

Agrichemical Warehousing Standard Association

ACCREDITED SEED TREATMENT STANDARDS BULLETIN

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Guidelines for Portable Storage Containers (inter-modal) Conversion to Accredited Seed Treatment Operation Standards

Portable storage containers for this Bulletin are defined as inter-modal used to transport goods on railcars, trucks and ocean vessels. They come in a wide range of sizes and heights with typical sizes of 2.4 meters (8 feet) in width, up to 16 meters (52 feet) in length and 2.5 meters to 3 meters (8.5 to 10 feet) in height. Basic constructions of these containers are steel walls, roof and floor.

When converting a container for seed treatment product storage all protocols are applicable. The Bulletin was developed to aid operators in the conversion process.

Section A – Siting and Exterior Requirements

- All containers must be in compliance with distance requirements references in protocols A1, A2 and A3.
- All containers must be in compliance with applicable lighting and signage requirements referenced in protocols A4, A5, A6, A7 and A8.

Section B – Building Structure and Equipment

- B5, B6, B9 – Based on typical container configuration protocols will be compliant.
- B1 – Containers must be non-combustible (steel rigid frame). Any combustible materials on the interior walls would have to be removed or constructed to meet a 1-hour fire rating.
- B7 – Metal sheeting is deemed impervious to chemical spill and is deemed compliant. The auditor is required to verify the integrity of the container floor to ensure there are no holes or seams where liquid can escape. Retention curbing (10 cm) is required for inside containment. In most cases the walls could act as a curb. Curbing would be required at the doors. This can be achieved by placing metal sheeting or angle iron at a height of 10 cm at the doorway. Ensure the curbing is leak proof at the edges (e.g. caulking may be required).

In cases where wooden decking covers the metal container floor and the floor is not visible for inspection, containment can be achieved by either:

- metal sheeting can be used on top of the wooden deck. The sheeting must be attached to the metal frame and have curbing of 10 cm around the full perimeter or;
- baffled pallets can be used.
- B10 – Floors and floor support structures must be constructed of non-combustible materials. The metal exterior of the shipping container is acceptable. Wooden decking inlaid on top of the exterior

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floor is acceptable provided containment is achieved (see B7 above). Shipping containers must be placed on level non-combustible material (e.g. gravel).

- B11 – The container does not have an active floor drain.
- B12 – Ventilation system must be designed to provide a minimum of 2 air changes per hour. See example of ventilation calculation for the appropriate configuration.
- B14 – The ventilation system must be designed to control explosive vapours.
- B15 – If heat is required (no flame), electric wall heaters are common, these units would need to be CSA approved, hardwired and at a height in excess of the floor curbing (10 cm).

Protocols that have not been referenced either apply for all seed treatment storage facilities or are not applicable.

Quick Conversion Checklist

- Ensure the container is completely steel (frame, walls, and roof).
- Remove all combustible materials from inside walls/ceiling of the container or covered for a 1 hour rating.
- Weld steel deck to the floor support beams or steel walls, if a solid steel floor is not present.
- Place storage container on level non-combustible material (e.g. well drained compacted gravel base).
- Weld steel angle iron (10 cm) at doorway for internal containment. Ensure containment is leak-proof. (B10)
- Ventilation cut is a maximum 30 cm (12 inch) from the floor at opposite end of container from doors (B14)
- Hard wire lighting, ventilation and heating system (no flame) in container above containment curbing.
- Complete ventilation measurement prior to installing mechanical ventilation to ensure minimum 2-hour air exchange is achieved.
- Raised steel mesh floors can be installed to allow for drive in capabilities to the storage container.
- Container security can easily be achieved by applying a pad lock on doors.