2. Flammable and Combustible Liquids

2.1. The Flash Point and the Risks

2.1.1. Flash point measurements are made using several different test methods but common operation. The liquid being tested is placed in a small sample cup and heated to a certain temperature. A small pilot flame is introduced into the cup, and the operator observes if vapors in the cup ignites. If the vapor does not ignite, the liquid is heated further, incrementally and the pilot flame is reintroduced. These steps are repeated until ignition occurs and temperature of the liquid at ignition marks its 'Flash Point'.

2.1.2. The storage, processing, handling and use of liquids at temperatures above flash point can produce ignitable vapours, causing fire and explosion accidents.

2.1.3. The risk involved in storage, usage and handling of flammable and combustible liquids shall be evaluated based on the following principles.
a. Analysis of fire and explosion hazards of the operation.
b. Analysis of emergency relief from process vessels, taking into consideration the properties of the materials used and the fire protection and control measures taken.
c. Analysis of applicable facility design requirements (Separation distances, fire ratings etc.)
d. Analysis of requirements for liquid handling, transfer and use.
e. Analysis of local conditions such as exposure to and from adjacent properties and exposure to floods, earthquakes and windstorms.
f. Analysis of the emergency response capabilities of the in-house emergency services and Civil Defence specialization.

Did You Know?

The measure of flammability of any liquid depends on its 'Flash Point'.

At high altitudes, the actual flash points will be significantly lower than those observed at sea level or corrected to atmospheric pressure at sea level.

Allowance could be necessary for this difference for appropriate assessment of risk.

2.1.4. As a general guideline, this chapter provides the requirements related to storage, handling, transfer, dispensing and usage of flammable and combustible liquids. This chapter shall be read and refereed in conjunction with other chapters of this code where referred.

2.1.5. **NFPA 30, NFPA 30A, NFPA 30 Handbook, EPA, Dubai Municipality Hazardous Material guidelines** have been referred for this chapter. Consultants, contractors, owners and House of Expertise shall refer to these documents for further details, requirements, specifications and design considerations.