

NFPA No.

395

*File: 80 Series
Flammable Liquids*



**Standard for
the Storage of**

**FLAMMABLE LIQUIDS ON FARMS
and Isolated Construction Projects**

**June
1959**



Thirty-five cents*

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**NATIONAL FIRE PROTECTION ASSOCIATION
International**

60 Batterymarch Street, Boston 10, Mass.

3M-6-59 FP-R&S

***Discount for quantities**

Printed in U.S.A.

National Fire Protection Association

International

Executive Office: 60 Batterymarch St., Boston 10, Mass.

The National Fire Protection Association was organized in 1896 to promote the science and improve the methods of fire protection and prevention, to obtain and circulate information on these subjects and to secure the cooperation of its members in establishing proper safeguards against loss of life and property by fire. Its membership includes two hundred national and regional societies and associations (list on outside back cover) and seventeen thousand individuals, corporations, and organizations. Anyone interested may become a member; membership information is available on request.

This pamphlet is one of a large number of publications on fire safety issued by the Association including periodicals, books, posters and other publications; a complete list is available without charge on request. All NFPA standards adopted by the Association are published in six volumes of the **National Fire Codes** which are re-issued annually and which are available on an annual subscription basis. The standards, prepared by the technical committees of the National Fire Protection Association and adopted in the annual meetings of the Association, are intended to prescribe reasonable measures for minimizing losses of life and property by fire. All interests concerned have opportunity through the Association to participate in the development of the standards and to secure impartial consideration of matters affecting them.

NFPA standards are purely advisory as far as the Association is concerned, but are widely used by law enforcing authorities in addition to their general use as guides to fire safety.

Definitions

The official NFPA definitions of shall, should and approved are: SHALL is intended to indicate requirements.

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

APPROVED refers to approval by the authority having jurisdiction.

Units of measurements used here are U. S. standard. 1 U. S. gallon=0.83 Imperial gallons=3.785 liters.

Approved Equipment

The National Fire Protection Association does not "approve" individual items of fire protection equipment, materials or services. The standards are prepared, as far as practicable, in terms of required performance, avoiding specifications of materials, devices or methods so phrased as to preclude obtaining the desired results by other means. The suitability of devices and materials for installation under these standards is indicated by the listings of nationally recognized testing laboratories, whose findings are customarily used as a guide to approval by agencies applying these standards. Underwriters' Laboratories, Inc., Underwriters' Laboratories of Canada and the Factory Mutual Laboratories test devices and materials for use in accordance with the appropriate standards, and publish lists which are available on request.

STORAGE OF FLAMMABLE LIQUIDS ON FARMS

NFPA No. 395 — 1959

The following text is a complete revision of the 1947 edition of the Standard for Farm Storage of Flammable Liquids (NFPA No. 395). The committee has brought the material up to date and included provisions for isolated construction projects for the storage of flammable liquids and this concept is now included in the revised title.

This Standard was prepared by the Sectional Committee on General Storage of Flammable Liquids, approved by the membership of the entire Committee on Flammable Liquids and adopted at the Annual Meeting of the National Fire Protection Association on June 3, 1959.

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C. H. Bunn, Jr., *Chairman, Executive Committee*,
Esso Research and Engineering Co., P.O. Box 121, Linden, N. J.

Miles E. Woodworth, *† Secretary*,
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†Non-voting member.

Standard for the
STORAGE OF FLAMMABLE LIQUIDS ON FARMS
and Isolated Construction Projects

NFPA No. 395 — 1959

1. Scope.

111. This Standard is intended to apply to the storage on farms or in rural areas of flammable liquids (as defined in the Flammable Liquids Code, NFPA No. 30) used as fuel for internal combustion engines, and in spraying, flame cultivation, etc. It is also applicable to the storage of flammable liquids at rural road construction and other rural earth moving projects, including gravel pits and borrow pits, where it is customary to obtain fuels in bulk and dispense or transfer them under control of the owner or contractor and where isolation from other structures and temporary use make it unnecessary, in the opinion of the enforcing authority, to require compliance with the more rigid standards of NFPA No. 30.

This Standard does not apply to the storage of fuel oil for fixed heating equipment.

2. Types of Approved Storage.

211. Storage of flammable liquids in rural areas for private use shall be permitted in any of the following:

(a) In aboveground or underground tanks in accordance with NFPA No. 30;

(b) In containers of 60 gallons or less capacity each, in accordance with standards hereinafter set forth;

(c) In tanks of 61 to 1100 gallons capacity each, in accordance with standards hereinafter set forth.

