

Environmental Health and Safety Update

Flammable Liquid Storage Limits in Laboratories

Overview

The Fire Department of New York (“FDNY”) restricts storage of flammable liquids in laboratories to between 15 and 30 gallons, depending on the laboratory type as permitted by the FDNY. Laboratories can determine their FDNY permitted laboratory type and corresponding flammable liquid storage limits by referencing their Health and Safety Door Sign, or by contacting Environmental Health and Safety (EHS). Principal Investigators and Laboratory Supervisors are responsible for maintaining their stocks of flammable liquids below their laboratory limit. In the event that routine lab operations require stocks of flammable liquids in excess of FDNY storage limits, EHS is available to provide short-term storage of excess flammable liquids in the EHS chemical storage facility (D Building, Room 701).

Applicability

This procedure applies to all WCMC Principal Investigators and Laboratory Supervisors who purchase and maintain the flammable liquid inventories in their laboratory unit.

Definitions

Flammable Liquid means any liquid mixture, substance or compound which will emit a flammable vapor at a temperature below 100°F. Examples include Acetone, Acetonitrile, Ethanol, Hexanes, Isopropanol, Methanol, N,N,N',N'-Tetramethylethylenediamine, and Xylene. To determine whether a chemical is flammable, refer to the manufacturer’s label or the Material Safety Data Sheet.

Laboratory Unit means an enclosed, fire-rated space used for testing, research, experimental or educational purposes. A laboratory unit may consist of a single room or an entire floor of a building depending on its construction.

Material Safety Data Sheet (MSDS) - A Material Safety Data Sheet (MSDS) is a document created by chemical manufacturers which identifies a chemical’s physical and health hazards, exposure limits, precautions, personal protective equipment required when handling the material, and procedures that should be followed in the case of an emergency. MSDS’s are available from the manufacturer. Additionally, the EHS MSDS website (<http://www.med.cornell.edu/ehs/msds.htm>) can provide assistance.

Health and Safety Door Sign (HSDS) provides emergency contact and hazard information. Additionally, this sign identifies all areas included within that laboratory unit as well as the flammable liquid storage limit. More information is available at http://med.cornell.edu/ehs/forms/door_sign.htm.

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EHS Update – Flammable Liquid Storage Limits in Laboratories

Responsibilities

Principle Investigators and Laboratory Supervisors are responsible for maintaining compliance with the FDNY flammable liquid storage limits.

Environmental Health and Safety provides guidance, training and assistance on flammable liquid storage issues as needed.

Procedure

1) Determine Flammable Storage Limits

The flammable liquid storage limits for a given laboratory unit can be found on the Health and Safety Door Sign (HSDS) posted at the laboratory's entrance. If the laboratory does not have a HSDS, contact EHS to determine flammable liquid storage limits for the laboratory. Additionally, submit a HSDS request via the EHS website at http://med.cornell.edu/ehs/forms/door_sign.htm.

Principle Investigators and Laboratory Supervisors in laboratory units/suites with multiple Principle Investigators must collectively determine their respective portion of the flammable liquid storage limit for the laboratory. *Note that the flammable liquid storage limits are for the entire laboratory unit and all its occupants, and not per Principal Investigator.*

2) Determine if Routine Laboratory Operations Exceed Storage Limits

Wherever possible, Principle Investigators and Laboratory Supervisors must modify flammable liquid purchasing practices in order to maintain compliance with FDNY regulations. If routine operations require that the laboratory maintain an inventory of flammable liquids in excess of storage limits, then that laboratory may be eligible for assistance from EHS.

Principle Investigators and Laboratory Supervisors should utilize their chemical inventory to assist in calculating their required inventory of flammable liquids. Refer to the Chemical Inventory EHS Update (http://med.cornell.edu/ehs/updates/chemical_inventory.htm) for additional chemical inventory information.

3) Store Excess Flammable Liquids with EHS

When it is determined that routine laboratory operations require volumes of flammable liquids in excess of their storage limits, Principle Investigators and Laboratory Supervisors may request temporary storage of excess flammable liquids with EHS.

Storage of flammable liquids within the EHS storage facility is subject to the following conditions:

- 4-liter maximum container size.
- Store volumes of the routinely used flammable liquids that will be utilized within a 6-month timeframe. Chemicals stored longer than 6 months are subject to disposal.
- Provide EHS with associated MSDS, as needed.
- Use appropriate equipment when transporting chemicals in the corridor, such as a cart with secondary containment (e.g., 4-walled or tube/bin) or protective bottle carriers.

EHS Update – Flammable Liquid Storage Limits in Laboratories

4) Accessing Flammable Liquids in Storage

Principle Investigators, Laboratory Supervisors and their laboratory personnel are responsible for maintaining an awareness of flammable liquids stored with EHS, including but not limited to volumes and storage durations. Plan ahead and contact EHS before laboratory stocks are depleted. Laboratories may schedule a time to deliver or collect flammable liquids by contacting EHS at (212) 746-6201. EHS cannot guarantee immediate access to the EHS chemical storage facility.

EHS maintains inventories for each Principle Investigator's flammable liquids temporarily stored in the EHS chemical storage facility. Copies of the inventory can be obtained by contacting EHS.

References

FDNY: 3 RCNY Chapter §10-01 – Chemical Laboratories

WCMC EHS: Laboratory Chemical Hygiene Plan http://med.cornell.edu/ehs/manuals/4.1_Lab_CHP.pdf

WCMC EHS: Chemical Inventory Update http://med.cornell.edu/ehs/updates/chemical_inventory.htm

WCMC EHS: Health and Safety Door Sign program http://med.cornell.edu/ehs/forms/door_sign.htm