

Chemigation Environmental Safeguard

CHEMIGATION REGULATORY FACT SHEET #3

The storage, mixing, and loading of fertilizer and pesticide storage tanks and chemigation application equipment within 100 feet of a water source, including wells and surface water, is regulated by the Minnesota Department of Agriculture (MDA) and the Minnesota Department of Health. This fact sheet describes the MDA requirements for containment of storage tanks at chemigation sites.

THE DEPARTMENT OF AGRICULTURE REQUIRES CONTAINMENT OF STORAGE TANKS AT CHEMIGATION SITES IF TWO OF THE FOLLOWING CONDITIONS APPLY:

- The storage tank has a capacity of more than 1500 gallons.
- The storage tank is located within 100 feet of a water supply, including surface water and wells.
- The storage tank is located at the chemigation site for more than thirty consecutive days.

THE REQUIRED CONTAINMENT CAPACITY IS:

- The capacity of the largest storage container in the containment area plus
 - 25% if the containment area is not roofed; or
 - 10% if the containment area is roofed; and
- The displacement volume of the bases of all storage containers within the containment area to the height of the containment wall.

ADDITIONAL CONTAINMENT REQUIREMENTS ARE AS FOLLOWS:

- Containment must be adequate to, in the event of a release of fertilizer or pesticides, prevent the movement of fertilizer or pesticide to the water source, including wells and surface water.
- Containment must consist of walls, a base, and may be made of metal, reinforced concrete, solid reinforced masonry, synthetic lined earth, or synthetic only).

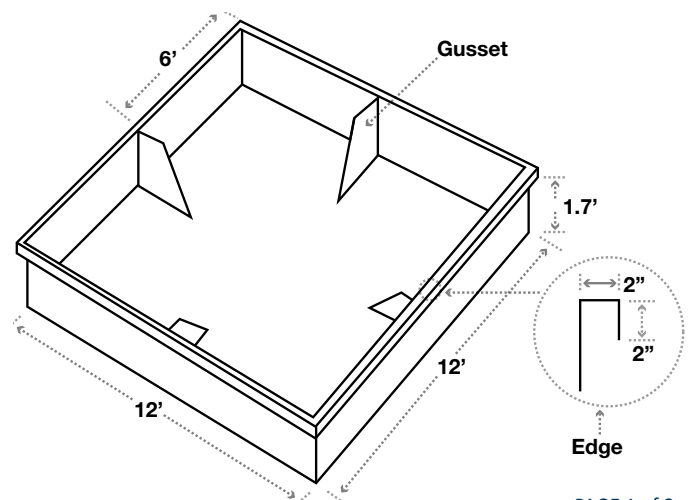
- All containment must be leakproof, and must be strong enough to hold all of the released liquid in the containment area.
- No drains or other openings are allowed in the base or walls of any containment area. Sumps are allowed, but the sumps must not be more than two feet deep or hold more than 109 gallons.
- Concrete and masonry walls and bases must be reinforced, tops of masonry walls must be capped with concrete, the interior walls of masonry containment areas must be coated to be leakproof. All wall and floor joints must be protected by waterstops or similar materials. Cracks and seams must be sealed.
- Synthetic liners must have a minimum thickness of 30 mils, chemically compatible with the products being stored/mixed/loaded, resistant to degradation by the sun, and be puncture resistant. Earthen bases supporting synthetic liners must be free of materials that may puncture the liner. The synthetic liner must be sandwiched between layers of sand or pea gravel.
- Prefabricated metal or synthetic containment areas must be chemically compatible with the products being stored/mixed/loaded, must be resistant to corrosion, puncture, cracking, and degradation by the sun.

FOR ADDITIONAL INFORMATION, CONTACT:

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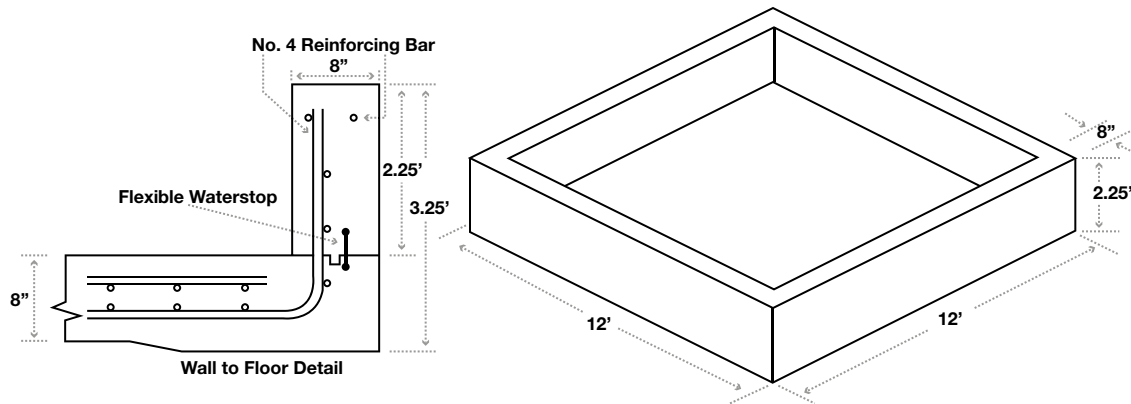
METAL SAFEGUARD

This example is adequate for a chemical supply tank of 1500 gallons. This safeguard is unroofed. Gussets are 10 ga. and are 1.75' X 1.75'. Wall thickness is 10 ga. A-36 steel. Floor thickness is 4 ga. 4" pea gravel subbase. Well drained site. Safeguard must be painted top, bottom, inside & out to resist corrosion. Reinforced edge is a 2" X 2" X 1/8 angle.



REINFORCED CONCRETE SAFEGUARD

This unroofed safeguard is adequate for a 1500 gallon agriculture chemical supply tank.



CONCRETE SPECIFICATIONS:

- 4,000 psi compressive strength concrete
- .4-.45 water-cement ratio
- 5-7.5% air entrainment
- Moist cure at least 7 days
- 60,000 psi steel reinforcement bar
- Waterstops required at all joints, no PVC for pesticide containment
- No. 4 reinforcing bar 12" on center, both directions

SYNTHETIC LINER

This unroofed safeguard example is adequate for a 1500 gallon ag chemical supply tank and is unroofed. A depression is prepared to a depth of 2.5 feet that is 10 feet square at the bottom and 20 feet square at the top. This will provide 1:2 sloping sides. The subbase and liner are installed over this depression.

- follow the manufacturer's recommendations for the installation of the liner.
- Prepare and compact the subbase. Sandwich the liner between layers of sand or pea gravel.
- Add a 6 inch inorganic soil subbase over the bottom prior to replacing the liner.

