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G94-1185 Fertilizer and Pesticide Containment Guidelines

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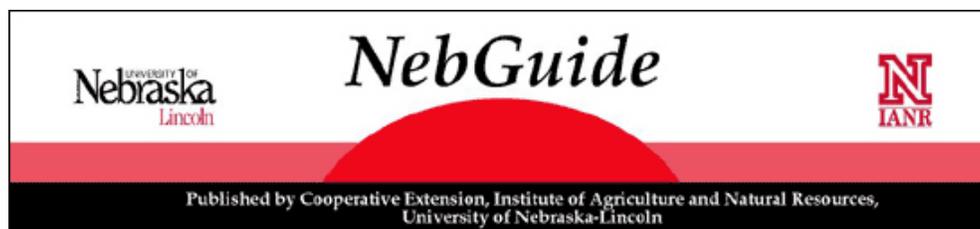


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Fertilizer and pesticide Containment Guidelines

This NebGuide summarizes Nebraska regulations on the proper storage of bulk liquid pesticides and fertilizers.

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Significant quantities of agricultural chemicals -- both fertilizers and pesticides -- are used annually in Nebraska. Bulk supplies of these chemicals are stored for varying lengths of time by individual producers, chemical dealers, and custom applicators. Spills or potential leakage from storage tanks for liquid fertilizers and pesticides pose a major threat to the integrity of Nebraska's ground and surface water resources. Nebraska has a vital interest in protecting these resources and has made provisions to do so under the Nebraska Environmental Protection Act .

The Nebraska Department of Environmental Quality (NDEQ) regulations implementing this legislation are found in Title 198: *Rules and Regulations Pertaining to Agricultural Chemical Containment*.

These rules and regulations have been developed with input from agricultural organizations, chemical industry interests, and the public. They establish minimum requirements for bulk fertilizer and pesticide storage and containment facilities, and are intended to help prevent chemical releases or spills that could contaminate ground or surface water resources.

Definitions

Several terms used in the regulations are described more fully below:

- **Bulk fertilizer** -- Any liquid fertilizer held in an individual container of undivided capacity greater than 55

U.S. gallons liquid measure.

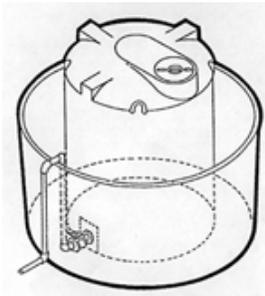
- **Bulk pesticide** -- Any liquid pesticide held in an individual container of undivided capacity greater than 55 U.S. gallons liquid measure.
- **Container** -- Any device, excluding a lagoon or pit, in which a material is stored, mixed, treated, disposed of, or otherwise handled.
- **Custom applicator** -- Any person who uses or supervises the use of pesticides or fertilizers on property other than his own or which he rents or leases, and bills, charges or assesses the cost of such work.
- **Loadout facility** -- A location, other than the field of application, used for loading, unloading, handling or mixing pesticides or fertilizers, or a location used for rinsing or washing delivery or application equipment and which is designed, constructed, and maintained to hold or confine release of a liquid pesticide or liquid fertilizer.
- **pesticide** -- A fungicide, herbicide, insecticide and/or other pest control chemical.
- **Secondary containment** -- A device or structure designed, constructed, and maintained to hold or confine release of a liquid pesticide or liquid fertilizer from a storage facility.
- **Storage facility** -- A location where bulk pesticide or bulk fertilizer is stored. A storage facility shall include the entire contiguous tract of land upon which bulk pesticide or bulk fertilizer is loaded, unloaded, mixed, blended or stored.

Liquid Fertilizers and pesticides

The regulations apply only to *liquid* fertilizers and pesticides. Storage and handling of dry fertilizers, dry pesticides and anhydrous ammonia are not affected by these regulations.

Fertilizer and pesticide dealers, aerial applicators, custom applicators (including lawn care companies), farmers, and ranchers are affected by these regulations. In many cases persons affected by these regulations will need to provide both secondary containment and loadout facilities. However, separate criteria are used to determine when each type of facility is necessary.

Secondary Containment



In general, the need for a secondary containment facility is determined by volume of fertilizer or pesticide in storage.

Figure 1. Tank in a tank secondary containment.

Bulk pesticide: Secondary containment is required when bulk liquid pesticide is stored in one or more containers having a total capacity greater than 500 gallons.

Bulk Fertilizer: A secondary containment facility is required when bulk liquid fertilizer is stored in a single container with a capacity greater than 2,000 gallons or in multiple containers with a total capacity greater than 3,000 gallons at any location. Secondary containment may be required outside of the use season for smaller quantities. A container greater than 500 gallons filled beyond 25 percent of capacity any time from Nov. 1 through March 15 requires secondary containment.

Mobile Container: A container used exclusively to transport pesticides or fertilizers is not considered as bulk storage. An example would be a nurse tank moved from field to field to supply an applicator rig.

