ARTICLE 2. COMMERCIAL FERTILIZERS

Rule 1. General Provisions

355 IAC 2-1-1 Degree of fineness of unacidulated phosphate materials; registration and labeling
Authority: IC 15-3-3-12
Affected: IC 15-3-3-4; IC 15-3-3-5

Sec. 1. The degree of fineness of unacidulated phosphatic materials is determined by established methods. Rock phosphate, soft phosphate with colloidal clay, basic slag, and other materials, the availability of which is related to particle size, shall be registered and labeled as to the percentage that will pass U. S. Standard Sieve Series Number 100 (100 mesh, dry sieve method).

355 IAC 2-1-2 Official methods of sampling and analysis
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 2. The methods of sampling and analysis shall be those adopted by AOAC International in all cases where methods have been adopted by AOAC International. In cases not covered by such methods, or in cases where methods are available in which improved applicability has been demonstrated, the state chemist may adopt such appropriate methods from other sources.

355 IAC 2-1-3 Printed matter conflicting with required labeling; prohibition
Authority: IC 15-3-3-12
Affected: IC 15-3-3-5

Sec. 3. No printed or written matter or design of any kind shall be attached to, or appear on, or be associated with commercial fertilizer which conflicts with the information described in IC 15-3-3-5.

355 IAC 2-1-4 Weight denominations of official tags or labels; minimum order *(Repealed)*

355 IAC 2-1-5 Additional plant nutrients; registration and guarantee; warning on label
Authority: IC 15-3-3-12
Affected: IC 15-3-3-4; IC 15-3-3-5

Sec. 5. (a) Additional plant nutrients besides nitrogen (N), phosphate (P_2O_5), and soluble potash (K_2O), when mentioned or claimed on the:
(1) tag or label;
(2) container; or
(3) written or printed statement that accompanies delivery;
shall be registered and guaranteed. Guarantees shall be made on the elemental basis. Sources of the elements guaranteed shall be shown on the application for registration.
(b) When claims for such nutrients are made on the label, container, or application for registration, the minimum percentages that will be accepted for registration are as follows:

Element	**Percentage**
Calcium (Ca)	1.00
Magnesium (Mg)	0.50
Sulfur (S)	1.00
Boron (B)	0.02

Chlorine (Cl)	0.10
Cobalt (Co)	0.0005
Copper (Cu)	0.05
Iron (Fe)	0.10
Manganese (Mn)	0.05
Molybdenum (Mo)	0.0005
Sodium (Na)	0.10
Zinc (Zn)	0.05

Guarantees or claims for the additional plant nutrients listed in subsection (b) are the only ones that will be accepted. Proposed labels and directions for use of the fertilizer shall be furnished with the application for registration upon request. Warning or caution statements are required on the label for any product that contains three-hundredths percent (0.03%) or more of boron in a water-soluble form or one-thousandth percent (0.001%) or more of molybdenum. Any of the elements listed in subsection (b) that are guaranteed shall appear in the order listed, immediately following guarantees for the primary nutrients, nitrogen, phosphorus, and potassium.

355 IAC 2-1-6 Boron-containing fertilizers; warning requirements
Authority: IC 15-3-3-12
Affected: IC 15-3-3-4; IC 15-3-3-5

Sec. 6. When any compound of boron is incorporated in a commercial fertilizer, a special warning tag or statement must be furnished to the purchaser and shall contain the following:

(1) The word “WARNING” in letters at least three-fourths (3/4) inch in height.

(2) A statement describing the crops for which the fertilizer is to be used.

(3) A statement declaring use of the fertilizer on any other crops or under conditions other than those recommended may result in serious injury to the crops.

The tag or statement must be attached to or printed on the bag or other container in which the fertilizer is sold. For bulk fertilizers, the statement must be placed on the invoice or other document that shall accompany delivery and be supplied to the purchaser at the time of delivery as provided in IC 15-3-3-5(b).

