.1	211
Sodium dithionite [or] Sodium hydrosulfite	4.2	UN1384	II	4.2	212
Sodium fluoride	6.1	UN1690	III	6.1	213
Sodium fluoroacetate	6.1	UN2629	I	6.1	211
Sodium fluorosilicate	6.1	UN2674	III	6.1	213
Sodium hydride	4.3	UN1427	I	4.3	211
Sodium hydrogendifluoride, [solid]	8	UN2439	II	8	212
Sodium hydrogendifluoride [solution]	8	UN2439	II	8	202
Sodium hydrosulfide, [with less than 25 percent water of crystallization]	4.2	UN2318	II	4.2	212
Sodium hydrosulfide [with not less than 25 percent water of crystallization]	8	UN2949	II	8	212
Sodium hydroxide, solid	8	UN1823	II	8	212
Sodium hydroxide solution	8	UN1824	II	8	202
Sodium hydroxide solution	8	UN1824	III	8	203
Sodium methylate	4.2	UN1431	II	4.2, 8	212
Sodium methylate solutions [in alcohol]	3	UN1289	II	3, 8	202
Sodium methylate solutions [in alcohol]	3	UN1289	III	3, 8	203
Sodium monoxide	8	UN1825	II	8	212
Sodium nitrate	5.1	UN1498	III	5.1	213
Sodium nitrate and potassium nitrate mixtures	5.1	UN1499	III	5.1	213
Sodium nitrite	5.1	UN1500	III	5.1, 6.1	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Sodium pentachlorophenate	6.1	UN2567	II	6.1	212
Sodium perchlorate	5.1	UN1502	II	5.1	212
Sodium permanganate	5.1	UN1503	II	5.1	212
Sodium peroxide	5.1	UN1504	I	5.1	211
Sodium peroxoborate, anhydrous	5.1	UN3247	II	5.1	212
Sodium persulfate	5.1	UN1505	III	5.1	213
Sodium phosphide	4.3	UN1432	I	4.3, 6.1	211
Sodium picramate, [dry or wetted with less than 20 percent water, by mass]	1.3C	UN0235	II	1.3C	62
Sodium picramate, wetted [with not less than 20 percent water, by mass]	4.1	UN1349	I	4.1	211
Sodium sulfide, anhydrous [or] Sodium sulfide [with less than 30 percent water of crystallization]	4.2	UN1385	II	4.2	212
Sodium sulfide, hydrated [with not less than 30 percent water]	8	UN1849	II	8	212
Sodium superoxide	5.1	UN2547	I	5.1	211
Solids containing corrosive liquid, n.o.s.	8	UN3244	II	8	212
Solids containing flammable liquid, n.o.s.	4.1	UN3175	II	4.1	212
Solids containing toxic liquid, n.o.s.	6.1	UN3243	II	6.1	212
Sounding devices, explosive	1.2F	UN0204	II	1.2F	62
Sounding devices, explosive	1.1F	UN0296	II	1.1F	62
Sounding devices, explosive	1.1D	UN0374	II	1.1D	62
Sounding devices, explosive	1.2D	UN0375	II	1.2D	62
Stannic chloride, anhydrous	8	UN1827	II	8	202
Stannic chloride pentahydrate	8	UN2440	III	8	213
Stannic phosphide	4.3	UN1433	I	4.3, 6.1	211
Stibine	2.3	UN2676		2.3, 2.1	304
Strontium arsenite	6.1	UN1691	II	6.1	212
Strontium chlorate	5.1	UN1506	II	5.1	212
Strontium nitrate	5.1	UN1507	III	5.1	213
Strontium perchlorate	5.1	UN1508	II	5.1	212
Strontium peroxide	5.1	UN1509	II	5.1	212
Strontium phosphide	4.3	UN2013	I	4.3, 6.1	211
Strychnine [or] Strychnine salts	6.1	UN1692	I	6.1	211
Styrene monomer, stabilized	3	UN2055	III	3	203
Substances, explosive, n.o.s.	1.1L	UN0357	II	1.1L	62

