Purdue Pesticide Programs

Purdue University Cooperative Extension Service

Bulk Pesticide and Fertilizer Storage on Indiana Farms

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You may take advantage of lower prices by purchasing pesticides or fertilizers in bulk quantities and buying early. Having these products readily available on the farm allows you to make timely pesticide and fertilizer applications.

Storing bulk volumes of chemical products requires an increase in responsibility. That responsibility includes protecting the environment, including drinking water, from contamination. The greater the amount stored, the greater the environmental impact if a holding tank fails. In addition, if you store large volumes of chemicals, you are required to comply with Indiana's bulk fertilizer and pesticide regulations.

This publication addresses the following:

1. Amounts considered bulk storage
2. Registration of a bulk storage facility
3. Requirements for storing bulk pesticides and fertiliz-

1. Pesticides and Fertilizers Stored in Bulk Quantities

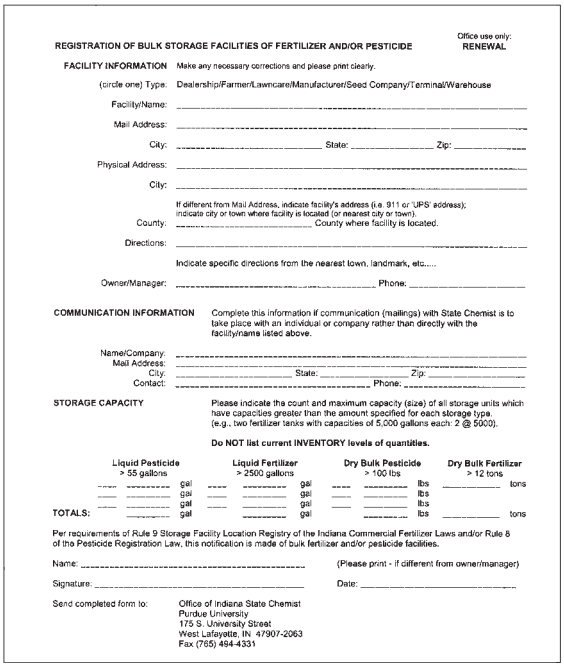
Indiana regulations 355 IAC 5 (Pesticide) and 355 IAC 2 (Fertilizer) define how much pesticide and fertilizer constitutes bulk storage. If you store those amounts, you are obligated to satisfy the additional requirements.

You have bulk storage if you

- have a tank with a rated capacity of more than 2,500 gallons of liquid fertilizer.
- store more than 7,500 total gallons of liquid fertilizer.
- store dry fertilizer in undivided quantities (piles, not bags) exceeding 12 tons.
- have a container with more than a 55-gallon liquid pesticide capacity.
- store dry pesticides in undivided quantities exceeding 100 pounds.
- have minibulk tanks (55–400 gallons) stored on the farm for more than 30 days. (Written and verifiable documentation as to the period of storage at the facility is required. Otherwise, minibulks are considered permanent storage.)

2. Bulk Storage Registration

Any farm on which pesticides and/or fertilizers are stored in quantities specified in #1, above, must register with the Office of Indiana State Chemist (OISC) as a bulk storage facility. The registration form is used for both fertilizer and pesticide storage and is available on-line at *http://www.isco.purdue.edu/index_fert.htm* or by calling 765/494-1492. There is no charge to register as a bulk storage facility. Renewal notices for bulk storage facilities are sent yearly for you to report any changes that might occur.



REGISTRATION OF BULK STORAGE FACILITIES OF FERTILIZER AND/OR PESTICIDE

Office use only: RENEWAL

FACILITY INFORMATION Make any necessary corrections and please print clearly.

(circle one) Type: Dealership/Farmer/Lawncare/Manufacturer/Seed Company/Terminal/Warehouse

Facility/Name: _____

Mail Address: _____

City: _____ State: _____ Zip: _____

Physical Address: _____

City: _____

If different from Mail Address, indicate facility's address (i.e. 911 or 'UPS' address); indicate city or town where facility is located (or nearest city or town).