355 IAC 2-1-7 Pesticides in fertilizers; registration and guarantee
Authority: IC 15-3-3-12
Affected: IC 15-3-3-4; IC 15-3-3-5

Sec. 7. Pesticides in Fertilizers. When an insecticide, herbicide, or any other additive for pest control is added to fertilizer the product must be registered and guaranteed with respect to the kind and percentage of each of these additives as well as with respect to plant food elements. In a prominent manner the label on the package shall state the crops for which the fertilizer is to be used and shall state that the use of the fertilizer on any other crops or under conditions other than those recommended may result in serious injury to crops.

Rule 2. Definitions

355 IAC 2-2-1 “Approved” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 1. As used in this article, “approved” means approval by the state chemist except where otherwise stated.

355 IAC 2-2-1.5 “Appurtenance” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 1.5. As used in this article, “appurtenance” means any:
(1) valve;
(2) pump;
(3) fitting;
(4) pipe;
(5) hose;
(6) metering device; or
(7) mechanical device;
that is connected to a storage container or is used to transfer a material into or out of such container.

355 IAC 2-2-2 “Aqua ammonia” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 2. As used in this article, “aqua ammonia” means an aqueous solution of anhydrous ammonia generally containing from eighteen (18) to thirty (30) percent of ammonia (NH_3) by weight and having a vapor pressure usually varying from zero (0) to ten (10) pounds per square inch gauge (psig) at one hundred four degrees Fahrenheit (104°F).

355 IAC 2-2-3 “Discharge” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 3. As used in this article, “discharge” means a release of fluid or dry bulk fertilizer into either a secondary containment or operational containment area at a storage facility.

355 IAC 2-2-4 “Dry bulk fertilizer” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 4. As used in this article, “dry bulk fertilizer” means nonfluid commercial fertilizer in an undivided quantity exceeding two hundred (200) pounds.

355 IAC 2-2-5 “Elephant ring” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 5. As used in this article, “elephant ring” means a storage container with open top serving as a secondary containment vessel into which a smaller primary storage container is placed.

355 IAC 2-2-5.5 “Facility” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 5.5. As used in this article, “facility” means all land, buildings, equipment, structures, and other stationary items that are located on a single site or on contiguous sites and that are owned or operated by the same person or by any person who controls, is controlled by, or is under common control with such person.

355 IAC 2-2-6 “Field operations” defined

Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 6. As used in this article, “field operations” means the application of bulk (dry or fluid) fertilizer to soil or plants in the course of normal agricultural or horticultural practice.

355 IAC 2-2-7 “Fluid bulk fertilizer” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 7. As used in this article, “fluid bulk fertilizer” means fluid fertilizer in an undivided quantity exceeding fifty-five (55) U.S. gallons.

355 IAC 2-2-8 “Fluid fertilizer” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 8. As used in this article, “fluid fertilizer” means commercial fertilizer in liquid form and includes solutions, emulsions, suspensions, and slurries. “Fluid fertilizer” does not include anhydrous ammonia.

355 IAC 2-2-9 “Low pressure nitrogen solutions” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 9. As used in this article, “low pressure nitrogen solutions” means an aqueous solution of ammonium nitrate, urea, or other nitrogen carriers containing various quantities of free ammonia exceeding two percent (2%) by weight. Aqua ammonia and nonpressure nitrogen solutions, commonly referred to as:
(1) twenty-eight percent (28%);
(2) thirty percent (30%); or
(3) thirty-two percent (32%);
nitrogen solutions, are excluded from this definition.

355 IAC 2-2-10 “Operational area” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 10. As used in this article, “operational area” means an area or areas at a storage facility where fertilizers are:
(1) transferred, loaded, unloaded, or mixed; or
(2) cleaned or washed from containers or application, storage, or transportation equipment.

355 IAC 2-2-11 “Operational area containment” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 11. As used in this article, “operational area containment” means any structure or system designed and constructed to effectively intercept and contain discharges, including container or equipment wash water and rainwater, and to prevent run-off or leaching from a storage facility.