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Substances, explosive, n.o.s.	1.2L	UN0358	II	1.2L	62
Substances, explosive, n.o.s.	1.3L	UN0359	II	1.3L	62
Substances, explosive, n.o.s.	1.1A	UN0473	II	1.1A	62
Substances, explosive, n.o.s.	1.1C	UN0474	II	1.1C	62
Substances, explosive, n.o.s.	1.1D	UN0475	II	1.1D	62
Substances, explosive, n.o.s.	1.1G	UN0476	II	1.1G	62
Substances, explosive, n.o.s.	1.3C	UN0477	II	1.3C	62
Substances, explosive, n.o.s.	1.3G	UN0478	II	1.3G	62
Substances, explosive, n.o.s.	1.4C	UN0479	II	1.4C	62
Substances, explosive, n.o.s.	1.4D	UN0480	II	1.4D	62
Substances, explosive, n.o.s.	1.4S	UN0481	II	1.4S	62
Substances, explosive, n.o.s.	1.4G	UN0485	II	1.4G	62
Substances, explosive, very insensitive, n.o.s., [or] Substances, EVI, n.o.s.	1.5D	UN0482	II	1.5D	62
Substituted nitrophenol pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2780	I	3, 6.1	201
Substituted nitrophenol pesticides, liquid, flammable, toxic[, flash point less than 23 degrees C]	3	UN2780	II	3, 6.1	202
Substituted nitrophenol pesticides, liquid, toxic	6.1	UN3014	I	6.1	201
Substituted nitrophenol pesticides, liquid, toxic	6.1	UN3014	II	6.1	202
Substituted nitrophenol pesticides, liquid, toxic	6.1	UN3014	III	6.1	203
Substituted nitrophenol pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN3013	I	6.1, 3	201
Substituted nitrophenol pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN3013	II	6.1, 3	202
Substituted nitrophenol pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C]	6.1	UN3013	III	6.1, 3	203
Substituted nitrophenol pesticides, solid, toxic	6.1	UN2779	I	6.1	211
Substituted nitrophenol pesticides, solid, toxic	6.1	UN2779	II	6.1	212
Substituted nitrophenol pesticides, solid, toxic	6.1	UN2779	III	6.1	213
Sulfamic acid	8	UN2967	III	8	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Sulfur	9	NA1350	III	9	None
Sulfur	4.1	UN1350	III	4.1	None
Sulfur chlorides	8	UN1828	I	8	201
Sulfur dioxide	2.3	UN1079		2.3, 8	304
Sulfur hexafluoride	2.2	UN1080		2.2	304
Sulfur, molten	9	NA2448	III	9	213
Sulfur, molten	4.1	UN2448	III	4.1	213
Sulfur tetrafluoride	2.3	UN2418		2.3, 8	302
Sulfur trioxide, stabilized	8	UN1829	I	8, 6.1	227
Sulfuric acid, fuming [with less than 30 percent free sulfur trioxide]	8	UN1831	I	8	201
Sulfuric acid, fuming [with 30 percent or more free sulfur trioxide]	8	UN1831	I	8, 6.1	227
Sulfuric acid, spent	8	UN1832	II	8	202
Sulfuric acid [with more than 51 percent acid]	8	UN1830	II	8	202
Sulfuric acid [with not more than 51% acid]	8	UN2796	II	8	202
Sulfurous acid	8	UN1833	II	8	202
Sulfuryl chloride	8	UN1834	I	8, 6.1	226
Sulfuryl fluoride	2.3	UN2191		2.3	304
Tars, liquid [including road asphalt and oils, bitumen and cut backs]	3	UN1999	II	3	202
Tars, liquid [including road asphalt and oils, bitumen and cut backs]	3	UN1999	III	3	203
Tear gas candles	6.1	UN1700	II	6.1, 4.1	340
Tear gas devices [with more than 2 percent tear gas substances, by mass]	6.1	NA1693	I	6.1	340
Tear gas devices [with more than 2 percent tear gas substances, by mass]	6.1	NA1693	II	6.1	340
Tear gas substances, liquid, n.o.s.	6.1	UN1693	I	6.1	201
Tear gas substances, liquid, n.o.s.	6.1	UN1693	II	6.1	202
Tear gas substances, solid, n.o.s.	6.1	UN1693	I	6.1	211
Tear gas substances, solid, n.o.s.	6.1	UN1693	II	6.1	212
Tellurium compound, n.o.s.	6.1	UN3284	I	6.1	211
Tellurium compound, n.o.s.	6.1	UN3284	II	6.1	212
Tellurium compound, n.o.s.	6.1	UN3284	III	6.1	213
Tellurium hexafluoride	2.3	UN2195		2.3, 8	302
Terpene hydrocarbons, n.o.s.	3	UN2319	III	3	203
Terpinolene	3	UN2541	III	3	203
Tetrabromoethane	6.1	UN2504	III	6.1	203
1,1,2,2-Tetrachloroethane	6.1	UN1702	II	6.1	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Tetrachloroethylene	6.1	UN1897	III	6.1	203
Tetraethyl dithiopyrophosphate	6.1	UN1704	II	6.1	212
Tetraethyl silicate	3	UN1292	III	3	203
Tetraethylenepentamine	8	UN2320	III	8	203
1,1,1,2-Tetrafluoroethane [or] Refrigerant gas R 134a	2.2	UN3159		2.2	304
Tetrafluoroethylene, stabilized	2.1	UN1081		2.1	304
Tetrafluoromethane [or] Refrigerant gas R 14	2.2	UN1982		2.2	302
1,2,3,6-Tetrahydrobenzaldehyde	3	UN2498	III	3	203
Tetrahydrofuran	3	UN2056	II	3	202
Tetrahydrofurfurylamine	3	UN2943	III	3	203
Tetrahydrophthalic anhydrides [with more than 0.05 percent of maleic anhydride]	8	UN2698	III	8	213
1,2,3,6-Tetrahydropyridine	3	UN2410	II	3	202
Tetrahydrothiophene	3	UN2412	II	3	202
Tetramethylammonium hydroxide	8	UN1835	II	8	202
Tetramethylsilane	3	UN2749	I	3	201
Tetranitroaniline	1.1D	UN0207	II	1.1D	62
Tetranitromethane	5.1	UN1510	I	5.1, 6.1	227
Tetrapropylorthotitanate	3	UN2413	III	3	203
Tetrazol-1-acetic acid	1.4C	UN0407	II	1.4C	62
1H-Tetrazole	1.1D	UN0504		1.1D	62
Textile waste, wet	4.2	UN1857	III	4.2	213
Thallium chlorate	5.1	UN2573	II	5.1, 6.1	212
Thallium compounds, n.o.s.	6.1	UN1707	II	6.1	212
Thallium nitrate	6.1	UN2727	II	6.1, 5.1	212
4-Thiapentanal	6.1	UN2785	III	6.1	203
Thioacetic acid	3	UN2436	II	3	202
Thiocarbamate pesticide, liquid, flammable, toxic, [flash point less than 23 degrees C]	3	UN2772	I	3, 6.1	201
Thiocarbamate pesticide, liquid, flammable, toxic, [flash point less than 23 degrees C]	3	UN2772	II	3, 6.1	202
Thiocarbamate pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3005	I	6.1, 3	201
Thiocarbamate pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3005	II	6.1, 3	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Thiocarbamate pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN3005	III	6.1, 3	203
Thiocarbamate pesticide, liquid, toxic	6.1	UN3006	I	6.1	201
Thiocarbamate pesticide, liquid, toxic	6.1	UN3006	II	6.1	202
Thiocarbamate pesticide, liquid, toxic	6.1	UN3006	III	6.1	203
Thiocarbamate pesticides, solid, toxic	6.1	UN2771	I	6.1	211
Thiocarbamate pesticides, solid, toxic	6.1	UN2771	II	6.1	212
Thiocarbamate pesticides, solid, toxic	6.1	UN2771	III	6.1	213
Thioglycol	6.1	UN2966	II	6.1	202
Thioglycolic acid	8	UN1940	II	8	202
Thiolactic acid	6.1	UN2936	II	6.1	202
Thionyl chloride	8	UN1836	I	8	201
Thiophene	3	UN2414	II	3	202
Thiophosgene	6.1	UN2474	II	6.1	227
Thiophosphoryl chloride	8	UN1837	II	8	202
Thiourea dioxide	4.2	UN3341	II	4.2	212
Thiourea dioxide	4.2	UN3341	III	4.2	213
Thorium metal, pyrophoric	7	UN2975		7, 4.2	418
Thorium nitrate, solid	7	UN2976		7, 5.1	419
Tinctures, medicinal	3	UN1293	II	3	202
Tinctures, medicinal	3	UN1293	III	3	203
Titanium disulphide	4.2	UN3174	III	4.2	213
Titanium hydride	4.1	UN1871	II	4.1	212
Titanium powder, dry	4.2	UN2546	I	4.2	211
Titanium powder, dry	4.2	UN2546	II	4.2	212
Titanium powder, dry	4.2	UN2546	III	4.2	213
Titanium powder, wetted [with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns]	4.1	UN1352	II	4.1	212
Titanium sponge granules [or] Titanium sponge powders	4.1	UN2878	III	4.1	213
Titanium tetrachloride	8	UN1838	II	8, 6.1	227
Titanium trichloride mixtures	8	UN2869	II	8	212
Titanium trichloride mixtures	8	UN2869	III	8	213
Titanium trichloride, pyrophoric [or] Titanium trichloride mixtures, pyrophoric	4.2	UN2441	I	4.2, 8	181
Toluene	3	UN1294	II	3	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Toluene diisocyanate	6.1	UN2078	II	6.1	202
Toluidines [liquid]	6.1	UN1708	II	6.1	202
Toluidines [solid]	6.1	UN1708	II	6.1	212
2,4-Toluylenediamine [or] 2,4-Toluenediamine	6.1	UN1709	III	6.1	213
Torpedoes, liquid fueled, [with inert head]	1.3J	UN0450	II	1.3J	62
Torpedoes, liquid fueled, [with or without bursting charge]	1.1J	UN0449	II	1.1J	62
Torpedoes [with bursting charge]	1.1E	UN0329	II	1.1E	62
Torpedoes [with bursting charge]	1.1F	UN0330	II	1.1F	62
Torpedoes [with bursting charge]	1.1D	UN0451	II	1.1D	62
Toxic liquid, corrosive, inorganic, n.o.s.	6.1	UN3289	I	6.1, 8	201
Toxic liquid, corrosive, inorganic, n.o.s.	6.1	UN3289	II	6.1, 8	202
Toxic liquid, corrosive, inorganic, n.o.s. [Inhalation Hazard, Packing Group I, Zone A]	6.1	UN3289	I	6.1, 8	226
Toxic liquid, corrosive, inorganic, n.o.s. [Inhalation Hazard, Packing Group I, Zone B]	6.1	UN3289	I	6.1, 8	227
Toxic liquid, inorganic, n.o.s.	6.1	UN3287	I	6.1	201
Toxic liquid, inorganic, n.o.s.	6.1	UN3287	II	6.1	202
Toxic liquid, inorganic, n.o.s.	6.1	UN3287	III	6.1	203
Toxic liquid, inorganic, n.o.s. [Inhalation Hazard, Packing Group I, Zone A]	6.1	UN3287	I	6.1	226
Toxic liquid, inorganic, n.o.s. [Inhalation Hazard, Packing Group I, Zone B]	6.1	UN3287	I	6.1	227
Toxic liquids, corrosive, organic, n.o.s.	6.1	UN2927	I	6.1, 8	201
Toxic liquids, corrosive, organic, n.o.s.	6.1	UN2927	II	6.1, 8	202
Toxic liquids, corrosive, organic, n.o.s., [inhalation hazard, Packing Group I, Zone A]	6.1	UN2927	I	6.1, 8	226
Toxic liquids, corrosive, organic, n.o.s., [inhalation hazard, Packing Group I, Zone B]	6.1	UN2927	I	6.1, 8	227
Toxic liquids, flammable, organic, n.o.s.	6.1	UN2929	I	6.1, 3	201
Toxic liquids, flammable, organic, n.o.s.	6.1	UN2929	II	6.1, 3	202
Toxic liquids, flammable, organic, n.o.s., [inhalation hazard, Packing Group I, Zone A]	6.1	UN2929	I	6.1, 3	226
Toxic liquids, flammable, organic, n.o.s., [inhalation hazard, Packing Group I, Zone B]	6.1	UN2929	I	6.1, 3	227
Toxic, liquids, organic, n.o.s.	6.1	UN2810	I	6.1	201
Toxic, liquids, organic, n.o.s.	6.1	UN2810	II	6.1	202
Toxic, liquids, organic, n.o.s.	6.1	UN2810	III	6.1	203
Toxic, liquids, organic, n.o.s. [Inhalation hazard, Packing Group I, Zone A]	6.1	UN2810	I	6.1	226