County: _____ County where facility is located.

Directions: _____

Indicate specific directions from the nearest town, landmark, etc.....

Owner/Manager: _____ Phone: _____

COMMUNICATION INFORMATION Complete this information if communication (mailings) with State Chemist is to take place with an individual or company rather than directly with the facility/name listed above.

Name/Company: _____

Mail Address: _____

City: _____ State: _____ Zip: _____

Contact: _____ Phone: _____

STORAGE CAPACITY Please indicate the count and maximum capacity (size) of all storage units which have capacities greater than the amount specified for each storage type. (e.g., two fertilizer tanks with capacities of 5,000 gallons each: 2 @ 5000).

Do NOT list current INVENTORY levels of quantities.

	Liquid Pesticide > 55 gallons		Liquid Fertilizer > 2500 gallons		Dry Bulk Pesticide > 100 lbs		Dry Bulk Fertilizer > 12 tons
	____ ____	gal	____ ____	gal	____ ____	lbs	____ tons
	____ ____	gal	____ ____	gal	____ ____	lbs	
	____ ____	gal	____ ____	gal	____ ____	lbs	
TOTALS:	____	gal	____	gal	____	lbs	____ tons

Per requirements of Rule 9 Storage Facility Location Registry of the Indiana Commercial Fertilizer Laws and/or Rule 8 of the Pesticide Registration Law, this notification is made of bulk fertilizer and/or pesticide facilities.

Name: _____ (Please print - if different from owner/manager)

Signature: _____ Date: _____

Send completed form to: Office of Indiana State Chemist
Purdue University
175 S. University Street
West Lafayette, IN 47907-2063
Fax (765) 494-4331

3. Bulk Storage and Containment Requirements

It is necessary to understand a few definitions when deciding what must be done to comply with bulk storage regulations.

Definitions:

Primary containment: the tanks

Secondary containment: the diked area used to catch materials released from the tanks

Operational containment: the load pad located adjacent to the dike (secondary containment); the curbed pad used when transferring or mixing liquid pesticides or fertilizers

Tanks (primary containment) must be labeled with the fertilizer grade (e.g., 28-0-0). The external sight gauge on fertilizer tanks must be locked except when checking the liquid levels. External sight gauges are not allowed on pesticide tanks. A copy of the pesticide label must be attached to each tank; and the label must contain a net contents statement and an EPA Establishment number indicating where the pesticide was produced. Labels can be obtained from the commercial dealer. All tanks must be locked when not in use.

Diked area (secondary containment) must have the capacity to hold the volume of the largest tank and displacement of any other tanks in the dike. An additional 6 inches of sidewall is needed if the secondary containment is not roofed. Do not place drains and hoses through the walls. The floor of the dike must be sloped to allow for the collection of rainfall and spilled material. Pesticide and fertilizer tanks must rest in separate diked areas; however the containment areas for pesticides and fertilizers may share a wall.

A load pad (operational containment) must be at least 10 x 20 feet and hold 750 gallons. A 6-inch curb around a 10 x 20 foot pad will hold about 750 gallons (see sidebar). The load pad should be sloped and equipped with a sump pump to collect spilled materials and rainwater.

10 ft. x 20 ft. x .5 ft. = 100 cu. ft.
1 cu. ft. = 7.48 gal.
100 cu. ft. x 7.48 = 748 gal.

Do all mixing, loading, equipment washing, and filling of minibulk containers on the load pad. Transfers of dry fertilizer can be done over any impermeable surface.

Maintenance

Any pesticide spills or leaks must be promptly recovered and used according to label directions. If a fertilizer is spilled, use the recovered material according to best management practices. Keep a shovel and absorbent materials on hand to recover spills and keep the dike and load pad free of trash and accumulated liquid, including rainwater.

Before accumulated rainwater is released over the dike wall, it must be tested for and declared free of contaminants. Keeping the diked area clean, monitoring content levels in the tanks, and preventing leaks keep accumulated rainwater free of contamination.