Mini-bulk Container: A sealed container which holds 275 gallons or less is not considered bulk storage and does not require secondary containment. This applies to multiple mini-bulk containers as long as they remain sealed. For example, three sealed, 250-gallon mini-bulks are at a location for subsequent delivery. Secondary containment is not required as long as the seals remain intact. Any opened mini-bulk container would be considered bulk storage and subject to secondary containment based on the total storage capacities discussed previously.

Chemigation: Special conditions apply to chemigation. The capacity of a container used in applying a bulk pesticide or bulk fertilizer through an irrigation system (chemigation) shall be part of the total allowable capacity on a site regardless of whether the container is on a trailer, on the ground, or on a foundation. Once a container is connected to a chemigation system, it is considered storage and secondary containment will be required subject to the allowable volumes described previously.

Loadout Facility

All mixing, loading and unloading of bulk pesticides or bulk fertilizers at a storage facility and all draining, rinsing and washing of applicator and transportation equipment must be performed within a loadout facility (i.e. rinse pad). A loadout facility is required under the following conditions:

1. When secondary containment is required for bulk liquid pesticides stored in quantities greater than 500 U.S. gallons, or for bulk liquid fertilizer totaling more than 5,000 U.S. gallons.
2. When a custom applicator uses pesticides from original containers having a capacity of more than three U.S. gallons.
3. When a custom applicator uses pesticide or fertilizer mixtures in individual quantities greater than 100 U.S. gallons.
4. When bulk liquid fertilizer or pesticide is loaded or unloaded from a rail car.

A loadout facility is not required for loadout activities done at the application site as part of the normal application. For example, loadout facilities would not be needed when using a mobile trailer with water tank(s) and pesticide container(s) that moves from site to site with the applicator.

A loadout facility is not required for custom applicators at additional loading sites when loadout activities are conducted no more than 14 days in a calendar year at any of these locations and if the custom applicator has a loadout facility at a primary operating location and all other requirements are met.

This 14-day exemption does not apply to required loadout facilities described in points 1 and 4.

Design and Construction Requirements

The regulations specify design and construction requirements for loadout and secondary containment facilities and provide a time frame within which they must be constructed. Requirements relating to each type of facility will be examined separately.

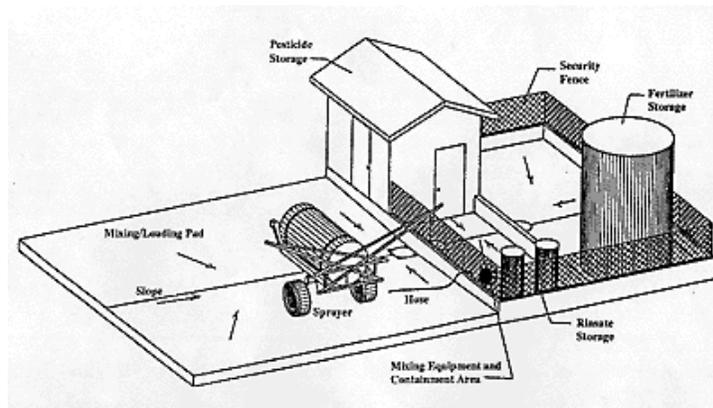


Figure 2. Example of a secondary containment and loadout facility.

Secondary Containment Facilities

A secondary containment facility for bulk pesticide constructed before Nov. 14, 1992, and a secondary containment facility for bulk fertilizer constructed on or before July 1, 1994, must include one or more of the following:

- concrete or solid masonry,
- a synthetic, metal, or prefabricated (manufactured) bentonite liner. However, a prefabricated bentonite liner is not acceptable for secondary containment of pesticides,
- a soil liner with a seepage rate not to exceed one-eighth inch per day and which has been certified by an independent testing laboratory is acceptable for secondary containment of fertilizers. However, a soil liner is not acceptable for secondary containment of pesticides. The soil liner must be a minimum of six inches thick and covered with a minimum of six inches of aggregate (gravel) or soil cover;
- a tank within a tank.

A secondary containment facility for bulk pesticides constructed after Nov. 14, 1992, and secondary containment facility for bulk fertilizers constructed after July 1, 1994, must include one of the following:

1. concrete,
2. metal liner,
3. a synthetic liner installed according to the manufacturer's specifications and used only for applications specifically approved by the manufacturer,
4. a tank within a tank.
5. A prefabricated bentonite liner is acceptable only for fertilizer containment, not pesticides.

Minimum Size For Secondary Containment: If the secondary containment facility is enclosed or covered to keep precipitation out, it must be constructed to contain, at a minimum, the sum of the maximum possible discharge from the largest container plus ten percent of the largest container capacity (i.e. 110% for most situations). This containment capacity must be large enough to contain any volume displaced by containers or equipment located within the containment area.

If the containment area is not covered from precipitation, the containment volume must also include the expected precipitation from a 25-year, 24-hour storm.

