



CAMBRIDGE CAMPUS FLAMMABLE STORAGE PERMITS & LICENSES

In order to store or use any flammable materials, a permit must first be issued by the head of the fire department. The permit is generally issued to the person or business that occupies the property.

The storage of ANY quantity of flammable materials requires a permit from the Cambridge Fire Department (CFD). The permit typically is issued for the entire facility. Permit renewals are due December 31.

If the quantities of materials to be stored **exceed** the limits in the table listed below, the facility representative is required to obtain a flammable storage license (Garage & Gasoline) from the Cambridge License Commission in addition to the permit issued by the CFD.

| Classifications | Maximum amounts without obtaining a license: |
|---|---|
| Class I liquids (containers <60 gal.) | 793 gallons |
| Class I liquids (containers >60 gallons, fixed installations, not intended for process) | 10,000 gallons |
| Class II liquids | 10,000 gallons |
| Class IIIA liquids | 10,000 gallons |
| Class III B liquids | 10,000 gallons |
| Flammable gases within building | 3,000 cubic feet |
| Flammable gases outside | 10,000 cubic feet |
| Flammable solids | 100 pounds |

In properties with multiple tenants, a separate permit is required for each tenant located within that property. Whether a single permit or multiple permits have been issued for a property, once the exempt amounts listed in 527 CMR 1:00, Chapter 60 has been exceeded, and then a license, in addition to the permit(s), is required. The license must be applied for by the owner of the land and only one license can be issued per parcel of land (MGL 148 § 13).



PERMITTING AND LICENSING RESPONSIBILITIES

Building/Facility Representatives including those responsible for laboratory areas, Engineering and Utilities, Environmental Health and Safety, UOS Fire Safety Group, Harvard Planning, and the Office of Government, Community and Public Affairs all have responsibilities to assist with compliance.

INVENTORY CLASSIFICATION

Establishing an inventory of flammable and combustible liquids, gases and solids stored by lab and by building is an essential responsibility under the permitting and licensing process.

The Principle Investigators (PI's) are responsible for the labs and the Facility Representatives are responsible for determining the total storage locations and the total quantities of materials by fire classification for the entire building.

Building/Facility Representatives

- Conduct an inventory of all chemicals stored in laboratory/building.
- Determine chemical classifications based on flashpoint and boiling point (see chart below) Flash point is indicated on Safety Data Sheet (SDS).
- Quantify storage of materials by each classification

| | |
|-------------------------------|--|
| Class IA Flammable Liquid | Liquid having a flash point below 73°F and boiling point below 100 °F |
| Class IB Flammable Liquid | Liquid having a flash point below 73 °F and boiling point at or above 100 °F |
| Class IC Flammable Liquid | Liquid having a flash point at or above 73 °F and below 100 °F |
| Class II Combustible Liquid | Liquid having flash point above 100 °F and below 140 °F (cont.) |
| Class IIIA Combustible Liquid | Liquid having flash point at or above 140 °F and below 200 °F |
| Class IIIB Combustible Liquid | Liquid having flash point above 200 °F |
| Flammable Gas | A mixture of 13% or less (by vol.) with air forms a flammable mixture or flammable range with air is wider than 12% |
| Flammable Solid | Solid, non-explosive, which is liable to cause fires through friction, absorption of moisture, spontaneous chemical change, or retained heat from processing |

Note: many typical flammables, such as methanol, acetone, ethanol, and hexane, are Class I



STORAGE INFORMATION

NFPA 30 Flammable and Combustible Liquids Code
Maximum Allowable Size of Containers and Metal Portable Containers
(from NFPA 30, Table 4-2.3, NFPA 45, Table 7.2.3.2)

| Container Type | Class IA | Class IB | Class IB | Class II | Class III |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| Glass | 1 pt (500 ml) | 1 qt (1L) | 1.1 gal (4 L) | 1.1 gal (4 L) | 5 gal (20L) |
| Metal (other than DOT drums) or approved plastic | 1.1 gal (4L) | 5 gal (20L) | 5 gal (20L) | 5 gal (20L) | 5 gal (20L) |
| Safety cans | 2.6 gal (10L) | 5 gal (20L) | 5 gal (20L) | 5 gal (20L) | 5 gal (20L) |
| Metal container (DOT spec.) | 60 gal (227L) | 60 gal (227L) | 60 gal (227L) | 60 gal (227L) | 60 gal (227L) |
| Approved metal portable tanks | 660 gal (2498L) | 660 gal (2498L) | 660 gal (2498L) | 660 gal (2498L) | 660 gal (2498L) |
| Polyethylene (DOT spec.34) | 1.1 gal (4L) | 5 gal (20L) | 5 gal (20L) | 60 gal (227L) | 60 gal (227L) |