355 IAC 2-2-12 “Primary containment” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 12. As used in this article, “primary containment” means the storage of fluid bulk fertilizer in storage containers at a

storage facility.

355 IAC 2-2-13 “Secondary containment” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 13. As used in this article, “secondary containment” means any structure, such as a dike, used to contain fertilizer discharges from bulk storage containers and prevent run-off or leaching.

355 IAC 2-2-13.5 “Spill” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 13.5. As used in this article, “spill” means any unexpected, unintended, abnormal, or unapproved liquid or dry dumping, leakage, drainage, seepage, or other loss of fertilizer. The term does not include releases to impermeable surfaces when the fertilizer does not migrate off the surface or penetrate the surface and enter the soil.

355 IAC 2-2-14 “State chemist” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 14. As used in this article, “state chemist” means the Indiana state chemist or an appointed agent.

355 IAC 2-2-15 “Storage container” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 15. (a) As used in this article, “storage container” means:
(1) a container;
(2) a rail car;
(3) a nurse tank; or
(4) any other mobile container;
used for the storage of fluid bulk fertilizer.
(b) The term does not include the following:
(1) A mobile container storing fluid bulk fertilizer at a storage facility for less than fifteen (15) days, if this storage is incidental to the loading or unloading of a storage container at the storage facility.
(2) A mobile container located other than on property owned, operated, or controlled by an owner or operator of a storage facility.
(3) A container used solely for emergency storage of leaking fertilizer containers.

355 IAC 2-2-16 “Storage facility” defined
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 16. As used in this article, “storage facility” means a location at which:
(1) fluid bulk fertilizer in undivided quantities in excess of:
(A) two thousand five hundred (2,500) gallons; or
(B) seven thousand five hundred (7,500) gallons total (3 × 2,500 gallon vessels); or
(2) dry bulk fertilizer in undivided quantities exceeding twelve (12) tons;
is held in storage.

355 IAC 2-2-17 “Storage facility location registry” defined

Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 17. As used in this article, “storage facility location registry” means the annual listing of all storage facilities at any location in Indiana by the state chemist as derived from written notification from the storage facility.

Rule 3. Primary Containment of Fluid Bulk Fertilizer at Storage Facilities

355 IAC 2-3-1 Storage containers and appurtenances; general
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 1. (a) Storage containers and appurtenances shall be constructed, installed, and maintained so as to prevent the discharge or spill of fluid fertilizer.

(b) Storage containers and appurtenances shall be constructed of materials which are resistant to corrosion, puncture, or cracking.

(c) Materials used in the construction or repair of storage containers and appurtenances may not be of a type that react chemically or electrolytically with stored fluid fertilizer in a way that may weaken the storage container or appurtenances or create a risk of discharge or spill.

(d) Metals used for valves, fittings, and repairs on metal containers shall be compatible with the metals used in the construction of the storage container so that the combination of metals does not cause or increase corrosion that may weaken the storage container or its appurtenances or create a risk of discharge or spill.

(e) Storage containers and appurtenances shall be designed to handle all operating stresses, taking into account static head, pressure build-up from pumps and compressors, and any other mechanical stresses to which the storage containers and appurtenances may be subject in the foreseeable course of operations.

355 IAC 2-3-2 Prohibition against underground storage; exemptions
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 2. No person shall store fluid fertilizer in an underground or lined pit storage container. This prohibition does not apply to the following:

(1) A watertight catch basin used for the temporary collection of run-off or rinsate from transfer and loading areas.

(2) Storage in a “316” or “317” stainless steel storage container, or in another approved container, if the storage container is enclosed within an approved liner and an approved program of ground water monitoring to detect leakage is established.

355 IAC 2-3-3 Abandoned containers
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 3. (a) Storage containers and other containers used at a storage facility to hold liquid bulk fertilizer or fertilizer rinsate are considered abandoned if they have been out of service for more than six (6) months because of a weakness or leak or have been out of service for any reason for more than two (2) years.

