NFPA No.

490

# STORAGE OF AMMONIUM NITRATE 1969



Seventy-five Cents



NATIONAL FIRE PROTECTION ASSOCIATION
International
60 Batterymarch Street, Boston, Mass. 02110

10M-6-69-WP-SM
Printed in U.S.A.

## Official NFPA Definitions

Adopted Jan. 23, 1964. Where variances to these definitions are found, efforts to eliminate such conflicts are in process.

SHALL is intended to indicate requirements.

SHOULD is intended to indicate recommendations or that which is advised but not required.

APPROVED means acceptable to the authority having jurisdiction. The National Fire Protection Association does not approve, inspect or certify any installations, procedures, equipment or materials nor does it approve or evaluate testing laboratories. In determining the acceptability of installations or procedures, equipment or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure or use. The authority having jurisdiction may also refer to the listings or labeling practices of nationally recognized testing laboratories,* i.e., laboratories qualified and equipped to conduct the necessary tests, in a position to determine compliance with appropriate standards for the current production of listed items, and the satisfactory performance of such equipment or materials in actual usage.

*Among the laboratories nationally recognized by the authorities having jurisdiction in the United States and Canada are the Underwriters' Laboratories, Inc., the Factory Mutual Engineering Division, the American Gas Association Laboratories, the Underwriters' Laboratories of Canada, the Canadian Standards Association Testing Laboratories, and the Canadian Gas Association Approvals Division.

LISTED: Equipment or materials included in a list published by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials, and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

LABELED: Equipment or materials to which has been attached a label of a nationally recognized testing laboratory that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling is indicated compliance with nationally recognized standards or the conduct of tests to determine suitable usage in a specified manner.

AUTHORITY HAVING JURISDICTION: The organization, office or individual responsible for "approving" equipment, an installation, or a procedure.

## Statement on NFPA Procedures

This material has been developed in the interest of safety to life and property under the published procedures of the National Fire Protection Association. These procedures are designed to assure the appointment of technically competent Committees having balanced representation from those vitally interested and active in the areas with which the Committees are concerned. These procedures provide that all Committee recommendations shall be published prior to action on them by the Association itself and that following this publication these recommendations shall be presented for adoption to the Annual Meeting of the Association where anyone in attendance, member or not, may present his views. While these procedures assure the highest degree of care, neither the National Fire Protection Association, its members, nor those participating in its activities accepts any liability resulting from compliance or noncompliance with the provisions given herein, for any restrictions imposed on materials or processes, or for the completeness of the text.

# Code for the
# Storage of Ammonium Nitrate

**NFPA No. 490 — 1969**

## Origin and Development of No. 490

A Code for the Storage of Ammonium Nitrate (NFPA No. 490-T) was tentatively adopted in 1963 and in revised form was again tentatively adopted in 1964. It was officially adopted with amendment in 1965 and was further amended in 1967 and 1969. This Code is under the jurisdiction of the Sectional Committee on Storage, Handling, and Transportation of Hazardous Chemicals of the Committee on Chemicals and Explosives.

## Amendments Adopted in 1969

Amendments adopted at the 1969 Annual Meeting and included in this edition are summarized on page 490-2.