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Toxic, liquids, organic, n.o.s. [Inhalation hazard, Packing Group I, Zone B]	6.1	UN2810	I	6.1	227
Toxic liquids, oxidizing, n.o.s.	6.1	UN3122	I	6.1, 5.1	201
Toxic liquids, oxidizing, n.o.s.	6.1	UN3122	II	6.1, 5.1	202
Toxic liquids, oxidizing, n.o.s. [Inhalation hazard, Packing Group I, Zone A]	6.1	UN3122	I	6.1, 5.1	226
Toxic liquids, oxidizing, n.o.s. [Inhalation Hazard, Packing Group I, Zone B]	6.1	UN3122	I	6.1, 5.1	227
Toxic liquids, water-reactive, n.o.s.	6.1	UN3123	I	6.1, 4.3	201
Toxic liquids, water-reactive, n.o.s.	6.1	UN3123	II	6.1, 4.3	202
Toxic liquids, water-reactive, n.o.s. [Inhalation hazard, packing group I, Zone A]	6.1	UN3123	I	6.1, 4.3	226
Toxic liquids, water-reactive, n.o.s. [Inhalation hazard, packing group I, Zone B]	6.1	UN3123	I	6.1, 4.3	227
Toxic solid, corrosive, inorganic, n.o.s.	6.1	UN3290	I	6.1, 8	211
Toxic solid, corrosive, inorganic, n.o.s.	6.1	UN3290	II	6.1, 8	212
Toxic solid, inorganic, n.o.s.	6.1	UN3288	I	6.1	211
Toxic solid, inorganic, n.o.s.	6.1	UN3288	II	6.1	212
Toxic solid, inorganic, n.o.s.	6.1	UN3288	III	6.1	213
Toxic solids, corrosive, organic, n.o.s.	6.1	UN2928	I	6.1, 8	211
Toxic solids, corrosive, organic, n.o.s.	6.1	UN2928	II	6.1, 8	212
Toxic solids, flammable, organic, n.o.s.	6.1	UN2930	I	6.1, 4.1	211
Toxic solids, flammable, organic, n.o.s.	6.1	UN2930	II	6.1, 4.1	212
Toxic solids, organic, n.o.s.	6.1	UN2811	I	6.1	211
Toxic solids, organic, n.o.s.	6.1	UN2811	II	6.1	212
Toxic solids, organic, n.o.s.	6.1	UN2811	III	6.1	213
Toxic solids, oxidizing, n.o.s.	6.1	UN3086	I	6.1, 5.1	211
Toxic solids, oxidizing, n.o.s.	6.1	UN3086	II	6.1, 5.1	212
Toxic solids, self-heating, n.o.s.	6.1	UN3124	I	6.1, 4.2	211
Toxic solids, self-heating, n.o.s.	6.1	UN3124	II	6.1, 4.2	212
Toxic solids, water-reactive, n.o.s.	6.1	UN3125	I	6.1, 4.3	211

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Toxic solids, water-reactive, n.o.s.	6.1	UN3125	II	6.1, 4.3	212
Toy Caps	1.4S	NA0337	II	1.4S	62
Tracers for ammunition	1.3G	UN0212	II	1.3G	62
Tracers for ammunition	1.4G	UN0306	II	1.4G	62
Triallyl borate	6.1	UN2609	III	6.1	203
Triallylamine	3	UN2610	III	3, 8	203
Triazine pesticides, liquid, flammable, toxic, [flash point less than 23 degrees C]	3	UN2764	I	3, 6.1	201
Triazine pesticides, liquid, flammable, toxic, [flash point less than 23 degrees C]	3	UN2764	II	3, 6.1	202
Triazine pesticides, liquid, toxic	6.1	UN2998	I	6.1	201
Triazine pesticides, liquid, toxic	6.1	UN2998	II	6.1	202
Triazine pesticides, liquid, toxic	6.1	UN2998	III	6.1	203
Triazine pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN2997	I	6.1, 3	201
Triazine pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN2997	II	6.1, 3	202
Triazine pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C]	6.1	UN2997	III	6.1, 3	203
Triazine pesticides, solid, toxic	6.1	UN2763	I	6.1	211
Triazine pesticides, solid, toxic	6.1	UN2763	II	6.1	212
Triazine pesticides, solid, toxic	6.1	UN2763	III	6.1	213
Tributylamine	6.1	UN2542	II	6.1	202
Tributylphosphane	4.2	UN3254	I	4.2	211
Trichloroacetic acid	8	UN1839	II	8	212
Trichloroacetic acid, solution	8	UN2564	II	8	202
Trichloroacetic acid, solution	8	UN2564	III	8	203
Trichloroacetyl chloride	8	UN2442	II	8, 6.1	227
Trichlorobenzenes, liquid	6.1	UN2321	III	6.1	203
Trichlorobutene	6.1	UN2322	II	6.1	202
1,1,1-Trichloroethane	6.1	UN2831	III	6.1	203
Trichloroethylene	6.1	UN1710	III	6.1	203
Trichloroisocyanuric acid, dry	5.1	UN2468	II	5.1	212
Trichlorosilane	4.3	UN1295	I	4.3, 3, 8	201
Tricresyl phosphate [with more than 3 percent ortho isomer]	6.1	UN2574	II	6.1	202
Triethyl phosphite	3	UN2323	III	3	203
Triethylamine	3	UN1296	II	3, 8	202
Triethylenetetramine	8	UN2259	II	8	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Trifluoroacetic acid	8	UN2699	I	8	201
Trifluoroacetyl chloride	2.3	UN3057		2.3, 8	304
Trifluorochloroethylene, stabilized	2.3	UN1082		2.3, 2.1	304
1,1,1-Trifluoroethane, compressed [or] Refrigerant gas R 143a	2.1	UN2035		2.1	304
Trifluoromethane [or] Refrigerant gas R 23	2.2	UN1984		2.2	304
Trifluoromethane, refrigerated liquid	2.2	UN3136		2.2	None
2-Trifluoromethylaniline	6.1	UN2942	III	6.1	203
3-Trifluoromethylaniline	6.1	UN2948	II	6.1	202
Triisobutylene	3	UN2324	III	3	203
Triisopropyl borate	3	UN2616	II	3	202
Triisopropyl borate	3	UN2616	III	3	203
Trimethoxysilane	6.1	NA9269	I	6.1, 3	227
Trimethyl borate	3	UN2416	II	3	202
Trimethyl phosphite	3	UN2329	III	3	203
Trimethylacetyl chloride	6.1	UN2438	I	6.1, 8, 3	227
Trimethylamine, anhydrous	2.1	UN1083		2.1	304
Trimethylamine, aqueous solutions [with not more than 50 percent trimethylamine by mass]	3	UN1297	I	3, 8	201
Trimethylamine, aqueous solutions [with not more than 50 percent trimethylamine by mass]	3	UN1297	II	3, 8	202
Trimethylamine, aqueous solutions [with not more than 50 percent trimethylamine by mass]	3	UN1297	III	3, 8	203
1,3,5-Trimethylbenzene	3	UN2325	III	3	203
Trimethylchlorosilane	3	UN1298	II	3, 8	202
Trimethylcyclohexylamine	8	UN2326	III	8	203
Trimethylhexamethylene diisocyanate	6.1	UN2328	III	6.1	203
Trimethylhexamethylenediamines	8	UN2327	III	8	203
Trinitro-meta-cresol	1.1D	UN0216	II	1.1D	62
Trinitroaniline [or] Picramide	1.1D	UN0153	II	1.1D	62
Trinitroanisole	1.1D	UN0213	II	1.1D	62
Trinitrobenzene, [dry or wetted with less than 30 percent water, by mass]	1.1D	UN0214	II	1.1D	62
Trinitrobenzene, wetted, [with not less than 10% water by mass]	4.1	UN3367	I	4.1	211
Trinitrobenzene (picryl chloride), wetted, [with not less than 10% water by mass]	4.1	UN3365	I	4.1	211

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Trinitrobenzene, wetted [with not less than 30 percent water, by mass]	4.1	UN1354	I	4.1	211
Trinitrobenzenesulfonic acid	1.1D	UN0386	II	1.1D	62
Trinitrobenzoic acid, [dry or wetted with less than 30 percent water, by mass]	1.1D	UN0215	II	1.1D	62
Trinitrobenzoic acid, wetted, [with not less than 10% water by mass]	4.1	UN3368	I	4.1	211
Trinitrobenzoic acid, wetted [with not less than 30 percent water, by mass]	4.1	UN1355	I	4.1	211
Trinitrochlorobenzene [or] Picryl chloride	1.1D	UN0155	II	1.1D	62
Trinitrofluorenone	1.1D	UN0387	II	1.1D	62
Trinitronaphthalene	1.1D	UN0217	II	1.1D	62
Trinitrophenetole	1.1D	UN0218	II	1.1D	62
Trinitrophenol [or] Picric acid, [dry or wetted with less than 30 percent water, by mass]	1.1D	UN0154	II	1.1D	62
Trinitrophenol (picric acid), wetted, [with not less than 10% water by mass]	4.1	UN3364	I	4.1	211
Trinitrophenol, wetted [with not less than 30 percent water, by mass]	4.1	UN1344	I	4.1	211
Trinitrophenylmethylnitramine [or] Tetryl	1.1D	UN0208	II	1.1D	62
Trinitroresorcinol [or] Styphnic acid, [dry or wetted with less than 20 percent water, or mixture of alcohol and water, by mass]	1.1D	UN0219	II	1.1D	62
Trinitroresorcinol, wetted [or] Styphnic acid, wetted [with not less than 20 percent water, or mixture of alcohol and water by mass]	1.1D	UN0394	II	1.1D	62
Trinitrotoluene and Trinitrobenzene mixtures [or] TNT and trinitrobenzene mixtures [or] TNT and hexanitrostilbene mixtures [or] Trinitrotoluene and hexanitrostilnene mixtures	1.1D	UN0388	II	1.1D	62
Trinitrotoluene mixtures containing Trinitrobenzene and Hexanitrostilbene [or] TNT mixtures containing trinitrobenzene and hexanitrostilbene	1.1D	UN0389	II	1.1D	62
Trinitrotoluene (TNT), wetted, [with not less than 10% water by mass]	4.1	UN3364	I	4.1	211
Trinitrotoluene [or] TNT, [dry or wetted with less than 30 percent water, by mass]	1.1D	UN0209	II	1.1D	62
Trinitrotoluene, wetted [with not less than 30 percent water, by mass]	4.1	UN1356	I	4.1	211
Tripropylamine	3	UN2260	III	3, 8	203
Tripropylene	3	UN2057	II	3	202