Every component of the facility must be maintained. Examine the dike wall closely for cracks. Cracked concrete doesn't protect the environment from possible contamination. Inspections should be conducted regularly: before receiving chemicals and at the end of the season, at a minimum.

Post your locked storage area with a "Keep Out" or "No Trespassing" sign. This is a good practice for all stored chemicals, no matter what amount.

Record of abandoned underground storage containers must be kept permenantly. All abandonment records are eligible for inspection by OISC.

Facility considerations
Before building a dike or load pad, it's a good idea to visit other facilities to see how theirs were constructed. Be sure to ask what they would do differently if they could redesign their dikes and pads. Ask what works and doesn't work. One lesson farmers and commercial applicators have learned is to place a roof over the bulk tanks and load pad to eliminate the need to dispose of rainwater.

Choose the building site carefully. Select a location that's on firm ground and easily accessible for filling the tanks and for emergency responders. Keep in mind setback distances from wellheads and waterways. Divert stormwater flow away from the storage area. Special consideration is necessary if the facility will be located in a wellhead protection area. If concrete is used, hire a contractor and follow general guidelines *(see Resources).*

If the diked area is uncovered, create grass filter strips around it to absorb runoff; i.e., to help protect surface water from fertilizer and/or pesticide runoff.

A bulk storage facility for fertilizers or pesticides may be eligible for cost share funds through the Natural Resources Conservation Service (NRCS). The funds may be applied toward construction of any part of the facility: dike, pad, roof. Funds are also available for construction of grass filter strips. Contact your local NRCS office for more information concerning the criteria before starting construction.

4. **Benefits of Compliance**
Improvements to property normally increase property taxes. However, farmers who construct a bulk storage facility may ask for a tax credit. The information on how to receive the tax credit can be found at *http://www.isco.purdue.edu/memo_procedure_for_tax_cert.pdf* or by calling 765/494-1492.

A registered, in-compliance facility may be eligible for reduced insurance rates. Many of the storage requirements help protect the facility from theft and vandalism.

Meeting the compliance requirements ensures that in the event of a spill the material will be contained. Without containment the resulting clean-up can cost thousands of dollars. The intent of the requirements is to protect the environment—which means *your* drinking water and *your* property.

Resources:
The following forms and fact sheets are available from the Office of Indiana State Chemist: phone; 765/494-1492; fax; 765/494-4331.

Bulk Storage Registration form: *http://www.isco.purdue.edu/index_fert.html*
Tax Credit Application: *http://www.isco.purdue.edu/memo_procedure_for_tax_cert.pdf*
BC-4 Engineering Firms List
BC-8 Containment Dike Calculation
BC-9 Natural Clay Tests
BC-15 Discharge Response Plan
BC-16 Recordkeeping Forms

Publications:
MWPS-37 Designing Facilities for Pesticides and Fertilizer Containment. $17. Order by calling 765/494-1174 or on the web at *http://abe.www.ecn.purdue.edu/ABE/extension/fbps*

NRAES-78 On-Farm Agrichemical Handling Facilities. $7. Order by calling 607/255-7654 or on the web at *http://www.nraes.org/*

PPP publications can be ordered by calling 888-EXT-INFO (398-4636) or downloaded from the web at *http://www.btny.purdue.edu/PPP/.*

PPP-26 Pesticides and Their Proper Storage
PPP-42 Pesticides and Environmental Site Assessment
PPP-49 The Insurance Policy
PPP-50 Managing Farm Chemicals
PPP-57 Managing Farm Emergencies

General Guidelines for Concrete

Floor Construction

- 95% compaction on subgrade
- Type II or IIA cement is recommended. 4000 psi (pounds per square inch) concrete to withstand 4000 pounds of compression
- 4– to 5–inch slump (how far it drops; the more it drops, the runnier the material and the weaker the concrete)
- Rebar reinforcements, not mesh. Control joints (to control cracks).
- 5–7.5% air entrapment (some air pockets needed inside for contraction purposes).
- 6″ minimum thickness; 12″ maximum
- Have concrete inspected (meet specifications)

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