## Sectional Committee on Storage, Handling, and Transportation of Hazardous Chemicals

**William H. Doyle,** *Chairman,*
Factory Insurance Association, 85 Woodland St., Hartford, Conn. 06102

**Chester I. Babcock†,** *Secretary,*
National Fire Protection Association, 60 Batterymarch St., Boston, Mass. 02110

**Harrie W. Backes,** National Plant Food Institute.

**Capt. Hewlett R. Bishop,** National Cargo Bureau, Inc.

**Wm. J. Bradford,** American Petroleum Institute.

**A. C. Clark,** Manufacturing Chemists' Assn., Inc.

**Reynold J. Green,** Manufacturing Chemists' Assn., Inc.

**Joseph A. Houghton,** American Mutual Insurance Alliance.

**P. E. Johnson,** Factory Mutual Engineering Assn.

**Robert W. Kiefer,** Union Carbide Corp.

**Dr. Richard Y. Le Vine,** Olin Mathieson Chemical Corp.

**S. H. MacPherson,** Fire Marshals Assn. of North America.

**Dr. W. G. McKenna,** Bureau of Explosives.

**Ralph D. Miller,** National Plant Food Institute.

**Roy Petersen,** American Assn. of Port Authorities.

**Samuel J. Porter,** Arlington, Va.

**Eric Shackleton,** Underwriters' Laboratories of Canada.

**Herman H. Spaeth,** Pacific Fire Rating Bureau.

**Arthur Spiegelman,** American Insurance Assn.

**Dr. Robert W. Van Dolah,** Bureau of Mines, U. S. Dept. of the Interior.

**Alternates.**

**Dr. Willard H. Garman,** National Plant Food Institute. (Alternate to Harrie W. Backes.)

**Capt. D. W. Gates,** National Cargo Bureau, Inc. (Alternate to Hewlett R. Bishop.)

**Robert J. Harker,** National Plant Food Institute. (Alternate to Ralph D. Miller.)

**Stephen Kuzma,** Manufacturing Chemists' Assn., Inc. (Alternate to A. C. Clark.)

**Carl E. Pruett,** Manufacturing Chemists' Assn., Inc. (Alternate to A. C. Clark.)

**Capt. S. F. Sammis,** National Cargo Bureau, Inc. (Alternate to Hewlett R. Bishop.)

**Donald Stromquist,** Manufacturing Chemists' Assn., Inc. (Alternate to A. C. Clark.)

**C. I. Tibbetts,** Factory Insurance Assn. (Alternate to William H. Doyle.)

†Nonvoting.

SCOPE: To develop and maintain current codes for classes of hazardous chemicals and codes for specific chemicals when these are warranted by virtue of widespread distribution or special hazards.

## Correlating Committee

**Dr. Robert W. Van Dolah,** *Chairman,*
Explosives Research Center, Bureau of Mines, U. S. Department of the Interior, 4800 Forbes Ave., Pittsburgh, Pa. 15213

**Chester I. Babcock†,** *Secretary,*
National Fire Protection Assn., 60 Batterymarch St., Boston, Mass. 02110

**W. H. Doyle,** Factory Insurance Assn.
**Thomas E. Duke,** Fire Prevention & Engineering Bureau of Texas.
**Dr. Richard Y. Le Vine,** Olin Mathieson Chemical Corp.
**Henry T. Rittman,** Institute of Makers of Explosives.
**Richard F. Schwab,** Allied Chemical Corp.
**Russell H. Scott,** Battelle-Northwest.

SCOPE: This committee serves as a policy-making and correlating group to administer and process reports of the various sectional committees dealing with chemicals and explosives.

†Non-voting.

### Amendments Adopted in 1969

**115.** Last clause amended to refer to hazard to the public in place of hazard to life or adjoining property.

**221.** Added. The permit requirement in this Section was formerly only in Appendix B.

**422.** Footnote amended to identify suitable coatings.

**434.** Note added so that information on sensitivity and blast effect would appear in body of the Code as well as in the Foreword.

**511.** "Corrosive liquids" changed to "corrosive materials."

**513.** Amended to emphasize that the requirement for walls, sills or curbs stated in Sections 511 and 512 applies wherever flammable liquids are stored.

## CONTENTS

## FOREWORD

Ammonium nitrate is a compound containing nitrogen, hydrogen and oxygen ($NH_4NO_3$) and is commercially produced by combining nitric acid with ammonia, evaporating the resultant solution of ammonium nitrate to make a concentrated ammonium nitrate melt which is then spray granulated in a prilling tower, or pelletized or flaked by some other means.

For interstate shipments, the Department of Transportation of the United States classifies ammonium nitrate as an oxidizing material, as it does some other fertilizer products such as sodium nitrate, potassium nitrate and calcium nitrate. Such oxidizing materials can yield oxygen upon decomposition under fire conditions and will, therefore, under proper conditions of mixing, vigorously support combustion if involved in a fire with combustible materials. Ammonium nitrate is capable of undergoing detonation with about half the blast effect of explosives, if heated under confinement that permits high pressure build-up, or is subjected to strong shocks, such as those from an explosive. The sensitivity of ammonium nitrate to detonation increases at elevated temperatures.

Industrial use of ammonium nitrate extends to its use as an ingredient in blasting agents. When carbonaceous or organic substance such as fuel (or diesel) oil, nut hulls or carbon black is added and admixed with ammonium nitrate, the mixture may become a blasting agent. A blasting agent is defined as being any material or mixture, consisting of a fuel and oxidizer, intended for blasting, not otherwise classed as an explosive and in which none of the ingredients are classified as an explosive, provided that the finished product, as mixed and packaged for use or shipment, cannot be detonated by means of a No. 8 test blasting cap when unconfined. (See NFPA No. 495, the Code for the Manufacture, Transportation, Storage, and Use of Explosives and Blasting Agents.)