Capacity of Storage Cabinets (NFPA 30, section 4.3)

- 4.3.1 Not more than 120 gal (454L) of Class I, Class II, and Class IIA liquids stored in a storage cabinet.
4.3.2 Not more than 3 (or 6 if sprinkler system per NFPA 13) storage cabinets located in any fire area. In an industrial occupancy, additional storage cabinets can be located in the same fire area if a minimum separation of 100 feet is maintained between each group of not more than 3 cabinets.

5.4.3.5 The maximum total quantity of flammable and combustible liquids permitted at any one work area, outside of an approved storage area must not exceed the greater of:

1. one day's supply;
2. 25 gallons (94.6L) of Class IA liquids;
3. 120 gallons (454.2 L) of Class IB, IC, II, or III liquids;
4. two portable tanks not exceeding 660 gallons (2498.4 L) of Class IB, IC, II, or IIIA liquid; or
5. 20 portable tanks each not exceeding 660 gal (2498L) of Class IIIB liquids.



FACT SHEET

Program: Fire Permits & Compliance

| RESPONSIBILITIES | | | | |
|---|-----------------------------------|-----|------|---------|
| Task | Building/Facility Representatives | E&U | EH&S | Other * |
| Determine amount of flammables and combustibles stored in facility by class. | X | | | |
| Communicate the need for a permit to E&U . | X | | | |
| Coordinate with E&U to provide permit application information: <ul style="list-style-type: none"> ▪ A Chemical Hygiene Plan ▪ An Emergency Contingency Plan ▪ A Listing of the amounts of various flammable and combustible liquids, flammable solids and flammable gases showing their class and flash point ▪ A site plan showing the storage locations for flammable and combustible materials | X | | | |
| Provide technical assistance with the development of chemical hygiene plan, emergency procedures, Emergency Contingency Plan, chemical storage and handling guidelines. | X | | X | |
| Complete permit application . | X | | | |
| Submit completed permit to the Cambridge Fire Department (CFD). (\$50.00 fee) | | X | | |
| If necessary, apply for license. Complete application and submit to Cambridge Licensing Commission. | X | | | 2 |
| Provides assistance with the licensing process and public hearing. | | | | 2 |
| Obtain license from Cambridge License Commission. | X | | | |



| RESPONSIBILITIES | | | | |
|---|--|----------------|-----------------|----------------|
| Task | Building/Facility Representatives | E&U | EH&S | Other * |
| Coordinates the initial and annual inspection of facility by Cambridge Fire Department (CFD). | | X | | |
| Accompanies CFD on annual inspections. | X | | | 3 |
| Retains copy of permit and provides original to FAS Physical Resources/Building/Facility Representative | | X | | |
| Maintains and posts copy of permit/license in conspicuous location in facility. | X | | | |
| On-going | Building/Facility Representatives | E&U | EH&S | Other * |
| Maintains operational awareness of any significant changes in flammable material storage. | X | | | |
| Communicates to E&U if the storage quantity exceeds the permit quantities requiring amendment to original permit. | X | | | |
| If licenses is now required, obtains license. | X | | | |
| Annual renewal of permit. | | X | | |
| Annual renewal of license. | X | | | |
| Maintains and monitors ongoing changes to the local and state fire code (527 CMR 1:00 MA Comprehensive Fire Safety Code & MGL 148.13) | | X | X | |
| Assists with the code requirements for the proper storage of materials (i.e. flammable liquid cabinet). | X | | X | 1 |

OTHER:

- 1 - Cambridge Fire Department
- 2 - Harvard Planning, Office of Government, Community and Public Affairs
- 3 - Campus Services Fire Group