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Tripropylene	3	UN2057	III	3	203
Tris-(1-aziridinyl)phosphine oxide, solution	6.1	UN2501	II	6.1	202
Tris-(1-aziridinyl)phosphine oxide, solution	6.1	UN2501	III	6.1	203
Tritonal	1.1D	UN0390	II	1.1D	62
Tungsten hexafluoride	2.3	UN2196		2.3, 8	338
Turpentine	3	UN1299	III	3	203
Turpentine substitute	3	UN1300	I	3	201
Turpentine substitute	3	UN1300	II	3	202
Turpentine substitute	3	UN1300	III	3	203
Undecane	3	UN2330	III	3	203
Uranium hexafluoride, [fissile excepted or non-fissile]	7	UN2978		7, 8	420, 427
Uranium hexafluoride, fissile ([with more than 1 percent U-235])	7	UN2977		7, 8	417, 420
Uranium metal, pyrophoric	7	UN2979		7, 4.2	418
Uranyl nitrate hexahydrate solution	7	UN2980		7, 8	415, 416
Uranyl nitrate, solid	7	UN2981		7, 5.1	419
Urea hydrogen peroxide	5.1	UN1511	III	5.1, 8	213
Urea nitrate, [dry or wetted with less than 20 percent water, by mass]	1.1D	UN0220	II	1.1D	62
Urea Nitrate, wetted, [with not less than 10% water by mass]	4.1	UN3370	I	4.1	211
Urea nitrate, wetted [with not less than 20 percent water, by mass]	4.1	UN1357	I	4.1	211
Valeraldehyde	3	UN2058	II	3	202
Valeryl chloride	8	UN2502	II	8, 3	202
Vanadium compound, n.o.s.	6.1	UN3285	I	6.1	211
Vanadium compound, n.o.s.	6.1	UN3285	II	6.1	212
Vanadium compound, n.o.s.	6.1	UN3285	III	6.1	213
Vanadium oxytrichloride	8	UN2443	II	8	202
Vanadium pentoxide, [non-fused form]	6.1	UN2862	III	6.1	213
Vanadium tetrachloride	8	UN2444	I	8	201
Vanadium trichloride	8	UN2475	III	8	213
Vanadyl sulfate	6.1	UN2931	II	6.1	212
Vinyl acetate, stabilized	3	UN1301	II	3	202
Vinyl bromide, stabilized	2.1	UN1085		2.1	304
Vinyl butyrate, stabilized	3	UN2838	II	3	202
Vinyl chloride, stabilized	2.1	UN1086		2.1	304
Vinyl chloroacetate	6.1	UN2589	II	6.1, 3	202
Vinyl ethyl ether, stabilized	3	UN1302	I	3	201

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Vinyl fluoride, stabilized	2.1	UN1860		2.1	304
Vinyl isobutyl ether, stabilized	3	UN1304	II	3	202
Vinyl methyl ether, stabilized	2.1	UN1087		2.1	304
Vinylidene chloride, stabilized	3	UN1303	I	3	201
Vinylpyridines, stabilized	6.1	UN3073	II	6.1, 3, 8	202
Vinyltoluenes, stabilized	3	UN2618	III	3	203
Vinyltrichlorosilane, stabilized	3	UN1305	I	3, 8	201
Warheads, rocket [with burster or expelling charge]	1.4D	UN0370	II	1.4D	62
Warheads, rocket [with burster or expelling charge]	1.4F	UN0371	II	1.4F	62
Warheads, rocket [with bursting charge]	1.1D	UN0286	II	1.1D	62
Warheads, rocket [with bursting charge]	1.2D	UN0287	II	1.2D	62
Warheads, rocket [with bursting charge]	1.1F	UN0369	II	1.1F	62
Warheads, torpedo [with bursting charge]	1.1D	UN0221	II	1.1D	62
Water-reactive liquid, corrosive, n.o.s.	4.3	UN3129	I	4.3, 8	201
Water-reactive liquid, corrosive, n.o.s.	4.3	UN3129	II	4.3, 8	202
Water-reactive liquid, corrosive, n.o.s.	4.3	UN3129	III	4.3, 8	203
Water-reactive liquid, n.o.s.	4.3	UN3148	I	4.3	201
Water-reactive liquid, n.o.s.	4.3	UN3148	II	4.3	202
Water-reactive liquid, n.o.s.	4.3	UN3148	III	4.3	203
Water-reactive liquid, toxic, n.o.s.	4.3	UN3130	I	4.3, 6.1	201
Water-reactive liquid, toxic, n.o.s.	4.3	UN3130	II	4.3, 6.1	202
Water-reactive liquid, toxic, n.o.s.	4.3	UN3130	III	4.3, 6.1	203
Water-reactive solid, corrosive, n.o.s.	4.3	UN3131	I	4.3, 8	211
Water-reactive solid, corrosive, n.o.s.	4.3	UN3131	II	4.3, 8	212
Water-reactive solid, corrosive, n.o.s.	4.3	UN3131	III	4.3, 8	213
Water-reactive solid, flammable, n.o.s.	4.3	UN3132	I	4.3, 4.1	211
Water-reactive solid, flammable, n.o.s.	4.3	UN3132	II	4.3, 4.1	212
Water-reactive solid, flammable, n.o.s.	4.3	UN3132	III	4.3, 4.1	213
Water-reactive solid, n.o.s.	4.3	UN2813	I	4.3	211
Water-reactive solid, n.o.s.	4.3	UN2813	II	4.3	212
Water-reactive solid, n.o.s.	4.3	UN2813	III	4.3	213

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Water-reactive, solid, oxidizing, n.o.s.	4.3	UN3133	II	4.3, 5.1	214
Water-reactive, solid, oxidizing, n.o.s.	4.3	UN3133	III	4.3, 5.1	214
Water-reactive solid, self-heating, n.o.s.	4.3	UN3135	I	4.3, 4.2	211
Water-reactive solid, self-heating, n.o.s.	4.3	UN3135	II	4.3, 4.2	212
Water-reactive solid, self-heating, n.o.s.	4.3	UN3135	III	4.3, 4.2	213
Water-reactive solid, toxic, n.o.s.	4.3	UN3134	I	4.3, 6.1	211
Water-reactive solid, toxic, n.o.s.	4.3	UN3134	II	4.3, 6.1	212
Water-reactive solid, toxic, n.o.s.	4.3	UN3134	III	4.3, 6.1	213
White asbestos [(chrysotile, actinolite, anthophyllite, tremolite)]	9	UN2590	III	9	216
Wood preservatives, liquid	3	UN1306	II	3	202
Wood preservatives, liquid	3	UN1306	III	3	203
Wool waste, wet	4.2	UN3370	III	4.2	213
Xanthates	4.2	UN3342	II	4.2	212
Xanthates	4.2	UN3342	III	4.2	213
Xenon	2.2	UN2036		2.2	302
Xenon, refrigerated liquid [(cryogenic liquids)]	2.2	UN2591		2.2	None
Xylenes	3	UN1307	II	3	202
Xylenes	3	UN1307	III	3	203
Xylenols	6.1	UN2261	II	6.1	212
Xylidines, solid	6.1	UN1711	II	6.1	212
Xylidines, liquid	6.1	UN1711	II	6.1	202
Xylyl bromide	6.1	UN1701	II	6.1	340
Zinc ammonium nitrite	5.1	UN1512	II	5.1	212
Zinc arsenate [or] Zinc arsenite [or] Zinc arsenate and zinc arsenite mixtures	6.1	UN1712	II	6.1	212
Zinc ashes	4.3	UN1435	III	4.3	213
Zinc bromate	5.1	UN2469	III	5.1	213
Zinc chlorate	5.1	UN1513	II	5.1	212
Zinc chloride, anhydrous	8	UN2331	III	8	213
Zinc chloride, solution	8	UN1840	III	8	203
Zinc cyanide	6.1	UN1713	I	6.1	211
Zinc dithionite [or] Zinc hydrosulfite	9	UN1931	III	None	204