(b) Abandoned underground containers, including abandoned underground catch basins, shall be thoroughly cleaned and removed from the ground or thoroughly cleaned and filled with an inert solid. All connections and vents shall be disconnected and sealed. A record of the catch basin size, location, and method of closing shall be maintained at the storage facility or as otherwise provided for in this article.

(c) Abandoned aboveground containers shall be thoroughly cleaned. All hatches on the containers shall be left open, and all valves or connections shall be severed and left open.

(d) A secondary containment facility is not considered abandoned merely because there have been no discharges into the secondary containment facility.

355 IAC 2-3-4 Prohibited materials

Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 4. (a) Storage containers and appurtenances shall not be constructed of copper, brass, zinc, or copper base alloys.

(b) Storage containers and appurtenances used for the storage of fluid fertilizers containing phosphates or chlorides shall not be constructed of aluminum or aluminum alloys.

(c) Storage containers and appurtenances used for the storage of low (less than five (5)) pH fluid fertilizers shall not be constructed of ferrous materials other than "316" or "317" stainless steel unless the materials are coated or treated with protective substances that are adequate to inhibit corrosion.

(d) Storage containers and appurtenances used for the storage of low pressure nitrogen solutions shall not be constructed of mild steel, fiberglass, polyolefins, or plastic. This prohibition does not extend to nonpressure solutions, commonly referred to as:

(1) twenty-eight percent (28%);
(2) thirty percent (30%); or
(3) thirty-two percent (32%);

nitrogen solutions. This prohibition against the use of mild steel does not extend to aqua ammonia.

(e) Storage containers and appurtenances used for the storage of phosphoric acid shall not be constructed of ferrous materials other than "316" or "317" stainless steel unless the container is lined with a suitable substance to prevent corrosion.

(f) Storage containers and appurtenances used for the storage of fluid fertilizers containing potassium chloride (muriate of potash) shall not be constructed of ferrous materials other than stainless steel unless the containers and appurtenances are:

(1) coated or treated with protective substances that are adequate to inhibit corrosion; or
(2) used for storage periods of not more than six (6) months each and are completely emptied between storage periods, cleaned, and inspected for leaks before being refilled for any subsequent period.

355 IAC 2-3-5 Anchoring storage containers
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 5. (a) Storage containers shall be anchored, as necessary, to prevent flotation or instability which might occur as a result of liquid accumulations within a secondary containment facility constructed in accordance with this article.

(b) In addition to other approved means, containers shall be assumed to be anchored if product is contained and maintained within the storage containers at least to the height of the secondary containment walls.

355 IAC 2-3-6 Security
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 6. (a) Storage containers and appurtenances shall be secured to provide reasonable protection from wildlife, vandalism, and unauthorized access. The security shall be provided by fencing, lighting, or other approved means.

(b) Valves on storage containers shall be locked or otherwise secured except when persons responsible for facility security are present at the facility.

(c) Valves on mobile fertilizer containers at a storage facility shall be locked or secured except when persons responsible for facility security are present.

(d) Valves on empty containers need not be secured.

355 IAC 2-3-7 Filling storage containers
Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 7. Storage containers may not be filled beyond the capacity for which they are designed, taking into account the density of the fluid being stored and thermal expansion during storage.

355 IAC 2-3-8 Pipes and fittings

Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 8. Pipes and fittings shall be adequately supported to prevent sagging and possible breakage because of gravity and other forces that may be encountered in the ordinary course of operations. All hoses and piping less than schedule 80 shall be located in a contained area or double sleeved. Underground piping is permitted providing the piping is:

(1) made of stainless steel;

(2) enclosed in secondary containment (a pipe within a pipe); or

(3) hydrostatically tested annually.

355 IAC 2-3-9 Liquid level gauging device

Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 9. (a) Every storage container shall be equipped with a liquid level gauging device by which the level of fluid in the storage container can be readily and safely determined.

