

KENTFIELD FIRE PROTECTION DISTRICT



Developed by

Jim Galli, Battalion Chief

Approved by

Paul Smith, Fire Chief

Fire Protection Standard 510

Flammable and Combustible Liquids – Container and Portable Tank Storage

Date: 1-1-04

Revision: _____

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This standard has been developed pursuant to Article 79 of the Uniform Fire Code as adopted by ordinance by the Kentfield Fire Protection District. It is intended that this standard be used as a guide for establishing a reasonable degree of fire and life safety in buildings or portions thereof used for storing, using or handling flammable or combustible liquids.

I. Permits

A. A Fire District permit is required to:

1. Store, handle or use Class I liquids in excess of 5 gallons in a building or in excess of 10 gallons outside of any building, except that a permit is not required for the following:
 - a. The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the chief, would cause an unsafe condition.
 - b. The storage or use of paints, oils, varnishes or similar flammable mixtures when such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.
2. To store, handle or use Class II or Class III liquids in excess of 25 gallons in a building or in excess of 60 gallons outside a building, except for fuel oil used in connection with oil burning equipment.
3. To remove Class I or Class II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary onsite pumps normally used for dispensing purposes.
4. To install, alter or operate equipment in connection with the storage, handling, use or sale of flammable or combustible liquids regulated under Article 79.
5. To install, alter, remove, abandon, place temporarily out of service or otherwise dispose of any flammable or combustible liquid tank.

B. Permit applications may be obtained by contacting the Fire Loss Management Division at 453-7464.

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- C. The permit application and filing fee shall be submitted to the Fire Loss Management Division for processing.

II. Definitions

Combustible Liquid: a liquid having a flash point at or above 100 degrees F. combustible liquids shall be subdivided as follows:

Class II liquids shall include those that have flash points at or above 100 degrees F. and below 140 degrees F.

Class III-A liquids shall include those that have flash points at or above 140 degrees F. and below 200 degrees F.

Class III-B liquids shall include those that have flash points at or above 200 degrees F.

Container is any vessel of 60 U.S. gallons or less capacity used for transporting or storing flammable or combustible liquids.

Dispensing is the pouring or transferring of flammable or combustible liquids from a container, tank or similar vessel whereby flammable vapors may be liberated to the atmosphere.

Flammable Liquid is any liquid having a flash point below 100 degrees F. and having a vapor pressure not exceeding 40 pounds per square inch (absolute) at 100 degrees F. Class I liquids shall include those having flash points below 100 degrees F. and may be subdivided as follows:

Class 1-A shall include those having flash points below 73 degrees F. and having a boiling point below 100 degrees F.

Class 1-B shall include those having flash points below 73 degrees F. and having a boiling point at or above 100 degrees F.

Class 1-C shall include those having flash points at or above 73 degrees F. and below 100 degrees F.

Liquid Storage Room is a room classified as a Group H, Division 2 Occupancy and does not have an exterior wall, is limited in size and in which the storage quantities of liquids in unlimited quantities.

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Liquid Storage Room, Inside is an room classified as a Group H, Division 2 Occupancy that has an exterior wall and which is used for the storage of limited quantities of liquids.

Liquid Storage Warehouse is a Group H, Division 2 Occupancy used only for the storage of flammable or combustible liquids in unlimited quantities.

Mixing is the combining, blending or bringing together within the same container, tank or vessel flammable or combustible liquids or other materials whereby flammable vapors may be liberated to the atmosphere.

Portable Tank is any closed vessel having a liquid capacity over 60 U.S. gallons and not intended for fixed installation.

Storage is the keeping, retention or leaving of flammable or combustible liquids in closed containers, tanks or similar vessels.

Use is the keeping, retention or leaving of flammable or combustible liquids whereby flammable vapors may be liberated to the atmosphere.

III. General

A. Warning Labels

Warning Labels shall conform with the Federal Hazardous Substance Labeling Act and applicable state laws. All flammable liquids, flammable and liquid compounds or mixtures manufactured, packaged or offered for sale shall be conspicuously marked or labeled in easily legible type which is in contrast by typographical, layout or color with any other printed matter on the label.

Exception: Foods, drugs or cosmetic subject to the Federal Food, Drug and Cosmetic Act.

B. Warning Signs

1. General – The Fire Marshal may require warning signs as he deems necessary for the purpose of pointing out the hazards of storing or using flammable liquids.
2. Style – Warning signs shall be of a durable material with red lettering on a white background and shall read “DANGER – FLAMMABLE LIQUIDS. Letters shall be not less than 3 inches in height and ½ inch in stroke.