DOT HAZARDOUS MATERIALS TABLE COLUMN NUMBER					
2	3	4	5	6	8B
Hazardous Materials Description or Shipping Name	**Hazard Class or Division**	**ID Number**	**PG**	**Label Code**	**Non-Bulk**
Zinc fluorosilicate	6.1	UN2855	III	6.1	213
Zinc nitrate	5.1	UN1514	II	5.1	212
Zinc permanganate	5.1	UN1515	II	5.1	212
Zinc peroxide	5.1	UN1516	II	5.1	212
Zinc phosphide	4.3	UN1714	I	4.3, 6.1	211
Zinc powder [or] Zinc dust	4.3	UN1436	I	4.3, 4.2	211
Zinc powder [or] Zinc dust	4.3	UN1436	II	4.3, 4.2	212
Zinc powder [or] Zinc dust	4.3	UN1436	III	4.3, 4.2	213
Zinc resinate	4.1	UN2714	III	4.1	213
Zirconium, dry, [coiled wire, finished metal sheets, strip (thinner than 254 microns but not thinner than 18 microns)]	4.1	UN2858	III	4.1	213
Zirconium, dry, [finished sheets, strip or coiled wire]	4.2	UN2009	III	4.2	213
Zirconium hydride	4.1	UN1437	II	4.1	212
Zirconium nitrate	5.1	UN2728	III	5.1	213
Zirconium picramate, [dry or wetted with less than 20 percent water, by mass]	1.3C	UN0236	II	1.3C	62
Zirconium picramate, wetted [with not less than 20 percent water, by mass]	4.1	UN1517	I	4.1	211
Zirconium powder, dry	4.2	UN2008	I	4.2	211
Zirconium powder, dry	4.2	UN2008	II	4.2	212
Zirconium powder, dry	4.2	UN2008	III	4.2	213
Zirconium powder, wetted [with not less than 25 percent water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns]	4.1	UN1358	II	4.1	212
Zirconium scrap	4.2	UN1932	III	4.2	213
Zirconium suspended in a liquid	3	UN1308	I	3	201
Zirconium suspended in a liquid	3	UN1308	II	3	202
Zirconium suspended in a liquid	3	UN1308	III	3	203
Zirconium tetrachloride	8	UN2503	III	8	213

APPENDIX D-J

Plastic Sheeting and Pallet Covers

Clear Poly Sheeting - 6 Mil, 20' x 100'

CONTINUOUS ROLL

Economical protection from dust, dirt and moisture.

- Covers warehouse equipment, machinery, construction materials and skids.
- Replaces expensive drop cloths.
- Giant sheeting ideal cover for lumber, walls and scaffolding.

MODEL NO.	SIZE W x L	LBS./ ROLL
S-11180	20 x 100'	60

DIMENSIONS:
- Core: 1 1/2"
- Roll Diameter: Approximately 9"

PACKAGING:
- Fold Type: Gusseted, Center Slit, Double Fold

MATERIAL:
- LDPE (Low Density Polyethylene)
- BHT free (Butylated Hydroxy Toluene)
- Silicone free
- Acid free
- Not UV treated.
- Not flame retardant.

APPEARANCE:
- Sheeting is construction grade film, it is usually milky.

USAGE:
- Not perforated.
- Can be used as a vapor barrier.
- Economy duct tape recommended for taping sheets together.

SPECIFICATIONS:
- Meets ASTM D2103

HEAVY DUTY PALLET COVERS

LARGE GUSSETED BAGS

Maximum protection for industrial equipment.

- Superior strength eliminates punctures and tears.
- Perforated on a roll for easy dispensing. Linear low density poly.
- Bags work well as Gaylord liners.

MODEL NO.	FITS PALLET L x W x H	COVER SIZE W x D x H	BAGS/ ROLL	LBS./ ROLL
S-13557	48 x 48 x 48"	51 x 49 x 73"	25	48

DIMENSIONS:
- Core: 3"
- Roll Diameter: 7"

MATERIAL:
- LLDPE (Linear Low Density Polyethylene)

TEMPERATURE:
- -20° to 150° F

USAGE:
- Water resistant, not waterproof.

SPECIFICATIONS:
- FDA/USDA compliant

APPENDIX D-K

Container Packaging and Stacking

49 CFR Subpart M discusses the testing of non-bulk packaging and packages containing 119 gallons or less. DOT approved containers undergo rigorous design qualification testing and periodic retesting. The tests performed include: drop; leakproofness; hydrostatic pressure; stacking; and vibration. A summary of the tests is provided in Table D-4.

TABLE D-4: *Non-bulk Packaging Tests*

Test	Description	Passing Result
Drop	Full containers dropped from specified heights; PGI 5.9 ft, PGII 3.9 ft, PGIII 2.6 ft	Any discharge from a closure is slight and cases after impact with no further leakage
Leakproofness	Required for liquid containers only; uses compressed air and container is restrained under water; PGI 4 psi; PGII 3 psi; PGIII 3 psi	No leakage of air from the container
Hydrostatic Pressure	Containers are filled with liquid and pressurized to a minimum of 15 psi; pressure held for minimum of 5 minutes (30 minutes for plastic)	No leakage of liquid
Stacking	Test sample subjected to a force applied to the top surface of the test equivalent to the total weight, of identical packages which might be stacked; minimum, stack height 10 ft	No test sample may show deterioration or distortion which would likely reduce its strength, cause instability in stacking of packages, or cause damage to inner packaging
Vibration	Test sample subjected to 1 hour of vibration at a frequency sufficient to be salted 1.6mm off platform then sample turned on side and observed for leakage	No rupture or leakage; no deterioration or distortion liable to reduce packaging strength

49 CFR Subpart O discusses the testing of intermediate bulk containers (IBCs) containing more than 119 gallons or less than/equal to 793 gallons. DOT approved IBCs undergo rigorous design qualification testing and periodic retesting. The tests performed include: drop; bottom Lift; top lift; leakproofness; hydrostatic pressure; stacking; topple; righting; tear; and vibration. A summary of the tests is provided in Table D-5.

TABLE D-5: *IBC Packaging Tests*

Test	Description	Passing Result
Drop	Full IBC dropped from specified heights; PGI 5.9 ft, PGII 3.9 ft, PGIII 2.6 ft	Any discharge from a closure is slight and ceases after impact with no further leakage
Bottom lift	Load IBC 1.25 times max gross mass; raise and lower two times	No permanent deformation; no loss of contents
Top lift	Load IBC 2 times gross mass (6 times gross mass for flexible IBC); lift from top (side for flexible IBC)	No permanent deformation; no loss of contents
Leakproofness	Required for IBCs with liquids and IBCs where solids loaded or discharge under pressure; uses compressed air-minimum of 2.9 psig and IBC is under water	No leakage of air from the IBC
Hydrostatic Pressure	IBCs are filled with liquid/solid loaded or discharge under pressure and pressurized to a 4.4 psig/29 psig/36 psig - depending on type of IBC (no bags)	No leakage; no permanent deformation
Stacking	Test sample subjected to a force applied to the top surface of the test equivalent to the total weight of identical packages which might be stacked; as an alternative a superimposed load may be used	No permanent deformation/deterioration; no leakage
Topple	Test for flexible IBCs only; IBC toppled from specified height onto any part of its top upon a rigid surface; PCI 5.9 ft. PGII 3.9 ft, PGIII 2.6 ft	Any discharge from a closure is slight and ceases after impact with no further leakage
Righting	Test for flexible IBCs only; IBC laid on side then lifted using top or side clear of floor at a rate of 0.33 ft/sec	No permanent damage
Tear	Test for flexible IBCs only; IBC is cut using a 4” knife score on the side of the IBC; load placed on IBC two times max net mass for minimum of 5 minutes	Cut does not propagate more than 25% of its original length

Vibration	Test sample subjected so 1 hour of vibration at a frequency sufficient to be raised 1.6 mm off platform then sample turned on side and observed for leakage	No rupture or leakage

The drop and stacking tests are the most applicable DOT tests for the containers while in storage. Table D-6 identifies for the proposed stacking configurations, the maximum drop height for the top container in the stack, and the appropriate test specification based on the DOT Packaging Group (PG).

