

**WAC 296-52-69095 Ammonium nitrate. (1) Storage.**

(a) Ammonium nitrate storage requirements do not apply to:

(i) The transportation of ammonium nitrates while under the jurisdiction of and in compliance with U.S. DOT regulations (see 49 C.F.R., Part 173);

(ii) The storage of ammonium nitrates while under the jurisdiction of and in compliance with U.S. Coast Guard (see 49 C.F.R., Parts 146-149);

(iii) The storage of ammonium nitrate and ammonium nitrate mixtures, which are more sensitive than allowed by the bulletin:

"Definition and test procedures for ammonium nitrate fertilizers" from the Fertilizer Institute, 501 2nd Street N.E., Washington, D.C. 20006.

This definition limits the contents of organic materials, metals, sulfur, etc., in products that may be classified ammonium nitrate fertilizer.

(iv) The production of ammonium nitrate or the storage of ammonium nitrate on the premises of the producing plant, if no hazards are created to the employees or public;

(v) The standards for ammonium nitrate (nitrous oxide grade) that are found in the:

"Specifications, properties and recommendations for packaging, transportation, storage and use of ammonium nitrate," from the Compressed Gas Association, Inc., 1235 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4100.

(b) Ammonium nitrate storage requirements apply to:

(i) Anyone, in addition to the owner or lessee of any building, premises, or structure having or storing ammonium nitrate in quantities of one thousand pounds (425 kg) or more;

(ii) Ammonium nitrate in the form of crystals, flakes, grains, or prills including fertilizer grade, dynamite grade, nitrous oxide grade, technical grade, and other mixtures containing sixty percent or more ammonium nitrate by weight.

**Note:** The approval of large quantity storage is based on the fire and explosion hazards, including exposure to toxic vapors from burning or decomposing ammonium nitrate.

(c) Storage buildings housing ammonium nitrate must:

(i) Have adequate ventilation or be self-ventilating in the event of a fire;

(ii) Have fire resistant walls when the exposed side of a storage building is within fifty feet (15.2 m) of a combustible building, forest, piles of combustible materials, and similar exposure hazards. Other suitable means of exposure protection such as a freestanding wall may be used instead of a fire resistant wall;

(iii) Have roof coverings that are Division 1.4 or better as defined in Roof Coverings, NFPA 203M-1970;

(iv) Have flooring of noncombustible material or be protected against saturation by ammonium nitrate. In case of fire, the floor must not have open drains, traps, tunnels, pits, or pockets into which molten ammonium nitrate could flow and be confined;

(v) Be dry and free from water seepage through the roof, walls, and floors;

(vi) Not have basements, unless the basements are open on at least one side;

(vii) Not be over one story in height.

**Note:** The continued use of an existing storage building or structure may be approved in cases where continued use will not constitute a hazard to life or adjoining property.

Bags, drums, and other containers of ammonium nitrate must:

(d) Comply with specifications and standards required for use in interstate commerce (see 49 C.F.R., Chapter 1). Containers used on the premises in the actual manufacturing or processing do not need to comply;

(i) Not be used for storage when the temperature of the ammonium nitrate exceeds 130°F (54.4°C);

(ii) Not be stored within thirty inches (76 cm) of the storage building walls and partitions;

(iii) Not be stacked higher than twenty feet (6.1 m) in height, twenty feet (6.1 m) in width, and fifty feet (15.2 m) in length. When buildings are constructed of noncombustible materials or protected by automatic sprinklers, there are no stacking height restrictions;

(iv) Never be stacked closer than thirty-six inches (.91 m) below the roof or overhead supporting and spreader beams;

(v) Be separated by aisles a minimum of three feet wide. There must be one main aisle in the storage area a minimum of four feet (1.2 m) wide.

(e) Bulk ammonium nitrate must be stored:

(i) In warehouses with adequate ventilation or be capable of adequate ventilation in case of fire;

(ii) In structures that are not more than forty feet (12.2 m) high, unless:

(A) They are constructed of noncombustible material; or

(B) Have adequate facilities for fighting a roof fire.

(iii) In clean bins that are free of materials that could cause contamination;

(iv) In bins or piles that are clearly identified by signs reading "AMMONIUM NITRATE" in letters a minimum of two inches (5 cm) high;

(v) In bins or piles sized and arranged so all material is moved periodically to minimize the possibility of caking;

(vi) Adequately separated from easily combustible fuels. Bins cannot be made of galvanized iron, copper, lead, and zinc because of the:

(A) Corrosive and reactive properties of ammonium nitrate; and

(B) To avoid contamination.