(b) A liquid level gauging device is not required if the level of fluid in a storage container can be readily and reliably measured by other approved means.

(c) Liquid level gauging devices shall be designed, installed, and secured, in a safe manner, to protect against breakage or vandalism which may result in a discharge or spill.

(d) External sight gauges are prohibited unless securely attached against the container wall and provided with a manually operated shut off valve which is locked in the shut off position at all times the level of fluid is not being determined.

355 IAC 2-3-10 Labeling of storage containers

Authority: IC 15-3-3-12
Affected: IC 15-3-3-5; IC 15-3-3-7

Sec. 10. Every storage container shall be clearly and prominently labeled to identify its fertilizer contents as provided in IC 15-3-3-5 with the exception that net weight of contents shall not be required.

355 IAC 2-3-11 Inspection and maintenance

Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 11. Storage containers and appurtenances shall be maintained to minimize the risk of a discharge or spill.

355 IAC 2-3-12 Compliance with effective date of rule

Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 12. (a) Full compliance with this rule by newly established storage facilities shall be required immediately upon the effectiveness of this rule.

(b) Full compliance by existing storage facilities shall be required no later than two (2) years from the date of effectiveness of this rule.

Rule 4. Operational Area Containment for Fluid Fertilizers

355 IAC 2-4-1 Loadout and unloading pads

Authority: IC 15-3-3-12
Affected: IC 15-3-3-7

Sec. 1. (a) Areas used for the loading of fluid fertilizer into storage containers or for unloading fluid fertilizer from storage

containers into mobile containers shall be curbed and paved with reinforced concrete or other suitable material that provides an impervious surface and is approved by the state chemist. All activities at the fluid fertilizer storage facility shall be carried out within this area.

(b) The operational area containment shall be constructed and reinforced to support at least the foreseeable maximum gross load, including the following:

(1) The product.

(2) Equipment that utilizes the operational area.

(3) The mobile container.

(4) The motor vehicle.

The curbed and paved area shall have a minimum width of ten (10) feet, a minimum length of twenty (20) feet, and a minimum capacity of at least seven hundred fifty (750) gallons of discharged fluids. Any fill or unloading point of the mobile container shall be positioned over the paved area during loading or unloading.

(c) With the exception of secondary containment areas lined with synthetic or soil liners, and wherever sufficient capacity required in 355 IAC 2-5-1(c) and this rule are complied with, the secondary containment area described in 355 IAC 2-5 may be designed for and jointly used instead of a separate operational area containment.

(d) Operational areas shall not have a relief outlet or valve. The base shall slope to a collecting spot where liquid can be discharged, by a manually activated pump, for use in the blending process or for proper disposal in accordance with all applicable regulations.

(e) All liquids shall be promptly removed or recovered from the operational area containment such that the capacity required in subsection (b) is available at all times when operations, as referenced in 355 IAC 2-2-10, are taking place.

(f) Storage containers and appurtenances, shall be protected against reasonably foreseeable risks of damage by vehicles operating in the area.

(g) This section does not apply to mobile containers used to nurse field operations when at a field unloading site.

(h) Alternative means, including portable operational area containment systems meeting the capacity requirement, shall be permitted with prior approval.

(i) Operational area containment shall be maintained as necessary to assure compliance with this rule.

355 IAC 2-4-2 Compliance with effective date of rule

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 2. (a) This rule shall become effective upon the date of adoption.

(b) Full compliance by newly established storage facilities and operational areas shall be required immediately.

(c) Full compliance by existing storage facilities shall be required no later than two (2) years following adoption.

Rule 5. Diked Secondary Containment of Fluid Bulk Fertilizers

355 IAC 2-5-1 General requirements

Authority: IC 15-3-3-12

Affected: IC 15-3-2; IC 15-3-3-7

Sec. 1. (a) Fluid fertilizer storage containers shall be located within secondary containment constructed with a base, perimeter wall, and sloped floor. An exception for a sloped floor may be granted by the state chemist.