TABLE D-6: ***Stacking drop height/Test drop height***

Configuration	***Description[2]***	***Actual Max Drop ht (in)***	***Drop ht PGI (in)***	***Drop ht PGII (in)***	***Drop ht PGIII (in)***
1	1-5 gal on 1-15 gal	26	70.8	46.8	31.2
2	1-5 gal on 1-20 gal	17.5	70.8	46.8	31.2
3[1]	1-5 gal on 1-30 gal	31.75	70.8	46.8	31.2
4[1]	1-5 gal on 1-55 gal	35	70.8	4638	31.2
5[1]	1-5 gal on an overpack	41.5	70.8	46.8	31.2
6[3]	2-5 gal	14.75	70.8	46.8	31.2
7[3]	3-5gal	29.5	70.8	46.8	31.2
8[1]	1-15 gal on 1-55 gal	35	70.8	46.8	31.2
9[3]	2-15 gal	26	70.8	46.8	31.2
10[1]	1-20 gal on 1-55 gal	35	70.8	46.8	31.2
11[1]	1-20 gal on an overpack	41.5	70.8	46.8	31.2
12[3]	2-20 gal	17.5	70.8	46.8	31.2
13[1,3]	3-20 gal	35	70.8	46.8	31.2
14[1]	1-30 gal on 1-55 gal	35	70.8	46.8	31.2
15[4,5]	Cy box/pallet/cy box/pallet	50.25			
16[4,6]	4-55 gal/pallet/4-55 gal/pallet	47	70.8	46.8	31.2
17[7,8]	Cy bag/cy bag/pallet		70.8	46.8	31.2

[1] Applies to DOT Packing Group 1 (PGI) and PGII only.
[2] Container size/volume designation is based on bar-code description
[3] The heavier container must be placed beneath the lighter container
[4] Applies to containers with no free liquids or to lab packs
[5] Package states “DO NOT STACK MORE THAN 2 HIGH”
[6] The 4 drums on each pallet must be strapped, taped, or otherwise secured to each other
[7] The bags must be strapped, taped, or otherwise secured to each other and the pallet
[8] Applies to containers with no free liquids
[9] For palletized drums, no round bottomed container may be placed or stored such that the container bottom extends beyond the corner of the pallet

[10] Pallets or other stacking structures which cannot keep permitted containers level and secured shall not be used to store the permitted containers. This not only applies to damaged pallets, but also to pallets/ devices which are improperly designed or applied

[11] Containers on the bottom pallet must form a level surface before being used to support a top pallet