(vii) In tightly constructed wooden and aluminum bins that are protected against saturation from ammonium nitrate;

(viii) In tightly constructed partitions that divide the ammonium nitrate from other products to avoid contamination;

(ix) Where the temperature of the product does not exceed 130°F (54.4°C);

(x) No higher than thirty-six inches (0.9 m) below the roof or overhead supporting and spreader beams if stacked in piles. Stack limits (height and depth), should be determined by the pressure setting tendency of the product.

(f) Bulk ammonium nitrate when caked, cannot be broken up or loosed by the use of dynamite, other explosives or blasting agents.

(g) Bulk ammonium nitrate cannot be stored with:

(i) LP Gas on the premises except when such storage complies with WAC 296-24-475, Storage and handling of liquefied petroleum gases;

(ii) Sulfur and finely divided metals in the same building except when such storage complies with this chapter and NFPA standard 495, Explosives Materials Code;

(iii) Explosives and blasting agents in the same building except on the premises of manufacturers, distributors, and user of explosives or blasting agents;

(iv) When explosives or blasting agents are stored in separate buildings, other than on the approval of manufacturers, distributors, and user, they must be separated from the ammonium nitrate by the distances and/or barricades specified in Table H-22 or a minimum of fifty feet (15.2 m);

(v) With flammable liquids, such as gasoline, kerosene, solvents, and light fuel oils on the premises except when such storage conforms to WAC 296-24-330, Flammable liquids, and when walls, sills or curbs are provided in accordance with WAC 296-52-69095, Ammonium nitrate.

(2) Contaminants must be stored in a separate building from ammonium nitrate or be separated by an approved firewall of not less than one-hour fire resistance rating which should extend to the underside of the roof. Alternatively, the contaminants may be separated by a minimum of thirty feet (9.1 m), instead of using walls. These contaminants are:

- (a) Organic chemicals;
- (b) Acids;
- (c) Other corrosive materials;
- (d) Materials that may require blasting during processing or handling;
- (e) Compressed flammable gases;
- (f) Flammable and combustible materials;
- (g) Other substances including:

Animal fats	Baled cotton	Baled rags	Baled scrap paper
Bleaching powder	Burlap or cotton bags	Caustic soda	Coal
Coke	Charcoal	Cork	Camphor
Excelsior	Fibers of any kind	Fish oil	Fish meal
Foam rubber	Hay	Lubricating oil	Linseed oil
Other oxidizable or drying oils	Naphthalene	Oakum	Oiled clothing
Oiled paper	Oiled textiles	Paint	Straw
Sawdust	Wood shavings	Vegetable oil	

(3) Housekeeping requirements must have:

(a) Electrical installations, which meet the requirements of chapter 296-24 WAC, Part L, Electrical, and WAC 296-800-280, Basic electrical rules, for ordinary locations and be designed to minimize damage from corrosion;

(b) Adequate lightning protections in areas where lightning storms are prevalent (see NFPA 78-1992, Lightning Protection Code);

(c) Procedures to prevent unauthorized personnel from entering the ammonium nitrate storage area.

(4) Fire protection must provide:

(a) Water supplies and fire hydrants;

(b) Suitable fire control devices, such as a small hose or portable fire extinguishers, throughout the warehouse and in the loading/unloading areas. These devices must comply with the requirements of WAC 296-800-300, Portable fire extinguishers, and WAC 296-24-602, Standpipe and hose systems;

(c) Approved sprinkler systems installed according to WAC 296-24-607, Automatic sprinkler systems;

(d) Two thousand five hundred tons (two thousand two hundred seventy metric) or less of bagged ammonium nitrate may be stored in a structure that does not have an automatic sprinkler system.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 17-16-132, § 296-52-69095, filed 8/1/17, effective 9/1/17. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and 29 C.F.R. 1910 Subpart Z. WSR 14-07-086, § 296-52-69095, filed 3/18/14, effective 5/1/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 03-06-073, § 296-52-69095, filed 3/4/03, effective 8/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. WSR 02-03-125, § 296-52-69095, filed 1/23/02, effective 3/1/02.]