Standard for

FARM STORAGE OF FLAMMABLE LIQUIDS

Prepared by the

NFPA Committee on Flammable Liquids

Adopted by the NFPA

1947

Ten Cents

NATIONAL FIRE PROTECTION ASSOCIATION

International

60 Batterymarch Street, Boston 10, Mass.

1M-11-47

Printed in U. S. A.

National Fire Protection Association

INTERNATIONAL

Executive Office: 60 Batterymarch St., Boston, 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 a hundred and fifty national and regional societies and associations and twelve thousand individuals, corporations, and organizations.

This pamphlet is one of a large number of publications on fire safety issued by the Association. The standards, prepared by the technical committees of the National Fire Protection Association and adopted in the conventions of the Association, are intended to prescribe reasonable measures for minimizing fire losses. All interests concerned have opportunity through the National Fire Protection Association to participate in the development of the standards and to secure impartial consideration of matters affecting them.

Committee on Flammable Liquids.

H. L. MINER, *Chairman*,
National Paint, Varnish and Lacquer Association, Inc.,
6030 duPont Building, Wilmington, Del.

H. E. NEWELL, *Secretary*,
National Board of Fire Underwriters, 85 John St., New York City.

L. E. ANTENE,
Oklahoma Inspection Bureau.

EDWARD P. BAILEY,
Member at Large.

W. J. BAKER,
Conference of Special Risk Underwriters.

C. H. BUNN, JR.,
American Petroleum Institute.

S. L. BURGHER,
New England Fire Insurance Rating Association.

R. M. CADMAN,
Fire Insurance Rating Organization of New Jersey.

FRED O. CLARK,
Oil Underwriters, John G. Simmonds Co., Inc.

W. E. COOPER,
Bureau of Explosives.

HAROLD CROUCH,
Member at Large.

L. K. DAVIS,
Factory Insurance Association.

H. P. DIXEY,
Louisiana Rating and Fire Prevention Bureau.

F. A. EPPS,
National Petroleum Association.

CHARLES H. GANT,
American Association of Port Authorities.

R. G. GUTHRIE,
American Petroleum Institute.

H. W. GWYNN,
Underwriters' Laboratories, Inc.

J. C. HAUF, JR.,
Oil-Heat Institute of America.

A. J. KRAMER,
U. S. Bureau of Mines.

WALTER H. MILLER,
American Foundrymen's Association.

C. D. NORRIS,
American Petroleum Institute.

GEORGE F. PRUSSING,
Western Oil & Gas Association.

H. N. PYE,
South-Eastern Underwriters Association.

R. L. STRONG,
Associated Factory Mutual Fire Insurance Cos.

D. V. STROOP,
American Petroleum Institute.

FRED A. TRASK,
Oil Insurance Association.

ROBERT WARFEL,
Ohio Petroleum Marketers Association, Inc.

J. MILTON WRIGHT,
Associated Reciprocal Exchanges.

Standard for Farm Storage of Flammable Liquids.

This standard was adopted by the National Fire Protection Association at its 1947 annual meeting. It was prepared by the Committee on Flammable Liquids, following action by the Association at the 1946 meeting recommended by the Committee on Farm Fire Protection. It is presented as a guide to those concerned with state and provincial regulation of the storage of flammable liquids on farms and as minimum standards for voluntary use by oil companies and farmers.

Other NFPA standards on flammable liquids referred to herein are published in the National Fire Codes, Vol. I, and in separate pamphlet form. "Gasoline and Kerosene on the Farm" is an informative pamphlet presenting information on the use of these products, fire extinguishing methods, etc. A complete list of NFPA publications may be obtained from the NFPA Executive Office.

Farm Storage of Flammable Liquids.

Scope.

The Standards are intended to apply to flammable liquids as defined in the N.F.P.A. suggested Ordinance on Flammable Liquids used for fuel for internal combustion engines and for agricultural processes such as spraying, flame cultivation, etc. It does not apply to the storage of fuel oil for heating purposes, which is already covered by existing standards.

Types of Approved Storage.

Storage of flammable liquids in rural districts for private use shall be permitted in any of the following ways:

(a) Underground storage as provided in existing N.F.P.A. standards.

(b) Aboveground storage as provided in existing N.F.P.A. standards.

(c) Containers of 60 gallons or less capacity each, in accordance with standards hereinafter set forth.

(d) Containers of 60 to 550 gallons capacity each, in accordance with standards hereinafter set forth.

Individual Containers of 60 Gallons or Less Capacity Each

Flammable liquids in containers of 60 gallons or less capacity shall be stored outside buildings in 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.

Containers as provided in this section shall be stored outside at least 40 ft. from any building or may be stored inside of a building used exclusively for the storage of flammable liquids and located at least 40 ft. 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.

Containers of 60 to 550 Gallons Capacity Each.

Flammable liquids in aboveground containers of 60 to 550 gallons capacity shall be stored outside buildings in containers of single compartment design and constructed throughout of 14 gauge metal or heavier and made vapor tight by welding or equivalent construction.

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

A vent shall be provided to relieve such vacuum or pressure as will develop in normal operation or from exposure to fire. Such vent shall have a free opening of 1½ in. diameter.

Containers as provided in this section shall be kept outside and at least 40 ft. from any building and shall be so located or such additional distance to buildings shall be provided as will insure that no vehicle, equipment or vessel being filled directly from such container shall be closer than 40 ft. to any building.

Containers as above may be of either of the following types:

(1) CONTAINERS WITH TOP OPENINGS ONLY.

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

Containers 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 container. 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.

(2) CONTAINERS ELEVATED FOR GRAVITY DISCHARGE.

Containers constructed and located as above may be designed 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.

Bottom opening for gravity discharge shall be equipped with an internal safety valve, which will close automatically in the event of fire through the operation of an effective heat releasing device and which likewise may be quickly operated manually. 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.

Marking of Containers.

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." Containers of 60-550 gallons capacity shall bear the additional marking "KEEP 40 FEET FROM BUILDINGS."

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

The distance of 40 ft. 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.