EXAMPLE CONTAINER CONFIGURATIONS

5 Gallon / 55 Gallon

15 Gallon / 55 Gallon

5 Gallon / 15 Gallon

5 Gallon/5 Gallon/5 Gallon

EXAMPLE CONTAINER CONFIGURATIONS

5 Gallon/Overpack

20 Gallon/55 Gallon

15 Gallon/15 Gallon

30 Gallon/55 Gallon

EXAMPLE CONTAINER CONFIGURATIONS

4 X 55 Gallon/Pallet/4X55 Gallon

20 Gallon/20 Gallon

20 Gallon/55 Gallon

Cubic Yard Box/Pallet/Cubic Yard Box/Pallet

EXAMPLE CONTAINER CONFIGURATIONS

20 Gallon/ Overpack

20 Gallon/20 Gallon/ 20 Gallon

Cubic Yard Bag/Pallet/Cubic Yard Bag/Pallet

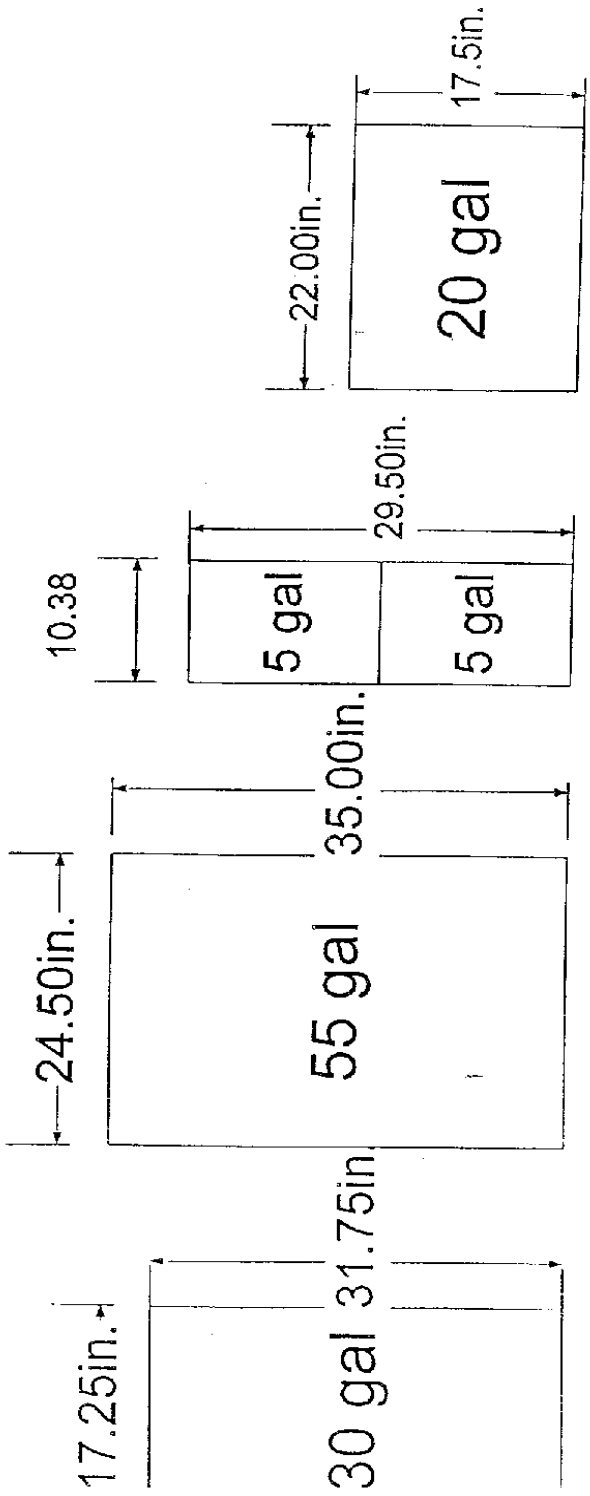
5 Gallon/5 Gallon

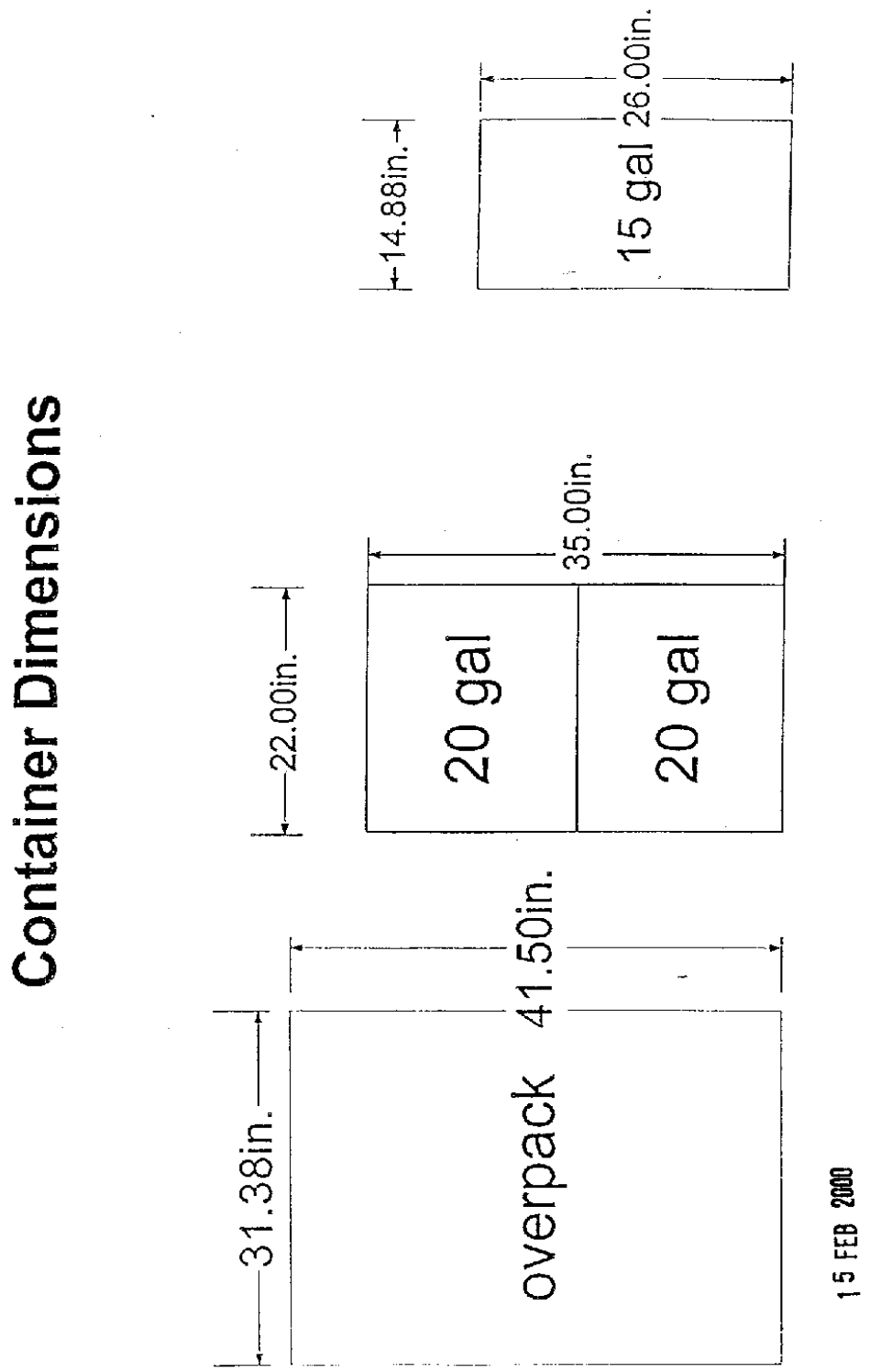
EXAMPLE CONTAINER CONFIGURATIONS

5 Gallon/20 Gallon

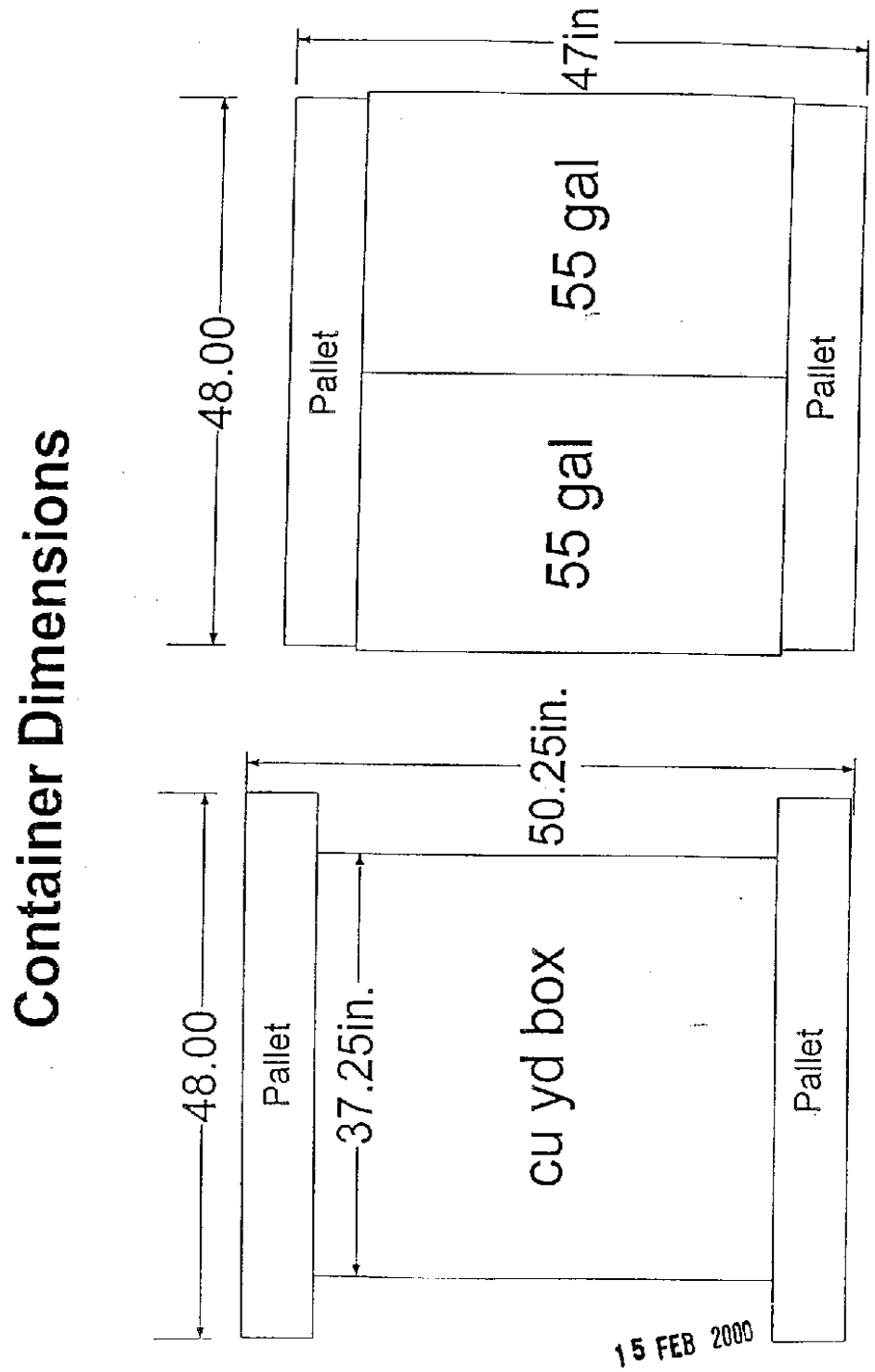
5 Gallon/30 Gallon

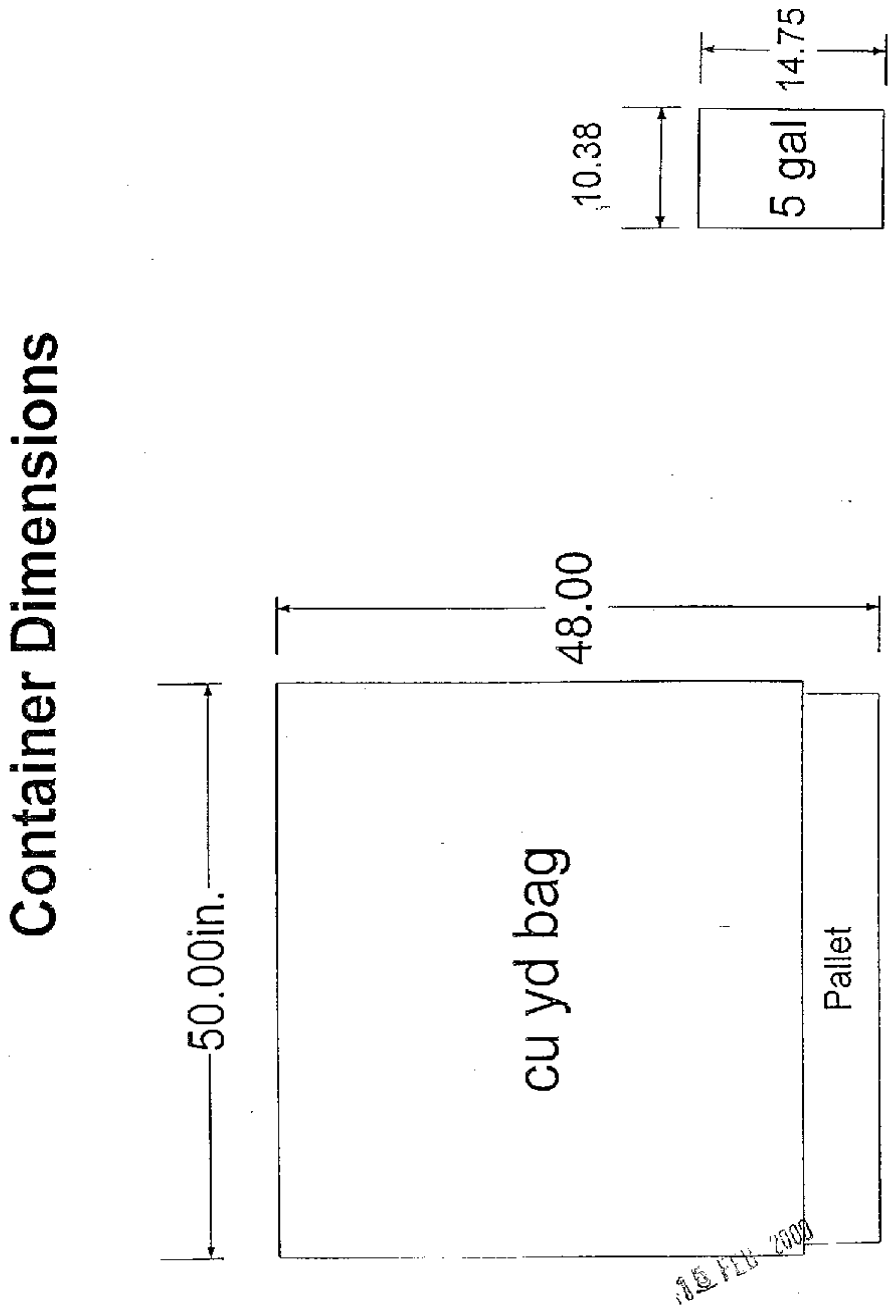
Container Dimensions

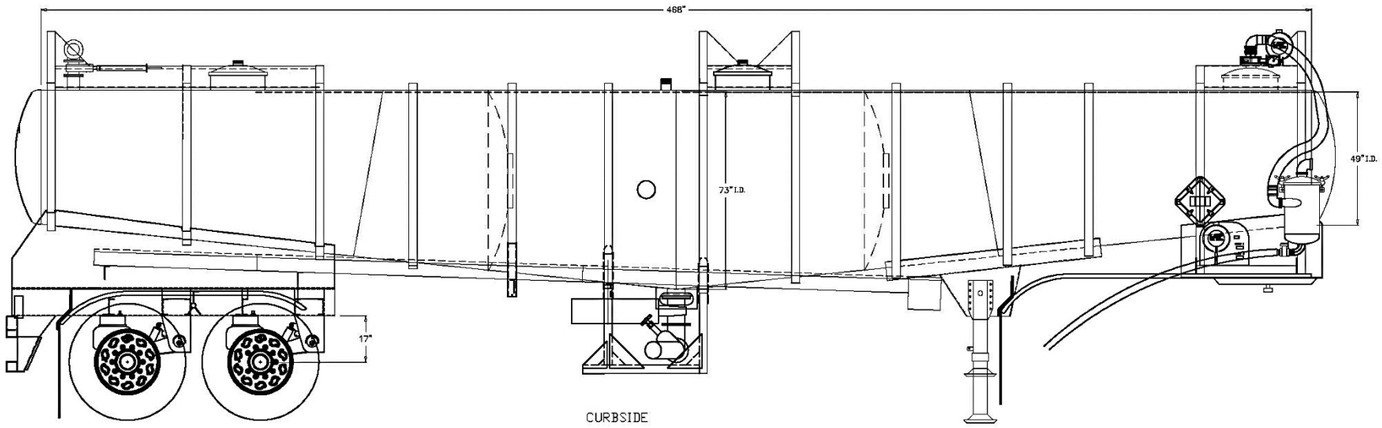



Container Dimensions
14.88in.
26.00in.
15 gal
22.00in.
35.00in.
20 gal
20 gal
31.38in.
41.50in.
overpack
15 FEB 2000

