

UNIVERSITY OF HAWAII AT MANOA

REQUIREMENTS FOR STORAGE AND HANDLING OF FLAMMABLE LIQUIDS

STORAGE REQUIREMENTS

- 1 Flammable liquids stored in the open in a laboratory work area or inside any building shall be kept to the minimum necessary for the work being done.
- 2 Maximum quantity permitted in labs and other areas of use is limited to a total of 10 gallons, all classifications combined, outside of a flammable storage cabinet or approved flammable storage room. Please refer to Table 1.
- 3 Quantities stored in flammable storage cabinets shall be limited to 60 gallons of category 1 and 2 or 3 and 4 liquids and the total of all liquids shall not exceed 120 gallons. Please refer to Table 1 for maximum allowable container size for each class. Not more than three cabinets shall be located in the same fire area.
- 4 Quantities exceeding the above must be stored in an approved flammable storage room meeting the requirements of the Uniform Building and Fire Codes.
- 5 Flammables shall not be stored near exit doorways, stairways, in exit corridors, or in a location that would impede egress from the building.
- 6 Materials which will react with water or other liquids to produce a hazard shall be segregated from flammable liquids.
- 7 Refrigerators, freezers, and other cooling equipment used for storing flammable liquids must be rated for storing such items and prominently labeled as such. Equipment that is IM or UL listed as "flammable storage" or "explosion proof" must be used for flammable or volatile liquid storage. "Flammable storage" indicates that flammable materials are isolated from sparks. "Explosion proof" indicates that the entire unit is sealed and can be used in explosive atmospheres.

HANDLING AND DISPENSING

- 1 Category 1 and 2 liquids shall not be transferred from one vessel to another in any exit passageway.

- 2 Transfer of flammable liquids from 5 gallon containers (or less) to smaller containers shall be done in a laboratory fume hood or in an approved flammable liquid storage room.
- 3 Empty containers shall be treated in the following manner:
 - a) For water soluble solvents ----→ rinse, deface label, and dispose with normal trash.
 - b) For non-water soluble solvents ----→ allow to evaporate to dryness in a hood, rinse, deface label, and dispose with normal trash.

TABLE 1

(Categories are per new Globally Harmonized System)

CATEGORY	1	2	3	4
Flash point	less than 73.4 F	less than 73.4 F	between 73.4 F and 140 F	between 140 F and 199.4 F
Boiling point	less than or equal to 95 F	greater than 95 F		
Flammability Potential	Extremely High	Very High	High	Moderate
EXAMPLES OF COMMONLY USED MATERIALS	acetaldehyde benzoyl peroxide ethyl ether pentane methyl formate	acetone ethanol butylamine gasoline methanol isopropanol	amyl acetate butanol chlorobenzene turpentine xylene	formaldehyde hydrazine kerosene
MAXIMUM CONTAINER SIZE				
Glass	1 pint (500 ml)	1 quart (1 liter)	1 gallon (4 liter)	1 gallon (4 liter)
Metal or approved plastic	1 gallon	5 gallon	5 gallon	5 gallon
Safety cans	2 gallon	5 gallon	5 gallon	5 gallon
Metal drums (DOT)	N/A	5 gallon	5 gallon	5 gallon