NON-REACTIVE FLAMMABLES AND OTHER COMBUSTIBLES

Hazard Description

Flammable liquids can be easily ignited, even at concentrations less than their lower flammable limits, and

Description	Class	Boiling Point (°C)	Flash Point (°C)
Flammable	IA	<37.8	<22.8
Flammable	IB	>37.8	<22.8
Flammable	IC	---	>22.8 and <37.8
Flammable	II	---	>37.8 and <60
Combustible	IIIA	---	<60 and <93.3
Combustible	IIIC	---	>93.3

at temperatures below their flash point. Vapours may be heavier than air, allowing them to travel long distances along the ground to reach an ignition source.

Examples

- Ethanol
- Hexane
- Carbon
- Methanol
- Acetonitrile
- Charcoal

Handling

All work, research, investigations, etc. involving flammable or combustible liquids must be carried out in an approved chemical (fume) hood when:

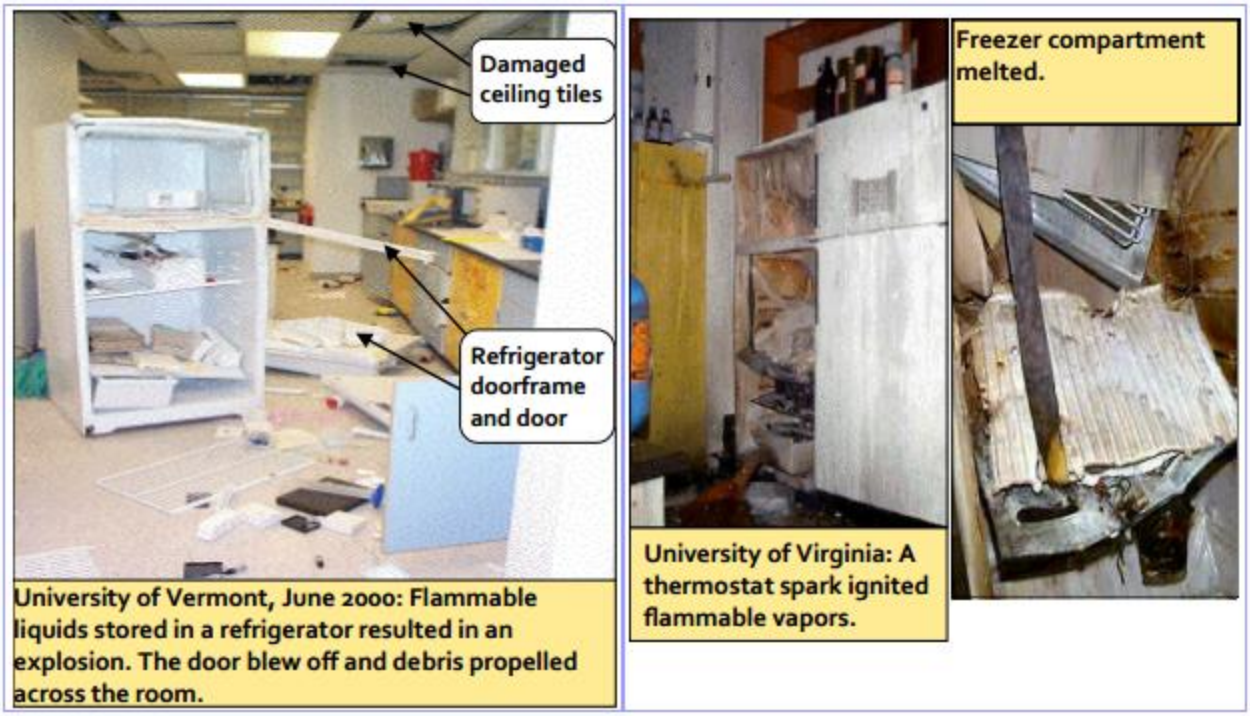
1. Their use releases flammable vapours which could be potentially explosive
2. Liquids are heated to a temperature greater than their flash point
3. Unstable liquids are used

Dispensing flammable or combustible liquids from containers of 5L capacity or less is permissible if performed in an approved chemical (fume) hood. ChemStores is the only location on campus which may dispense flammable or combustible liquids from containers with greater than 5L capacity.

Some flammable liquids are peroxide formers, and the user should be aware of which ones are. Purchase date should be written on the container, expiry dates should be observed and testing for peroxide formation should be done as per guidelines. For more information, visit the chemistry departments resource on peroxide forming compounds.

Storage

- Store away from oxidizers, oxidizing acids, and sources of ignition.
- No more than 50 L of flammable liquids may be kept in a laboratory outside of a flammable cabinet.
- Non-flammable solvents may also be stored in flammables cabinets.
- Flammable cabinets must be installed as per building code with proper venting.
- **Refrigerators used for storage of flammable compounds shall be certified for such use and designated as explosion proof. Vapours from stored chemicals can accumulate over time and come in contact with an electrical spark which creates a powerful explosion.**



(Image from Emory Research Administration News - Flammable Chemicals and Refrigerator Storages)

Hazardous Waste

- Must be disposed of as per the University's Hazardous Waste Standard.
- Label as liquids as either a Halogenated Solvent or a Flammable Solvent.
- Plan ahead and request a specialized container from the ESF if large (weekly) volumes will be generated.