



Flammable and Combustible Liquids

Properties of Flammable & Combustible Liquids

Flammable liquid fires are much more volatile than fires fueled by ordinary combustibles such as wood, paper and cloth. Flammable vapors can ignite with explosive force and the resulting fire gives off more than twice as much heat as ordinary combustibles.

The rate of temperature rise is greater and burning liquids produce billowing clouds of thick, black and acrid smoke. Flammable liquid fires also spread rapidly when spilled material flows into low lying areas, sometimes many feet away from the original spill.

Because of these hazards, special precautions are required when storing, handling and using flammable liquids.

Flammable and Combustible Liquids Storage

Flammable liquids shall not be stored in residence halls or in assembly areas, except for small amounts, as approved by the Campus Fire Marshal, necessary for the immediate maintenance and operation of the building or facility.

*Flammable and Combustible liquids per control area:

Flammable Liquids

Class 1-A	30 Gallons
Class 1-B	60 Gallons
Class 1-C	90 Gallons
Combination	120 Gallons

Combustible Liquids

Class II	120 Gallons
Class III-A	330 Gallons
Class III-B	13,200 Gallons

These quantities may be increased by 100% if in an approved flammable liquid storage cabinet and may be increased by an additional 100% if in a fully sprinkled building.

Vessels used to store flammable liquids must be clearly marked as to contents and shall comply with the following criteria:

MAXIMUM SIZE

Container – CLASS	1-A	1-B	1-C	II	III
Glass	1 pt	1 qt	1 gal	1 gal	5 gal.
Metal/ Listed Approved Plastic	1 gal	5 gal	5 gal	5 gal	5 gal
Safety Can	2 gal	5 gal	5 gal	5 gal	5 gal
Approved Plastic	0 gal	0 gal	0 gal	0 gal	5 gal
Metal Drum	60 gal	60 gal	60 gal	60 gal	60 gal

*Control Area is a building or a portion of a building within which the exempted amounts of hazardous materials may be stored, dispensed, handled or used.

*Control Area(s) are to be separated by a minimum of one-hour fire construction.

Flash Point

A fire will not occur until a flammable liquid is heated above a certain temperature called the flash point. Put more scientifically, flash point is the lowest temperature at which a liquid gives off enough vapor to cause a momentary flame in the presence of an ignition source.

In general, the lower the flash point the greater the hazard. If the liquid's temperature is below the flash point, it simply will not give off enough vapor to burn. For example, the flash point of one of my favorite compounds, ethyl alcohol, is 55 F. If we put a lighted match into an ice-cold ethyl alcohol, the match would go out. However, when the glass warms up to a little over 55 F, the vapors formed at the mouth of the glass would ignite if the match is brought close to the edge.

EXAMPLES OF FLAMMABLE/COMBUSTIBLE LIQUIDS

NAME	CLASS	FLASH POINT
Hydrogen Cyanide	1-A	0
Propylene Oxide	1-A	-35
Ethyl Ether	1-A	-49
Methyl Formate	1-A	-2
Gasoline	1-B	-45
Acetone	1-B	-4
Isopropyl Alcohol	1-B	53
Methyl Alcohol	1-B	11
MEK	1-B	16
Ethyl Alcohol	1-B	55