(b) The containment area shall be separate from a secondary containment area for other materials and used only for containment of fluid fertilizer containers or other fertilizer related equipment. This subsection shall not prohibit the storage within the diked area of anhydrous ammonia when stored in compliance with rules adopted under IC 15-3-2. Adjoining secondary containment areas may share common walls.

(c) Secondary containment not protected from rainfall shall at all times have a minimum capacity of one hundred percent (100%) of the volume of the largest storage container within the contained area plus the volume displaced by all the other tanks, equipment, and appurtenances in the area up to the safe design level of the containment structure plus a freeboard of six (6) inches.

(d) Secondary containment protected from rainfall is not required to have the freeboard noted in subsection (c) but shall comply with all other requirements.

(e) Secondary containment constructed before July 6, 1991, and having a capacity of a minimum of one hundred ten percent (110%) of the volume of the largest storage container within the contained area plus the volume displaced by all the other tanks in the area up to the safe design level of the containment structure shall be deemed to be in compliance with this rule. Any such storage

facility, upon alteration of secondary containment or increases in storage container volume, shall be brought into full compliance within ninety (90) days of alteration or increase.

(f) Tile drainage shall not be permitted within or under secondary containment.

(g) Alternative means, with prior approval, shall be permitted.

355 IAC 2-5-2 Walls

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 2. (a) The walls of a secondary containment facility shall be:

(1) constructed of earth, steel, concrete (precasted modules or poured), or solid masonry; and

(2) designed to withstand a full hydrostatic head of any discharged liquid and weight load of material used in construction.

(b) Cracks and seams shall be sealed to prevent leakage.

(c) Walls constructed of earth or other permeable materials shall be lined as provided under sections 3 through 7 of this rule.

(d) Earthen walls shall have a horizontal-to-vertical slope consistent with good engineering practice. All interior slopes shall be protected with:

(1) flat road stone or a similar crushed stone material; or

(2) a minimum of six (6) inches of vegetative soils planted and maintained with shallow rooted grasses.

(e) The top of earthen walls shall be no less than two and one-half (2.5) feet wide.

(f) Walls may not exceed six (6) feet in height above interior grade unless provisions are made for:

(1) normal access and necessary emergency access to storage containers, valves, and other equipment; and

(2) safe exit from secondary containment.

(g) Walls constructed of concrete or solid masonry shall rest upon:

(1) a floating base of concrete prepared as in section 4 of this rule; or

(2) suitable concrete footings that extend below the average frost depth. Joints between walls and base shall be made watertight.

355 IAC 2-5-3 Lining; general

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 3. The base of a secondary containment facility and any earthen walls shall be lined with:

(1) concrete;

(2) steel;

(3) an approved synthetic liner; or

(4) a clay soil liner.

355 IAC 2-5-4 Concrete liners

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 4. Concrete liners shall be designed according to good engineering practices to withstand any foreseeable loading conditions, including a full hydrostatic head of discharged fluid and static loads of storage containers, including appurtenances, equipment, and contents. Cracks and seams shall be sealed.

355 IAC 2-5-5 Steel liners

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 5. Steel plates may be used for wall and base liners. Installation plans shall be approved by the state chemist who shall require that the plates are protected against corrosion and are joined in a manner as to provide watertight joints.

355 IAC 2-5-6 Synthetic liners

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 6. (a) Synthetic liners and installation plans shall be approved by the state chemist. The installation plan shall address proposed protection of the synthetic liner from mechanical damage, vandalism, wildlife, and deterioration from exposure to the sun according to the manufacturer's recommendations. A synthetic liner shall not be approved by the state chemist until the manufacturer of the liner provides a written confirmation of compatibility and estimate of the life of the liner.

(b) Synthetic liners shall have a minimum thickness of thirty (30) mils (eight-tenths (0.8) millimeters) and be chemically compatible with the materials being stored within the containment areas.

