

NFPA Classifications of Flammable and Combustible Liquids

NFPA 30, Flammable and Combustible Liquids Code, published by the National Fire Protection Association (NFPA), includes a system for categorizing liquids as being flammable or combustible. These classifications are used for determining the various fire protections requirements for the storage and use of flammable and combustible liquids referred to in NFPA 30 and other NFPA codes and standards. The classification system is based primarily on the flash point of the liquid; that is, the minimum temperature at which sufficient vapor is given off the liquid to form an ignitable mixture with air.

Flammable liquids are classified by NFPA as Class I, which are further sub-classified, based upon additional criteria that affect fire risk, as Class IA, Class IB and Class IC - these liquids have flash points below 100 °F (37.8 °C) or less. Combustible liquids are classified as Class II and Class III, which are further sub-classified, based upon additional criteria that affect fire risk, as Class IIIA and Class IIIB - these liquids have flash points of 100 °F (37.8 °C) or more. Class I liquids are the most hazardous from a fire safety standpoint, while Class IIIB liquids are the least hazardous.

Class IA liquids are liquids that have flash points below 73 °F (22.8 °C) and boiling points below 100 °F (37.8 °C). Additionally, unstable flammable liquids are treated as Class IA liquids. Typical Class IA liquids include ethylene oxide, methyl chloride, and pentane.

Class IB liquids are liquids that have flash points below 73 °F (22.8 °C) and boiling points at or above 100 °F (37.8 °C). Typical Class IB liquids include acetone, benzene, ethyl alcohol, gasoline, and isopropyl alcohol.

Class IC liquids are have flash points at or above 73 °F (22.8 °C), but below 100 °F (37.8 °C). Typical Class IC liquids include butyl alcohol, diethyl glycol, styrene, and turpentine.

Class II liquids are combustible liquids that have a flash point at or above 100 °F (37.8 °C) and below 140 °F (60 °C). Typical Class II liquids include liquids such as camphor oil, diesel fuel, pine tar, and Stoddard solvent.

Class IIIA liquids are combustible liquids that have a flash point at or above 140 °F (60 °C), but below 200 °F (93 °C). Typical Class IIIA liquids include liquids such as creosote oil, formaldehyde, formic acid, and fuel oil #1.

Class IIIB liquids are combustible liquids that have a flash point at or above 200 °F (93 °C). Typical Class IIIB liquids include liquids such as castor oil, coconut oil, fish oil, and olive oil.

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The loss prevention information and advice presented in this brochure are intended only to advise our insureds and their managers of a variety of methods and strategies based on generally accepted safe practices, for controlling potentially loss producing situations commonly occurring in business premises and/or operations. They are not intended to warrant that all potential hazards or conditions have been evaluated or can be controlled. They are not intended as an offer to write insurance coverage for such conditions or exposures, or to simply that Great American Insurance Company will write such coverage. The liability of Great American Insurance Company is limited to the specific terms, limits and conditions of the insurance policies issued.
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**It is important to note that the NFPA classification system is based upon flash points that have been corrected to sea level. At high altitudes, the actual flash point of the liquid will be lower due to the reduced atmospheric pressure. This will affect the degree of fire risk when storing or handling such liquids.*