3. Individual Containers of 60 Gallons or Less Capacity Each.

311. Containers shall be substantial closed metal drums of 60 gallons or less capacity each. Discharge devices requiring pressure on the container are prohibited. Pumping devices or

faucets used for dispensing flammable liquids shall be well maintained to prevent leakage. Individual containers shall not be interconnected.

312. Containers as provided in this section shall be stored outside at least 40 feet from any building or may be stored inside of a building used exclusively for the storage of flammable liquids and located at least 40 feet from any other building. Buildings used for storage of flammable liquids shall be provided with cross ventilation with at least two vents of 64 square inches area each, placed at floor level.

4. Tanks of 61 to 1100 Gallons Capacity Each.

411. Flammable liquids in aboveground tanks of 61 to 1100 gallons capacity shall be stored outside buildings in tanks of single compartment design constructed in accordance with accepted engineering practice. Joints shall be riveted and caulked, riveted and welded, or welded. Tank heads over six feet in diameter shall be dished, stayed, braced or reinforced. Tanks shall meet the following:

CAPACITY	MINIMUM THICKNESS OF STEEL
Gallons	Mfrs. Std. Gage No.
61 to 275	14
276 to 550	12
551 to 1,100	10

412. A fill opening shall be provided and shall be equipped with a closure designed so that it may be locked.

413. A vent having a free opening of at least 1½-inches diameter shall be provided to relieve such vacuum or pressure as will develop in normal operation or from exposure to fire.

414. Tanks as provided in this section shall be kept outside and at least 40 feet from any building and shall be so located or such additional distance from buildings shall be provided as will insure that any vehicle, equipment or vessel being filled directly from such tank will be at least 40 feet from any building.

415. Tanks as above may be of either of the following types:

(a) TANKS WITH TOP OPENINGS ONLY.

Tanks constructed and located as provided above may

be designed with all openings in the top of the tank and in such event shall be mounted and equipped as follows:

Stationary tanks shall be mounted on timbers or blocks approximately 6 inches in height so as to protect the bottom of the tank from corrosion from contact with the ground and when so placed to be in a stable position; or portable tanks may be equipped with attached metal legs resting on shoes or runners to be at least one tank diameter apart, which in turn rest upon the ground, designed so that the tank is supported in a stable position and so that the entire tank and its supports may be moved as a unit.

Tanks shall be equipped with a tightly and permanently attached approved pumping device having an approved hose of sufficient length for filling vehicles, equipment or vessels to be served from the tank. Either the pump or the hose shall be equipped with a padlock to its hanger to prevent tampering. An effective anti-siphoning device shall be included in the pump discharge. Siphons or internal pressure discharge devices are prohibited.

(b) TANKS ELEVATED FOR GRAVITY DISCHARGE.

Tanks constructed and located as above may be provided with an opening in the bottom or the end of the tank for gravity dispensing of flammable liquids and shall be mounted and equipped as follows:

Supports to elevate the tank for gravity discharge shall be of adequate strength and design to provide stability. Supports may be of steel or of wood having no dimension less than 2 inches nominal.

Alternately the tank may be placed on a pile of earth or near the edge of a cut bank to provide the necessary elevation, and may be supported on timbers or blocks as described in the preceding paragraph.

Bottom opening for gravity discharge shall be equipped with a valve located adjacent to the tank shell which will close automatically in the event of fire through the operation of an effective heat actuated releasing device. If this valve cannot be operated manually, it shall be supplemented by a second valve which can be. The gravity discharge outlet shall be provided with an approved hose equipped with a self-closing valve at the discharge end, of a type that can be padlocked to its hanger to prevent tampering.

5. Marking of Tanks and Containers.

511. Tanks and containers for the storage of flammable liquids in rural districts shall be conspicuously marked with the name of the product which they contain and **FLAMMABLE — KEEP FIRE AND FLAME AWAY**. Tanks of 61-1100 gallons capacity shall bear the additional marking **KEEP 40 FEET FROM BUILDINGS**.

NOTE: Clearance of 40 feet from buildings should also apply to other combustible structures, hay stacks, etc.

The distance of 40 feet from buildings is in excess of that specified for commercial installations, as it is recognized that the same degree of care in handling flammable liquids cannot be expected on the farm. The occurrence of spills in handling flammable liquids is recognized as presenting the greatest potential source of the release of flammable vapors.

POCKET EDITIONS OF NFPA STANDARDS

Standards published in 4 1/4 x 7 1/4 in. size, revised as of June 5, 1959. These standards also appear, with identical text, in the six volumes of the National Fire Codes, republished annually. For complete list of publications write National Fire Protection Assn., 60 Batterymarch St., Boston 10, Mass.

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