



EHS Fact Sheet

Flammable Liquid Storage in a Lab

General guidance

Use the following guidelines for storing flammable and combustible chemicals in the laboratory.

Minimize the amount of flammable liquids in your lab. Buy only what you will use in the immediate future, and buy the smallest size that you need. Excess flammable solvents risk a fire, a dangerous spill and, if you are exposed to them, your health. Unused surpluses create an unnecessary disposal cost for the University.

If a building or departmental flammable solvent storage room with a fire suppression system is available, store flammable materials there until you need to use them and remove only the amount needed for a particular experiment or task.

In the laboratory, store flammables in a UL-approved (or equivalent) flammable storage cabinet. Unless a cabinet is marked as approved for storage of flammable liquids, flammable solvents may not be stored there. In general, do not store flammable liquids in cabinets below sinks.

Store flammables, combustibles and other fuels away from strong oxidizers, such as perchloric and nitric acids. It is best to store flammable liquids in an approved storage cabinet dedicated solely for that purpose.

Limit quantities of flammable liquids stored outside of safety cans and flammable storage cabinets to less than ten gallons per one hundred square feet (i.e., per lab suite). If you include flammables stored in safety cans and flammable storage cabinets, limit the amount of flammable liquids to less than twenty gallons per one hundred square feet of lab space.

Thus, the maximum quantity of flammable liquids in each lab suite / fire area depends upon the storage configuration:

- Glass, metal or plastic 10 gallons (38 liters)
- Safety cans 25 gallons (95 liters)
- Flammable liquid storage cabinets 180 gallons (684 liters)

On your benchtop, limit the storage of flammable liquids to those in immediate use. Handle flammable chemicals in areas free from ignition sources. It is best to store bottles of flammable liquids in a tray or pan (secondary containment) to catch any spills.



Always bond metal containers to metal receivers when transferring large volumes of flammable liquids or gases. Static electricity can ignite flammable gases or vapors. If static electricity is a problem, minimize static electricity by spraying with an antistatic agent. Use nonconductive materials (floors, mats, etc.) and grounding straps on instruments and machines, especially when transferring flammable chemicals between metal containers. These reduce the risk of generating static sparks. The greatest hazard from static electricity is in the winter when the air is dry.

Never heat flammable chemicals with an open flame, use a water bath, oil bath, heating mantle, hot air bath, etc. Laboratory fume hood

Use a fume hood when there is a possibility of dangerous vapors.

Cold rooms pose a unique set of problems. One big problem with anything stored in a walk-in cold room is that outside (hallway or room) air brings in moisture which condenses on everything that is cold. This will lead to mold which thrives on paper and glue of labels and can make stored containers "unknowns."