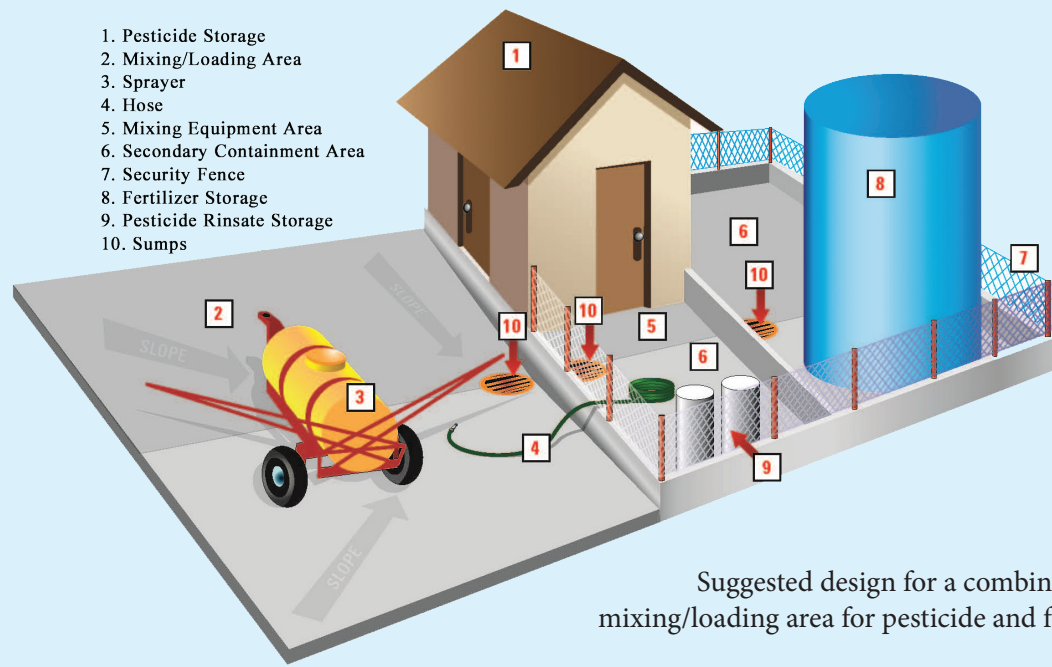
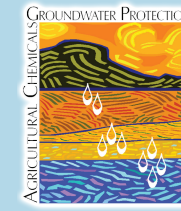


1. Pesticide Storage
2. Mixing/Loading Area
3. Sprayer
4. Hose
5. Mixing Equipment Area
6. Secondary Containment Area
7. Security Fence
8. Fertilizer Storage
9. Pesticide Rinsate Storage
10. Sumps



Suggested design for a combination storage and mixing/loading area for pesticide and fertilizer handling.



RULES SUMMARY FOR BULK AGRICULTURAL CHEMICAL STORAGE FACILITIES AND MIXING/LOADING AREAS

DO THE RULES APPLY TO YOUR OPERATION?

PESTICIDES

Secondary Containment:

1. Do you store pesticides in containers larger than 55 gallons for liquid pesticides or 100 pounds for dry pesticides for more than 15 consecutive days?

If you answered “no” to question 1, secondary containment is not required; skip question 2.

2. Do you store pesticides in containers between 55 & 660 gallons that are not EPA-approved portable refillable containers?

If you answered “yes” to both questions 1 & 2, secondary containment and a mixing/loading area are required.

Mixing/Loading Areas:

3. Do you mix and/or load at one site (any site within 300 feet of another site is considered one site for these rules) in any one year period, at least:
 - a) 500 gallons of liquid formulated product (concentrate as it comes from the supplier)
 - b) 3,000 pounds of dry formulated product
 - c) 1,500 pounds of active ingredients of pesticides

If you answered “yes” to any part of question 3, a mixing/loading area for pesticides is required.

Field mixing/loading of pesticides is exempt from these rules.

FERTILIZERS

4. Do you store liquid fertilizer in a container or series of interconnected containers with a capacity greater than 5,000 gallons for 30 consecutive days or more?

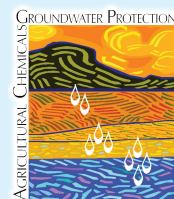
If you answered “yes,” secondary containment and a mixing/loading area are required.

5. Do you store bulk (containers larger than 100 pounds) dry fertilizer in quantities of 55,000 pounds or more for 30 consecutive days or more?

If you answered “yes,” secondary containment and a mixing/loading area are required.



The Commissioner of Agriculture has promulgated rules for facilities where pesticides and/or fertilizers are stored and handled in quantities that exceed minimum thresholds. The purpose of the rules is to prevent and/or contain spills and leaks that can potentially contaminate groundwater resources. The rules also establish standards for the construction and operation of bulk liquid and dry agricultural chemical storage facilities and mixing/loading areas. This summary covers key points of the rules and is meant to convey only a general overview; see *Water Quality Control Concerning Agricultural Chemicals and Ground Water, 8 CCR 1206-1* for more information.



Rob Wawrzynski
 305 Interlocken Parkway
 Broomfield, CO 80021
 (303) 869-9042
 rob.wawrzynski@state.co.us
 www.colorado.gov/ag/gw



COLORADO
 Department of Agriculture
 Conservation Services Division

SCOPE OF THE RULES

The rules address two key elements in agricultural chemical handling; secondary containment of storage containers, and mixing/loading areas. These two elements are further divided by the product handled (pesticide or fertilizer), and whether the product is in liquid or dry form.