Recent test data on ammonium nitrate are included in the U.S. Bureau of Mines Report of Investigations 6746, Sympathetic Detonation of Ammonium Nitrate and Ammonium Nitrate Fuel Oil; Report of Investigations 6903, Further Studies of Sympathetic Detonation; and Report of Investigations 6773, Explosion Hazards of Ammonium Nitrate Under Fire Exposure. On the basis of these reports

a Table of Distances of Ammonium Nitrate and Blasting Agents from Blasting Agents or Explosives has been developed. The table is included in Appendix A of Code for the Manufacture, Storage, Transportation and Use of Explosives and Blasting Agents, NFPA No. 495.

While blasting agents should not be confused with fertilizer products, extreme care should be taken to insure that stored ammonium nitrate does not become sensitized by intimate mixing with carbonaceous, organic or combustible material.

Mixed fertilizers containing less than 60 per cent ammonium nitrate are not covered by this Code.

With proper precautions against fire and explosion, ammonium nitrate can be stored safely at the plant, in distributors' warehouses, or on the farm.

# CHAPTER 1. SCOPE AND DEFINITIONS

## 11. Scope

**111.** Except as provided in 114 this Code applies to the storage of 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 60 per cent or more ammonium nitrate by weight but does not apply to blasting agents.

**112.** It shall not apply to the transportation of ammonium nitrate.

**113.** It shall not apply to storage under the jurisdiction of and in compliance with the Regulations of the United States Coast Guard.

**114.** The storage of ammonium nitrate and ammonium nitrate mixtures that are more sensitive than allowed by the "Definition and Test Procedures for Ammonium Nitrate Fertilizer"* shall not be permitted by this Code except on the specific approval of the authority having jurisdiction.

**115.** Nothing in this Code shall apply to the production of ammonium nitrate or to the storage of ammonium nitrate on the premises of the producing plant, provided that no distinct undue hazard to the public is created.

## 12. Definitions

**121.** APPROVED. The term APPROVED shall mean approved by the authority having jurisdiction.

---

*"Definition and Test Procedures for Ammonium Nitrate Fertilizer," available from the National Plant Food Institute, 1700 K Street, N.W., Washington, D. C. 20006. This definition limits the contents of organic materials, metals, sulfur, etc., in a product that may be classified ammonium nitrate fertilizer.

†"Standards for Ammonium Nitrate (Nitrous Oxide Grade) including Specifications, Properties, and Recommendations for Packaging, Transportation, Storage, and Use," available from the Compressed Gas Association, Inc., 500 Fifth Ave., New York, N. Y. 10036.

# CHAPTER 2. GENERAL PROVISIONS

## 21. Application

211. This Code shall apply to all persons, firms, corporations, co-partnerships and associations storing, having or keeping ammonium nitrate, and to the owner or lessee of any building, premises or structure in which ammonium nitrate is stored in quantities of 1,000 pounds or more.

## 22. Restricted Locations.

221. A permit is required from the authority having jurisdiction for the storage of 1,000 pounds or more of ammonium nitrate.

222. Not more than 60 tons of ammonium nitrate shall be stored unless the location and storage facility have been approved.

223. Storage locations shall be subject to approval by the authority having jurisdiction with respect to nearness of residential occupancies, places of public assembly, schools, hospitals, railroads and public highways. Limitations on storable quantities shall be considered with regard to proximity of these exposures and congested commercial or industrial districts.

224. Approval of large-quantity storage shall be subject to due consideration of possible toxic vapors from burning or decomposing ammonium nitrate.

## 23. Structures

231. Storage buildings shall not have basements unless the basements are open on at least one side. Storage buildings shall not be over one story in height, unless approved for such use.

232. Storage buildings shall have adequate ventilation or be of a construction that will be self-ventilating in the event of fire.

233. The wall on the exposed side of a storage building within 50 feet of a combustible building, forest, piles of combustible materials and similar exposure hazards shall be of fire-resistive construction. In lieu of the fire-resistive wall, other suitable means of exposure protection such as a free standing wall may be used. The roof coverings shall be Class C or better, as defined in Roof Coverings, NFPA No. 203.

234. All flooring in storage and handling areas shall be of noncombustible material or protected against impregnation by ammonium nitrate and shall be without open drains, traps, tunnels, pits or pockets into which any molten ammonium nitrate could flow and be confined in the event of fire.