(c) Synthetic liners shall be installed under the supervision of a qualified representative of the manufacturer, and all field constructed seams shall be tested and repaired, in accordance with the manufacturer's recommendations.

355 IAC 2-5-7 Soil liners

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 7. The surface soil shall be sealed, including the berm of an earthen dike, with a sealing agent such as sodium bentonite, attapulgite, or a similar cohesive material (clay). The liner shall be constructed in accordance with reliable engineering recommendations to establish a barrier layer that results in a downward water movement of not greater than one-millionth of a centimeter per second (1.0×10^{-6} cm/sec) at construction and maintained at one hundred thousandth of a centimeter per second (1.0×10^{-5} cm/sec) with a thickness of not less than six (6) inches. The liner shall be protected based upon reliable engineering practices to maintain its integrity and performance. If heavy mechanized equipment is to be moved over the walls or floor liner, protection to the secondary containment shall be provided.

355 IAC 2-5-8 Exemptions

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 8. (a) A liner need not be installed directly under a storage container having a capacity of one hundred thousand (100,000) gallons or more that has been constructed on-site and put into use before July 6, 1991, provided that one (1) of the following alternative procedures are complied with, certified to in writing by an official of the company who owns the container, and the certificate is filed with the state chemist:

(1) Alternative 1 shall be as follows:

(A) A second bottom made of steel shall be constructed for the storage container and placed over the original bottom and a layer of smooth, fine gravel or coarse sand having a minimum thickness of six (6) inches.

(B) The original bottom of the storage container shall be tested for leaks before the sand layer or second bottom is installed. A record of the test shall be kept on file at the storage facility.

(C) The newly constructed bottom shall be tested for leaks before any fluid fertilizer is stored on the newly constructed bottom. A record of the test shall be kept on file at the storage facility or at the nearest local office from which the storage facility is administered.

(D) There shall be a method by which leaks from the newly constructed bottom into the sand layer may readily be detected.

(E) The newly constructed bottom shall be tested at least once every five (5) years for leaks. A record of the tests shall be kept at the storage facility.

(2) Alternative 2 shall be as follows:

(A) The container shall be emptied, cleaned, and tested for leaks. The walls and floor of the container shall be tested to assure that welds and thickness of steel plates are sound and adequate to contain the fertilizers. A record of the inspection, test results, and ~~of~~ any repairs made shall be submitted to the state chemist and maintained by the owner or operator.

(B) The interior floor and at least twelve (12) inches of the wall areas of the container above the floor shall be coated with an approved liner to inhibit corrosion. A record of this procedure shall be submitted to the state chemist and maintained by the owner or operator.

(C) An approved test for leaks shall be conducted every five (5) years thereafter. A record of the test findings and indicated repairs and maintenance shall be maintained by the owner or operator.

(3) Alternative 3 shall be as follows:

(A) Monitoring devices shall be installed in angled borings in the unsaturated earth materials under each tank. These monitoring devices shall constitute a leak detection system for each tank in advance of the point at which any leak would reach ground water.

(B) The number, length, and depth of each boring shall be determined on the basis of site characteristics. The array of monitoring devices under each tank shall constitute the best practical early warning detection system for tank leakage.

(C) Each monitoring plan under this alternative shall be implemented only upon review and approval of the state chemist.

(b) The secondary containment requirements under this rule do not apply to rail cars that are periodically moved to and from the storage facility.

(c) The state chemist may recognize other methods that provide equivalent protection.

355 IAC 2-5-9 Drainage from contained areas within dikes; earthen or prefabricated diked areas *(Repealed)*

355 IAC 2-5-10 Drainage from contained areas within dikes; concrete lined areas *(Repealed)*

355 IAC 2-5-11 Drainage from contained areas within dikes; recessed catch drain in concrete lined containment area; alternative *(Repealed)*

355 IAC 2-5-12 Drainage from contained areas within dikes; elephant rings instead of a diked containment area

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 12. (a) Individual storage containers not exceeding three thousand (3,000) gallons may be contained within a secondary storage container (elephant ring) instead of a diked containment area.

