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NATIONAL FIRE PROTECTION ASSOCIATION, INC.
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Standard for the
Storage of Flammable and Combustible Liquids on Farms and Isolated Construction Projects

NFPA 395-1980

1980 Edition of NFPA 395

This 1980 edition of NFPA 395, *Standard on Storage of Flammable and Combustible Liquids on Farms and Isolated Construction Projects*, was prepared by the Technical Committee on General Storage of Flammable and Combustible Liquids and was adopted by the National Fire Protection Association, Inc. on November 19, 1980 at its Fall Meeting in San Diego, California. It was released for publication by the Standards Council on December 10, 1980 and has been approved by the American National Standards Institute.

The revisions in this edition of this standard are indicated by vertical rules in the margin.

This edition of this standard supersedes the 1972 and all previous editions.

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Immediately following the balloting, but prior to adoption at the 1980 Fall Meeting, former Chairman E. C. Sommer passed away.

NOTE: Membership on a Committee shall not in and of itself constitute an endorsement of the Association or of any document developed by the Committee on which the member serves.

Standard for the Storage of Flammable and Combustible Liquids on Farms and Isolated Construction Projects

NFPA 395-1980

1-1 Scope.

1-1.1 This standard applies to the storage on farms or in rural areas of flammable and combustible liquids having a flash point below 200°F (93.3°C) (as defined in NFPA 30, *Flammable and Combustible Liquids Code*). It is also applicable to the storage of flammable and combustible liquids at rural construction and rural earthmoving 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 authority having jurisdiction, to require compliance with the more rigid standards of NFPA 30.

1-1.2 This standard does not apply to (a) the storage, handling and use of fuel oil tanks and containers connected with oil burning equipment as covered in NFPA 31, *Standard for the Installation of Oil Burning Equipment*, (ANSI); (b) storage of 25 gal (94.6 L) or less of flammable and combustible liquids in containers not exceeding 5 gal (18.9 L) capacity each.

1-2 Types of Approved Storage.

1-2.1 Storage of flammable and combustible liquids in rural areas for private use shall be permitted in any of the following:

(a) In aboveground or underground tanks or in containers in accordance with NFPA 30;

(b) In containers of 60 gal (227.1 L) or less capacity each in accordance with Section 1-3 of this standard;

(c) In tanks of 61 to 1,100 gal (230.8 L — 4163.5 L) capacity each in accordance with Section 1-4 of this standard.

1-2.2 Storage areas shall be kept free of weeds and extraneous combustible material. Open flames and smoking shall not be permitted in flammable or combustible liquids storage areas.

1-3 Individual Containers of 60 Gallons or Less Capacity Each.

1-3.1 Storage shall be in metal DOT or other approved containers of 60 gal (227.1 L) or less capacity each. Discharge devices requiring pressure on the container are prohibited. Pumping devices or faucets used for dispensing flammable and combustible liquids shall be well maintained to prevent leakage. Individual containers shall not be interconnected and shall be kept closed when not in use.

1-3.2 Containers as provided in this section storing Class I flammable liquids shall be stored outside at least 10 ft (30.5 mm) from any building or may be stored inside a building used exclusively for the storage of flammable and combustible liquids and located at least 10 ft (30.5 mm) from any other building. Buildings used for the storage of Class I flammable liquids shall be provided with cross ventilation with at least 2 vents of 64 sq in. (41 293 cu mm) of area each placed at floor level.

1-4 Tanks of 61 to 1,100 Gallons Capacity Each.

1-4.1 Flammable and combustible liquids in aboveground tanks of 61 to 1,100 gal (230.8 L — 4163.5 L) 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 6 ft (1829 mm) in diameter shall be dished, stayed, braced or reinforced. Tanks shall meet the following:

Capacity		Minimum Thickness of Steel
Gallons	(Liters)	Mfrs. Std. Gage No.
61 to 560	(230.8 to 2119.6)	14
561 to 1,100	(2123.4 to 4163.5)	

1-4.1.1 A fill opening shall be provided and shall be equipped with a closure designed so that it may be locked. The fill opening shall be separate from the vent opening.

1-4.1.2 Each tank shall be provided with a free opening vent of the following minimum nominal pipe size to relieve vacuum or pressure which may develop in normal operation or from fire exposure.[1]

[1]Based upon limiting internal tank pressure to 120 percent of 2.5 psig using an orifice coefficient of 0.8 and an environmental factor of 0.5. The environmental factor of 0.5 recognizes the limited time a small tank is subjected to fire exposure, loss of fuel by absorption into the soil and the drainage of liquid away from the tank. Calculation methods are based upon NFPA 30, *Flammable and Combustible Liquids Code*, subsection 2-2.5, Emergency Relief Venting for Fire Exposure for Aboveground Tanks.

Tank Capacity		Vent Size	
Gallons	(Liters)	Inches Diameter	(Millimeters)
Up to 275	(1039.5)	1½	(38)
276-660	(1043.3-2498)	2	(50.8)
661-900	(2501.9-3407)	2½	(63.5)
901-1100	(3410.3-4163.5)	3	(76.2)

Vents shall be arranged to discharge in such a way as to prevent localized overheating of, or flame impingement on, any part of the tank in the event vapors from such vents are ignited.

1-4.1.3 Tanks as provided in this section shall be kept outside and at least 40 ft (12.2 m) from any building, and shall be so located, or such additional distance from buildings shall be provided, as will ensure that any vehicle, equipment, or container being filled directly from such tank will be at least 40 ft (12.2 m) from any building.

1-4.1.4 Tanks as provided in this section may be either tanks with top openings only or tanks elevated for gravity discharge.

1-4.2 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:

(a) Stationary tanks shall be mounted on timbers or blocks approximately 6 in. (152 mm) in height so as to protect the bottom of the tank from corrosion from contact with the ground and, when so placed, be in a stable position; or, movable tanks may be equipped with attached metal legs resting on shoes or runners 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.

(b) 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 containers 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 antisiphoning device shall be included in the pump discharge unless a self-closing nozzle is provided. Siphons or internal pressure discharge devices are prohibited.

1-4.3 Tanks Elevated for Gravity Discharge. Tanks constructed and located as provided above may be designed with a connection in the bottom or the end of the tank for gravity dispensing of flammable and combustible liquids and shall be mounted and equipped as follows:

(a) 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.

(b) 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 shall be supported on timbers or blocks for stability and to prevent corrosion by contact with the ground.

(c) 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.

1-5 Marking of Tanks and Containers. Tanks and containers for the storage of flammable and combustible liquids aboveground shall be conspicuously marked with the name of the product which they contain and "FLAMMABLE — KEEP FIRE AND FLAME AWAY." Tanks of 61 to 1,100 gal (230.9 L — 4163.5 L) capacity shall bear the additional marking "KEEP 40 FEET (12.2 M) FROM BUILDINGS."

NOTE: Clearance of 40 ft (12.2 m) from buildings should also apply to other combustible structures, haystacks, etc.