235. The continued use of an existing storage building or structure not in strict conformity with this Code may be approved in cases where such continued use will not constitute a hazard to life or adjoining property.

236. Buildings and structures shall be dry and free from water seepage through the roof, walls and floors.

# CHAPTER 3. STORAGE OF AMMONIUM NITRATE IN BAGS, DRUMS, OR OTHER CONTAINERS

## 31. Container

311. Bags and containers used for ammonium nitrate must comply with specifications and standards required for use in interstate commerce.

312. Containers used on the premises in the actual manufacturing or processing need not comply with provisions of Section 311.

## 32. Piles

321. Containers of ammonium nitrate shall not be accepted for storage when the temperature of the ammonium nitrate exceeds 130°F.

322. Bags of ammonium nitrate shall not be stored within 30 inches of the storage building walls and partitions.

323. The height of piles shall not exceed 20 feet. The width of piles shall not exceed 20 feet and the length 50 feet except that where the building is of noncombustible construction or is protected by automatic sprinklers the length of piles shall not be limited. In no case shall the ammonium nitrate be stacked closer than 36 inches below the roof or supporting and spreader beams overhead.

324. Aisles shall be provided to separate piles by a clear space of not less than 3 feet in width. At least one service or main aisle in the storage area shall be not less than 4 feet in width.

325. The requirements for pile sizes and aisles, as set forth in Sections 323 and 324, may be waived by the authority having jurisdiction where storage facilities are located in remote areas.

# CHAPTER 4. STORAGE OF BULK AMMONIUM NITRATE

## 41. Structures

411. Bulk storage may be in piles or bins in warehouses, or in separate, bin-type structures.

412. Warehouses shall have adequate ventilation or be capable of adequate ventilation in case of fire.

413. Unless constructed of noncombustible material or unless adequate facilities for fighting a roof fire are available, bulk storage structures shall not exceed a height of 40 feet.

## 42. Compartments

421. Bins shall be clean and free of materials which may contaminate ammonium nitrate.

422. Due to the corrosive and reactive properties of ammonium nitrate, and to avoid contamination, galvanized iron, copper, lead and zinc shall not be used in bin construction unless suitably protected. Aluminum bins, and wooden bins protected against impregnation by ammonium nitrate, are permissible.*

423. The warehouse may be subdivided into any desired number of ammonium nitrate storage compartments or bins. The partitions dividing the ammonium nitrate storage from the storage of other products which would contaminate the ammonium nitrate shall be of tight construction.

424. The ammonium nitrate storage bins or piles shall be clearly identified by signs reading "AMMONIUM NITRATE" with letters at least 2 inches high.

## 43. Piles

431. Piles or bins shall be so sized and arranged that all material in the pile is moved out periodically in order to minimize possible caking of the stored ammonium nitrate.

---

*Steel or wood can be protected by special coatings such as sodium silicate, or epoxy coatings, or polyvinyl chloride coatings.

432. Height or depth of piles shall be limited by the pressure-setting tendency of the product. However, in no case shall the ammonium nitrate be piled higher at any point than 36 inches below the roof or supporting and spreader beams overhead.*

433. Ammonium nitrate shall not be accepted for storage when the temperature of the product exceeds 130° F.

**434. Dynamite, other explosives, and blasting agents shall not be used to break up or loosen caked ammonium nitrate.**

NOTE: Ammonium nitrate is capable of undergoing detonation with about half the blast effect of explosives, if heated under confinement that permits high pressure build-up, or if subjected to strong shocks, such as those from an explosive. The sensitivity of ammonium nitrate to detonation increases at elevated temperatures.

*Pressure setting is a factor affected by humidity and temperature in the storage space and by pellet quality. Temperature cycles through 90°F. and high atmospheric humidity are undesirable for storage in depth.

## CHAPTER 5. CONTAMINANTS

### 51. Separation

**511.** Ammonium nitrate shall be in a separate building or shall be separated by approved type fire walls of not less than one hour fire-resistance rating from storage of organic chemicals, acids or other corrosive materials, materials that may require blasting during processing or handling, compressed flammable gases, flammable and combustible materials or other contaminating substances including **but not limited to** 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 oils, fish meal, foam rubber, hay, lubricating oil, linseed oil, or other oxidizable or drying oils, naphthalene, oakum, oiled clothing, oiled paper, oiled textiles, paint, straw, sawdust, wood shavings, or vegetable oils. Walls referred to in this section need extend only to the underside of the roof.