Pesticides

Secondary Containment: Required for any bulk storage facility, liquid or dry. Bulk storage facilities are those handling containers with capacities greater than 55 gallons liquid or 100 pounds dry for more than 15 consecutive days. However, facilities handling only EPA-approved portable refillable containers up to 660 gallons, are exempt from secondary containment requirements.

Mixing/Loading Areas: Required where at least 500 gallons of liquid formulated product, 3,000 pounds of dry formulated product, or 1,500 pounds of active ingredients are handled in any one year period. Additionally, any pesticide storage facility requiring secondary containment must also have a mixing/loading area.

Fertilizers

Secondary Containment: Required for liquid storage facilities where any container or series of interconnected containers has a capacity greater than 5,000 gallons, and dry storage facilities where at least 55,000 pounds of bulk fertilizer are stored for 30 consecutive days or more.

Mixing/Loading Areas: Fertilizer storage facilities requiring secondary containment must also have a mixing/loading area.

Field mixing/loading of pesticides is exempt from these rules.



OPERATION OF LIQUID AGRICULTURAL CHEMICAL CONTAINMENT FACILITIES AND MIXING/LOADING AREAS

Storage containers and appurtenances shall be designed and constructed of materials which are resistant to corrosion, puncture, or cracking, and can handle operating stress. Storage containers shall be secured to prevent flotation or instability. Storage container connections, except safety relief connections, shall be equipped with a shut-off valve. Plumbing shall be adequately supported, and a flexible connection is required between the plumbing and storage containers. Every storage container shall have a device or method for measuring the liquid level. Pesticide storage containers shall be properly labeled and equipped with a pressure regulated vent. Abandoned storage containers shall be thoroughly cleaned.

BULK DRY AGRICULTURAL CHEMICALS

Bulk dry agricultural chemicals (BDAC) shall be stored inside a sound structure to prevent contact with precipitation. The floor of the structure shall be constructed of a material resistant to chemical corrosion and be capable of preventing downward movement of BDAC or the upward movement of moisture through the floor. All handling of BDAC shall be done on a mixing/loading area designed and constructed of material so as to: form a barrier between the BDAC handling area and the surrounding earth; facilitate easy cleanup of spills; and handle wheel loads of vehicles served. All spills shall be immediately recovered. The area must be maintained as a barrier for the life of the structure.

OPERATIONS – ALL FACILITIES

All agricultural chemicals in facilities shall be secured against access by unauthorized persons. Valves on storage containers shall be locked except when persons responsible for facility security are on site. A device or method to prevent back flow into the water supply line shall be installed. Regular inspection and maintenance of the facility shall be performed. If operations at a facility are discontinued, the Colorado Department of Agriculture must be notified, all agricultural chemical product removed, and storage containers cleaned.

SITE PLAN DESIGN AND CONSTRUCTION

The design plan for bulk storage facilities and mixing/loading areas must be signed and sealed by a Colorado registered professional engineer, or be from a source approved by the Commissioner of Agriculture. Approved generic plans are available through the Colorado Department of Agriculture (*Plans for Small to Medium-Sized Agricultural Chemical Bulk Storage & Mix/Load Facilities*).

SUGGESTED MATERIALS SUITABLE FOR CONSTRUCTION TO SATISFY REQUIREMENTS OF THE RULES

Materials used for secondary containment and mixing/loading structures must have a water permeability rate that does not exceed 1×10^{-7} centimeters per second.

Some materials which may meet this requirement include:

- Good quality concrete
- ¼ inch coated steel
- Stainless steel
- Poly or fiberglass tanks
- Synthetic liners

SECONDARY CONTAINMENT FOR THE STORAGE OF LIQUID AGRICULTURAL CHEMICALS

Bulk liquid agricultural chemical containers must be stored in an impervious secondary containment structure (SCS). The SCS must be capable of: supporting the weight of full tanks; resisting chemical corrosion; and containing a discharge. The capacity of the SCS must be up to 125 percent of the volume of the largest container in the structure. The walls shall be of such a height as to allow easy inspection and egress. The floor of the SCS shall be designed to drain to a shallow sump. Discharges or precipitation accumulations in an SCS shall be immediately recovered by a manually activated pump. However, automatic pumps may be used to remove precipitation during the inactive season provided all tanks in the SCS are empty. The SCS must be maintained as impervious over its service life.



MIXING /LOADING AREAS FOR LIQUID AGRICULTURAL CHEMICALS

All mixing/loading operations must take place on an impervious mixing/loading area (MLA). The MLA must be large enough so that the tank and appurtenances are over the area, provided no flushing of the boom system occurs. Capacity of the MLA must be up to 125 percent of the volume of the largest container using the area. A MLA serving containers holding more than 1,200 gallons need only be designed to hold a minimum of 1,500 gallons. If the primary use of the

MLA is to service chemical application equipment and bulk transport vehicles only use the area for occasional deliveries, then the area size is determined by the container size of the application equipment. However, the bulk transport vehicle must conduct its operations with appurtenances over the MLA. The MLA shall be designed to drain to a shallow sump. Discharges or precipitation accumulations on a MLA shall be immediately recovered by a manually activated pump. Automatic pumps may be used to remove precipitation during the inactive season. The MLA must be maintained as impervious over its service life.