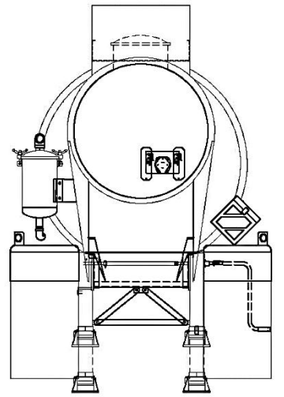
Container Dimensions



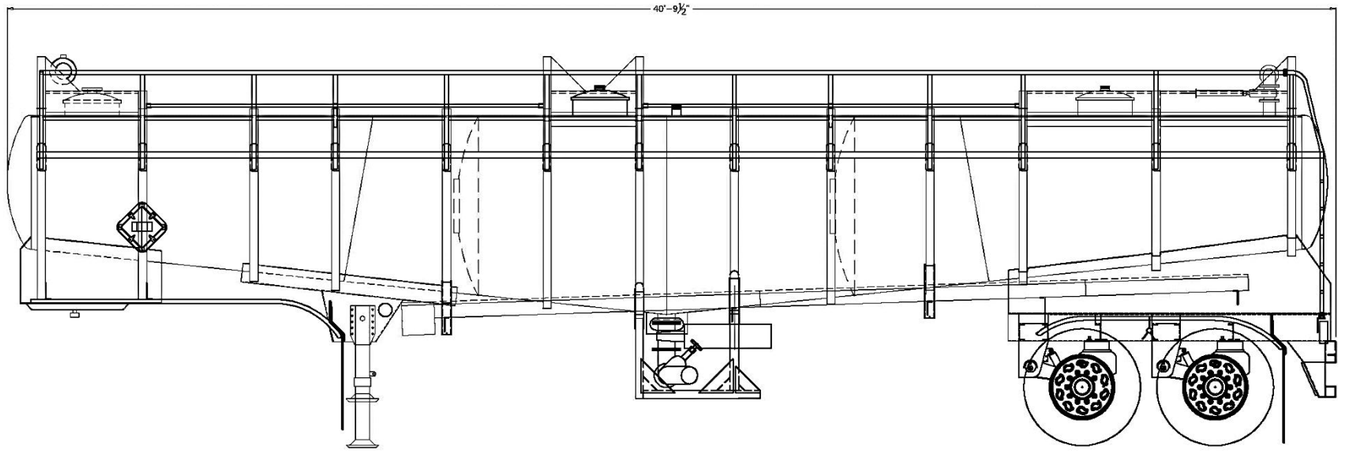

Container Dimensions
14.75
10.38
5 gal
48.00
50.00in.
cu yd bag
Pallet



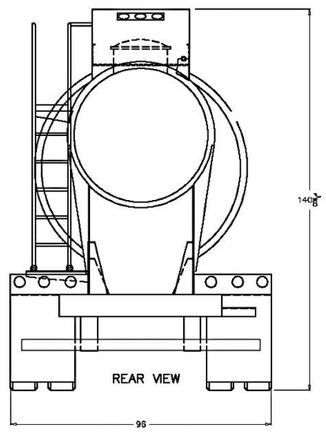
CURBSIDE



FRONT VIEW



ROADSIDE

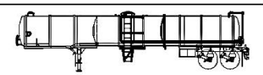


REAR VIEW

Nominal Capacity = 7,000 gallons

CUSTOMER	HERITAGE TRANSPORT LLC
SERIAL #	9287
OPER. PSI	35
TEST PSI	53
INTERNAL WELDS	W0
APPROVED ASME CONSTRUCTION	X
CODE YEAR	2010
ADDENDA	2011
STAMP	U
APRV BY	
APRV DATE	
MAWP	35 PSI
MAEWP	-15 PSI
AT	150 °F
MDMT	-20 °F
AT	36 PSI
RT	NONE

ACRO TRAILER CO.
2320 N PACKER ROAD PH 417-862-1758
SPRINGFIELD, MO 65803 FAX 417-862-8084

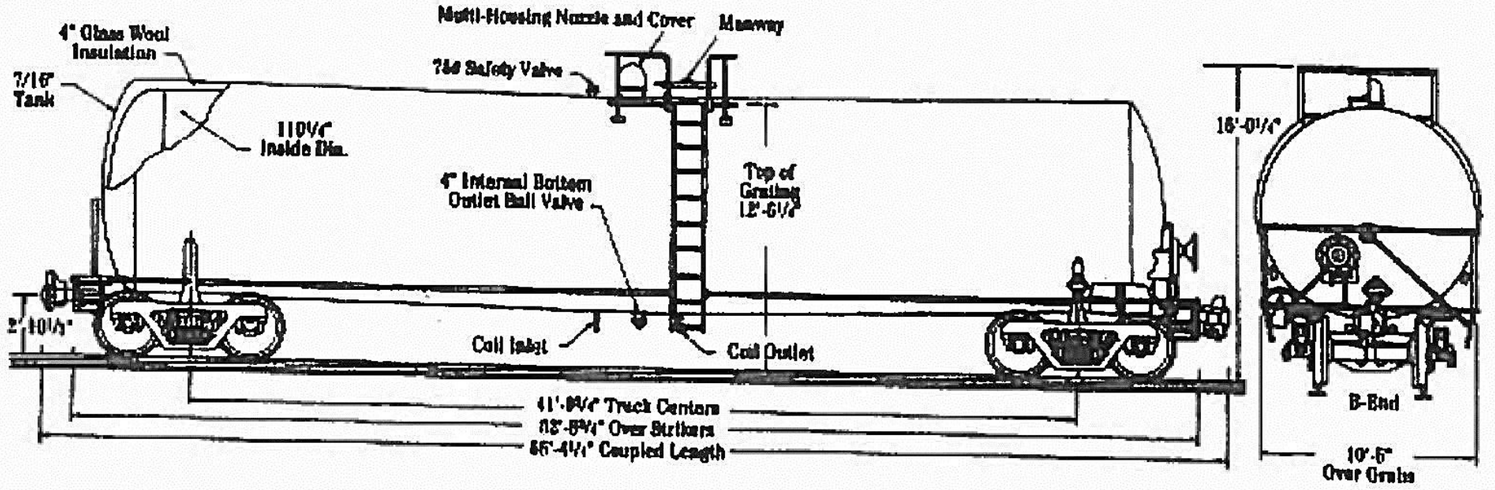


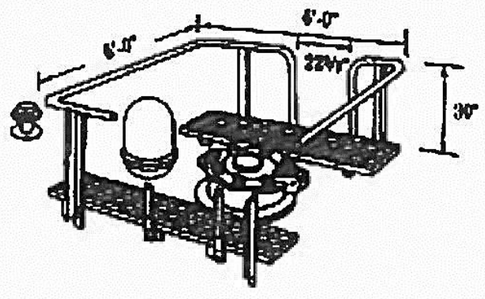
TITLE:	HERTIAGE TRANSPORT LLC MAIN
DRAWN BY.	R. JACKSON
MATERIAL TYPE	TYPE 316 SS
DATE	08/20/2013
SCALE	NTS
DRAWING NUMBER	9287-MAIN
REV:	

23,589 GALLON CAPACITY - INSULATED - EXTERIOR COILED (v. 1)

DOT-111A100W1

For General Service Commodities





CAPACITY & WEIGHTS

Net Capacity @ 2% Outage – 23,117 gals.

Estimated Light Weight – 71,500 lbs.

Rail Load Limit (100 Ton Trucks) – 263,000 lbs.

COMMODITY MAXIMUM DENSITY

Truck Cpty.	Wheel Base	No. of Coils	Comm. wt./gal.
100 Ton	5'-10"	13L-8"	8.28#