When Must a Secondary Containment Facility be Constructed?

A secondary containment facility must be constructed according to the following schedule:

1. any person or business with *existing bulk pesticide* storage as of Nov. 14, 1992, has until Jan. 1, 1995, to comply. New bulk pesticide storage or expansion of existing bulk pesticide storage after Nov. 14, 1992, must have secondary containment prior to use;

2. any person or business with *existing bulk fertilizer* storage as of July 1, 1994, has until Jan. 1, 1999, to comply. New bulk fertilizer storage or expansion of existing bulk fertilizer storage after July 1, 1994, must have secondary containment prior to use.

Loadout Facilities

Certain design components are required when constructing a loadout facility. A loadout facility must meet these minimum requirements:

1. It must be constructed of concrete, asphalt or other impermeable material.
2. It must be constructed to withstand the weight of vehicles which will be on the loadout facility.
3. It must be sized to contain a minimum of 1,800 gallons or 1.5 times the largest container on the loadout facility, whichever quantity is smaller.
4. It must be sloped to a collection point or sump.

When Must a Loadout Facility be Constructed?

pesticide loadout facility: Any new pesticide activity requiring a loadout facility must have the facility constructed prior to operation. Any pesticide activity in existence prior to Nov. 14, 1992, requiring a loadout facility has until Jan. 1, 1995, to comply.

Fertilizer loadout facility: Any fertilizer activity existing as of July 1, 1994, requiring a loadout facility has until Jan. 1, 1999, to comply. Any fertilizer activity initiating operation after July 1, 1994, requires a loadout facility constructed prior to operation.

Construction Plans

A construction plan is required for each secondary containment and loadout facility. Construction plans should include:

1. a scale drawing of plans and specifications, including storage containers, buildings and loadout areas;
2. a copy of the plumbing diagram of the facility, including the location, size and type of plumbing (valves, pumps, etc.) and any back flow prevention devices.
3. The construction plan **must be certified** by a Nebraska registered engineer or be a generically designed plan approved by NDEQ. These plan requirements do not apply to pesticide secondary containment or loadout facilities constructed before Nov. 14, 1992, or to fertilizer secondary containment or loadout facilities constructed on or before July 1, 1994.
4. A management program should include plans for the recycle, reuse, or disposal of accumulations or releases collected in the facility.
5. The construction plan must be kept up-to-date and on file at the facility or the nearest office location for the facility.

Construction plans are available from several sources. They include Extension publications and the Midwest Plan Service series through University of Nebraska Cooperative Extension. Generic construction plans are available from NDEQ.

No permit or registration is required on any secondary containment or loadout facility. NDEQ does not approve individual construction plans. Compliance is achieved by building a facility which meets or exceeds the Agricultural Chemical Containment regulations, Title 198.

Sales Tax Refund

The Nebraska Department of Revenue has established a sales tax refund on projects providing environmental protection. A refund of Nebraska sales and use tax paid on equipment and supplies used in the construction of a secondary containment or loadout facility may be available from the Nebraska Department of Revenue.

Information must be submitted to the NDEQ showing that the facility is designed and operated primarily for control, capture, or removal of industrial or agricultural waste from the air or water and is suitable, reasonably adequate, and meets the intent and purposes of the Nebraska Environmental Protection Act. If approved, the NDEQ will notify the owner of the facility in writing and the owner must then submit an application to the Department of Revenue. Individuals have up to three years from the date of payment of the sales and use tax to apply for the refund. Contact the Nebraska Department of Revenue or the NDEQ for more information.

Achieving Compliance

Details and specifics about the agricultural chemical containment regulations are available from the NDEQ. To obtain a copy of the Agricultural Chemical Containment regulations, or if you have questions, contact the Ground Water Section, Nebraska Department of Environmental Quality, P.O. Box 98922, Lincoln, NE 68509, telephone (402) 471-0096.

Inspection, Complaints, and Compliance

The NDEQ responds to complaints relating to storage, spills, or improper disposal of agricultural chemicals. The Nebraska Environmental Protection Act enables the NDEQ to conduct inspections whenever it is determined that water supplies have or may be threatened. The NDEQ seeks voluntary compliance whenever possible.

Potential Penalties and Fines: Non-compliance with the regulations may result in an Administrative Order from the Director of the NDEQ requiring corrective action. The NDEQ may seek a court ordered injunction, misdemeanor fines, or civil penalties up to \$10,000 per day per violation.

References

- "Designing Facilities for pesticide and Fertilizer Containment,"
1991, MWPS-37, Midwest Plan Service, Iowa State University, Ames, IA.
Nebraska Department of Environmental Quality. 1992.
"Title 198, Rules and Regulations Pertaining to Agricultural
Chemical Containment," as amended February 14, 1994.

File G1185 under: WATER RESOURCE MANAGEMENT

B-7, Laws and Regulations

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