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3. Location – Signs shall be posted in locations as directed by the Fire Marshal.

C. Operating Heating, Lighting and Cooking Appliances

Heating, lighting or cooking appliances that utilize Class I liquids shall not be operated within a building or structure.

Exception: Single family dwelling

D. Unlawful Sales of Flammable Liquids

It shall be unlawful for any person to sell or offer for sale Class I or Class II liquids with a flash point or 110° F. or less for the express purpose of domestic cleaning.

E. Cleaning with Flammable Liquid

Class I liquids and Class II liquids with a flashpoint below 110° F. shall not be used within a building for washing parts or removing grease or dirt unless they are used in a closed machine approved for the purpose or in a separate well ventilated room constructed in accordance with the Fire Code.

F. Waste Petroleum Products and Flammable or Combustible Liquids

Flammable or combustible liquids or any waste liquid containing crude petroleum or its products shall not be discarded into or upon any street, highway, drainage canal or ditch, storm drain, sewer or flood-control channel, lake or tidal waterway or upon the ground.

G. Sources of Ignition

In locations where flammable vapors may be present, precautions shall be taken to prevent ignition by eliminating or controlling sources of ignition.

IV. Fire Protection

- A. Fire protection for the storage, transportation and dispensing of flammable liquids shall be in accordance with the Fire Code and this Standard.

- B. Containers and portable tanks shall be designed and constructed in accordance with nationally recognized standards.

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- C. The capacity of individual containers and portable tanks for liquids shall conform to Table No. 79.104

Table No. 79.104

Container Type	Flammable Liquids			Combustible Liquids	
	Class 1-A	Class 1-B	Class 1-C	Class II	Class III
Glass	1 pt.	1 qt.	1 gal.	1 gal.	5 gal.
Metal or approved plastic	1 gal.	5 gal.	5 gal.	5 gal.	5 gal.
Safety Cans	2 gal.	5 gal.	5 gal.	5 gal.	5 gal.
Metal Drum	60 gal.	60 gal.	60 gal.	60 gal.	60 gal.
Approved Portable Tanks	660 gal.	660 gal.	660 gal.	660 gal.	660 gal.
Polyethylene				60 gal.	60 gal.

Notes:

1. Medicines, beverages, foodstuffs and cosmetics, when packaged according to commonly accepted practices for retail sales, are exempted.
2. Class 1-A and Class 1-B liquids may be stored in glass containers of not more than 1 gallon capacity if the required liquid purity (such as American Chemical Society Analytical reagent grade or higher) would be affected by storage in metal containers or if the liquid would cause excessive corrosion of the metal container.
3. Polyethylene containers shall meet the requirements of ASTM Standard D3425-78.

VI. Storage Inside Buildings

- A. Container and portable tank storage inside buildings shall conform to Division II Article 79 of the Uniform Fire Code and this Standard.
- B. Liquid storage cabinets shall conform to Fire Prevention Standard No. 510A and the Uniform Fire Code.
- C. Liquid storage rooms shall conform to sections 79.202 and 79.203 Division II, Article 79 of the Uniform Fire Code and this Standard.
- D. Liquid storage warehouses shall conform to Section 79.204 Division II, Article 79 of

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the Uniform Fire Code and this Standard.

- E. The arrangement and location of container and portable tank storage inside buildings shall conform to Tables 79.200A through 79.200 D-3, Division II, Article 79 of the Uniform Fire Code and this Standard.

VII. Storage Outside Buildings

- A. Container and portable tank storage outside buildings shall conform to Division IV Article 79 of the Uniform Fire Code and this standard.
- B. The arrangement and location of container and portable tank storage outside buildings shall conform to Table 79.403 Division IV, Article 79 of the Uniform Fire Code and this Standard.

VIII. Use, Dispensing and Mixing

- A. The use, dispensing and mixing of flammable and combustible liquids shall conform to Division VIII, Article 79 of the Uniform Fire Code and this Standard.

Referenced Standards:

Fire Prevention Standard No. 510A

Division II, Article 79, Uniform Fire Code

Tables 79.200A-79.200 D-3, Article 79, Uniform Fire Code

Division IV, Article 79, Uniform Fire Code

Tables 79.403 Article 79, Uniform Fire Code

Division III, Article 79, Uniform Fire Code

ASTM Standard D3425-78, Plastic Containers for Petroleum Products