**512.** In lieu of separation walls, ammonium nitrate may be separated from the materials referred to in Section 511 by a space of at least 30 feet or more as required by the authority having jurisdiction, and if necessary, sills or curbs shall be provided to prevent mixing during fire conditions.

**513.** Flammable liquids such as gasoline, kerosine, solvents and light fuel oils shall not be stored on the premises except when such storage conforms to the Flammable and Combustible Liquids Code, NFPA No. 30 and when walls and sills or curbs are provided in accordance with Sections 511 or 512.

**514.** LP-Gas shall not be stored on the premises except when such storage conforms to the Standard for the Storage and Handling of Liquefied Petroleum Gases, NFPA No. 58.

### 52. Prohibited Articles

**521.** Sulfur and finely divided metals shall not be stored in the same building with ammonium nitrate except when such storage conforms to the Code for the Manufacture, Transportation, Storage, and Use of Explosives and Blasting Agents, NFPA No. 495.

522 a. Explosives and blasting agents shall not be stored in the same building with ammonium nitrate except on the premises of makers, distributors and user-compounders of explosives or blasting agents.

b. Where explosives or blasting agents are stored in separate buildings, other than on the premises of makers, distributors, and user-compounders of explosives or blasting agents, they shall be separated from the ammonium nitrate by the distances and/or barricades specified in the Table of Recommended Separation Distances of Ammonium Nitrate and Blasting Agents from Explosives or Blasting Agents,* but by not less than 50 feet.

c. Storage and/or operations on the premises of makers, distributors and user-compounders of explosives or blasting agents shall be in conformity with NFPA No. 495, Code for the Manufacture, Transportation, Storage and Use of Explosives and Blasting Agents.

*Printed in Appendix A of Code for the Manufacture, Storage, Transportation and Use of Explosives and Blasting Agents, NFPA No. 495.

## CHAPTER 6. GENERAL PRECAUTIONS

### 61. Electrical Installations

**611.** Electrical installations shall conform to the requirements of the National Electrical Code, NFPA No. 70, for ordinary locations. They shall be designed to minimize damage from corrosion.

**612.** Electric lamps shall be located or guarded so as to preclude contact with bags or other combustible materials.

### 62. Housekeeping

**621.** Good housekeeping shall be maintained.

**622.** Uncontaminated contents of broken bags may be salvaged by placing the damaged bag inside a clean, new slipover bag and closing securely. Other spilled materials and discarded containers shall be promptly gathered and disposed of in a safe manner.

### 63. Sources of Ignition

**631.** Open flames and smoking shall be prohibited in storage buildings but this is not meant to exclude heating units approved by the authority having jurisdiction.

### 64. Signs

**641.** All points of entry to commercial warehouses in which ammonium nitrate is stored shall be properly identified with durable signs meeting the following specifications:

(1) Signs shall have background and letters in contrasting colors.
(2) Signs shall be worded "AMMONIUM NITRATE", with letters at least 2 inches high.

### 65. Vehicles and Lift Trucks

**651.** Internal combustion motor vehicles, lift trucks and cargo conveyers shall not be permitted to remain overnight in a building where ammonium nitrate is stored unless parked in an area approved exclusively for such parking purposes.

652. Fork trucks, tractors, platform lift trucks and other specialized industrial trucks used within the warehouse shall conform to the requirements of at least the GS, LPS, DS or EE designated units set forth in the Standard for the Use, Maintenance and Operation of Industrial Trucks, NFPA No. 505.

## 66. Lightning

661. In areas where lightning storms are prevalent, lightning protection shall be provided. See the Lightning Protection Code, NFPA No. 78.

## 67. Control of Access

671. Provisions shall be made to prevent unauthorized personnel from entering the ammonium nitrate storage area.

## CHAPTER 7. FIRE PROTECTION

### 71. Automatic Sprinklers

**712.** Unless the storage of a greater quantity is approved by the authority having jurisdiction, not more than 2,500 tons of bagged ammonium nitrate shall be stored in a building or structure not equipped with an automatic sprinkler system. When determining whether greater quantities shall be permitted without sprinkler protection, the authority having jurisdiction shall take into consideration exposure of the storage building to built-up areas and possible presence of contaminants in the storage building. Sprinkler protection may be required for the storage of less than 2,500 tons of ammonium nitrate where location of the building or the presence of other stored materials may present a special hazard.

**713.** Sprinkler systems shall be of approved type and installed in accordance with the Standard for the Installation of Sprinkler Systems, NFPA No. 13.