(b) Both the primary storage container and the elephant ring shall be fabricated of material compatible with:

(1) each other; and

(2) the fertilizer being stored.

(c) The height of the elephant ring wall shall not exceed four (4) feet. The volume contained within the secondary storage walls up to the working height of the elephant ring shall be sufficient to contain a volume equal to the volume contained in the primary storage container plus the volume displaced by any equipment, that is, pumps or meters, placed within the secondary containment vessel up to the safe storage level of the elephant ring, plus a freeboard of six (6) inches, which freeboard is exempted if the containment system is protected from rainfall.

(d) The elephant ring shall be free of leaks and structural defects. The base shall be:

(1) protected from corrosion, both from inside and outside; and

(2) designed according to good engineering practices.

(e) All piping connections to the primary storage container shall be:

(1) made over the wall of the elephant ring; and

(2) adequately supported and braced.

Pumps and other fixtures, if located within the elephant ring containment structure, shall be placed on an elevated platform.

(f) Accumulations of liquids shall be drained from the elephant ring over the wall of the container by means of a manually operated pump for use in the blending process or for proper disposal in accordance with all applicable regulations.

(g) Elephant rings shall be maintained as necessary to assure compliance with this rule.

355 IAC 2-5-12.5 Drainage from contained areas within dikes

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 12.5. (a) Secondary containment areas shall not have a relief outlet or valve. The base shall slope to a collecting spot where liquid can be discharged, by a manually activated pump, for use in the blending process or for proper disposal in accordance with all applicable regulations.

(b) Accumulated liquids shall be promptly removed from the secondary containment area.

355 IAC 2-5-12.5 Drainage from contained areas within dikes

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 12.5. (a) Secondary containment areas shall not have a relief outlet or valve. The base shall slope to a collecting spot where liquid can be discharged, by a manually activated pump, for use in the blending process or for proper disposal in accordance

with all applicable regulations.

(b) Accumulated liquids shall be promptly removed from the secondary containment area.

355 IAC 2-5-13 Inspection and maintenance

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 13. (a) Secondary containment shall be maintained as necessary to assure compliance with this rule.

(b) All secondary containment areas shall be maintained free of debris and foreign matter.

Rule 6. Storage and Handling of Dry Bulk Fertilizers

355 IAC 2-6-1 Outdoor storage *(Repealed)*

355 IAC 2-6-1.5 Storage and handling

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 1.5. (a) Dry bulk fertilizer, stored indoors, shall be in a sound structure having a cover or roof top, sidewalls, and an impervious base sufficient to prevent contact with precipitation and surface waters. Temporary outdoor storage shall be allowed for a maximum of thirty (30) days providing material be covered with a tarpaulin, or other suitable covering, to prevent seepage of run-off.

(b) All loading, unloading, mixing, and handling of dry bulk fertilizer shall be performed over an impervious surface that allows for recovery of discharged product unless performed at a field unloading site. Fertilizer that is discharged shall be promptly recovered.

Rule 7. Control and Recovery of Fertilizer Discharges *(Repealed)*

Rule 8. Record Keeping *(Repealed)*

Rule 9. Storage Facility Location Registry

355 IAC 2-9-1 Facility registry

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 1. The storage facility shall notify the state chemist each year of the facility's location and status. Notice shall include the following:

(1) The facility's mailing address.

(2) The owner or manager.

(3) The type of facility.

(4) The rated or calculated capacity of all bulk tanks and dry storage units.

(5) The facility’s physical location.

Notice shall be made upon forms furnished by the state chemist.

355 IAC 2-9-2 Compliance with effective date of rule

Authority: IC 15-3-3-12

Affected: IC 15-3-3-7

Sec. 2. This rule shall become effective upon the date of adoption.