### 72. Extinguishing Devices.

**721.** Suitable fire control devices such as small hose or portable extinguishers shall be provided throughout the warehouse and in the loading and unloading areas. (See the Standard for the Installation of Portable Fire Extinguishers, NFPA No. 10, and the Standard for the Installation of Standpipe and Hose Systems, NFPA No. 14.)

**722.** Water supplies and fire hydrants shall be available in accordance with recognized good practices and as required by the authority having jurisdiction. (See the Standard for Outside Protection, NFPA No. 24.)

**723.** The requirements for automatic sprinklers, water supplies and fire hydrants set forth in Sections 712 and 722 may be waived by the authority having jurisdiction when storage facilities are located in remote areas.

## APPENDIX A. SUGGESTED FIRE FIGHTING PROCEDURE

**A1.** Should a fire break out in an area where ammonium nitrate is stored, it is important that the mass be kept cool and the burning be promptly extinguished. Apply large volumes of water as quickly as possible. If fires reach massive and uncontrollable proportions, fire fighting personnel should evacuate the area and withdraw to a safe place.

**A2.** Provide as much ventilation as possible to the fire area. Rapid dissipation of both the products of decomposition and the heat of reaction is very important.

**A3.** Approach the fire from upwind as the vapors from burning ammonium nitrate are very toxic. Self-contained breathing apparatus of types approved by the U.S. Bureau of Mines should be used to protect personnel against gases.

**A4.** After extinction of the fire, the loose and contaminated unsalvageable ammonium nitrate should be buried or dumped in water, where permissible. Any residue that cannot be removed by sweeping should be washed away with hoses. Flushing and scrubbing of all areas should be very thorough to insure the dissolving of all residue. Wet empty bags should be removed, permitted to dry out and then burned out of doors.

# APPENDIX B. SUGGESTED PROVISIONS FOR MUNICIPAL LEGAL REGULATIONS

Where this Code is used as the basis for municipal legal regulations, the following provisions are suggested as an aid to enforcement.

## B11. Title

**B111.** This ordinance shall be known as "an ordinance regulating the storage, having and keeping of ammonium nitrate in the City of .....," and may be referred to as "The Ammonium Nitrate Storage Ordinance."

NOTE: The title should conform with local law and practice.

## B12. Definitions

**B121. Chief.** The Chief of the Fire Department or his authorized representative is hereby designated as "the authority having jurisdiction" wherever that expression appears in the ordinance.

**B122. Jurisdiction.** "Jurisdiction" whenever used in this ordinance shall mean the City of .....

**B123. Permit.** The term "Permit," whenever used in this ordinance shall mean the written authority of the ..... issued pursuant to this ordinance to store, have, or keep pure, fertilizer or other grades of ammonium nitrate, and mixtures containing 60 per cent or more by weight of ammonium nitrate and which are classified as oxidizing materials (usually by the Department of Transportation) by the authority having jurisdiction.

## B13. Application

**B131.** This ordinance shall apply to all persons, firms, corporations, co-partnerships, governmental agencies except Federal, and associations storing, having or keeping ammonium nitrate, and to the owner or lessee of any building or premises in or on which ammonium nitrate is stored or kept.

## B14. Permitted Locations

**B141.** The storage of ammonium nitrate in quantities of 1,000 pounds or more is prohibited within the following limits:

NOTE: These limits are to be specified according to local zoning ordinances. They should include all residential, mercantile, and other congested districts.

**B142.** No permit shall be issued until approval has been given for the proposed storage location with respect to nearness to places of public assembly, schools, hospitals and churches, and adequacy of water supply for fire control.

## B15. Retroactivity

**B151.** The chief may issue a permit for the continued use of an existing warehouse, storage facility, handling equipment, building and structure for the storage of ammonium nitrate which is not in strict compliance with the terms of this ordinance in cases in which continued use will not constitute a distinct hazard to life or adjoining property. In cases where such permit is denied, the chief shall notify the applicant and specify the reasons for denial in writing.

## B16. Permits

**B161.** A permit issued pursuant to this ordinance shall be obtained from the chief to store, have or keep, in quantities of 1000 pounds or more, pure, fertilizer and other grades of ammonium nitrate, and mixtures containing 60 per cent or more by weight of ammonium nitrate and which are classified as oxidizing materials (usually by the Department of Transportation) by the authority having jurisdiction.

**B162.** Permits shall not be transferable.

**B163.** Each permit granted by the chief shall be valid for such period as may be specified but not to exceed one year and shall be a revocable license, and shall expire when revoked.