

# Section 6 HAZARDOUS MATERIALS STORAGE CABINETS

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## A. Scope

This section of the Design Guide applies to the design, construction, and installation of hazardous materials storage cabinets. Most of the requirements were taken directly from the International Fire Code, as adopted by Seattle/Washington State, with supporting information from the National Fire Protection Association.

## B. Approvals and Listings

1. Storage cabinets shall be UL listed for their intended use.

## C. Design

1. Laboratories that store, use or handle more than five gallons of flammable or combustible liquids shall have one or more flammable liquid storage cabinets so that the code provision for doubling the maximum allowable quantity may be applied.
2. Provide corrosive and other listed cabinets as necessary to allow for segregation of incompatibles. Information on incompatible materials may be found [here](#).
3. Total hazardous material storage capacities in a control area must consider fire code maximum allowable quantities.

## D. Venting Hazardous Materials Storage Cabinets

1. ***Corrosive material storage cabinets***, including those built into laboratory casework, should be vented. If built into laboratory casework, they should vent directly into the fume-hood plenum behind the baffle.
2. ***Flammable liquid cabinets*** should not normally be vented as doing so may compromise the cabinet's fire-resistance performance during a fire. If a flammable liquid storage cabinet is required to be ventilated, then it shall be connected through the lower bung opening to an exterior exhaust in such a manner that the specified performance or listing of the cabinet is not compromised. A flash arrester screen provided by the manufacturer with the cabinet shall replace the other bung. Exhaust vent materials for hazardous materials cabinets shall be compatible with cabinet contents. Vent materials for flammable liquid storage cabinets shall be resistant to high temperatures generated in a fire. Stainless steel, hard-soldered copper, and carbon-steel are all appropriate vent materials for flammable storage cabinets, provided the chosen material is compatible with the intended service. Non-metallic duct shall not be used to vent flammable storage cabinets.

3. Compatible non-metallic duct material, such as PVC, can be used for acid- or corrosive-material storage cabinet service. Polypropylene is not appropriate vent duct material, since it is combustible.
4. Flammable cabinets built into laboratory casework are not to be vented into the fume-hood exhaust system. No acceptable method of doing this has been identified.
5. Class 1 flammable liquids stored in basements must be kept in vented flammable liquid cabinets. Please consult with EH&S to ensure conformance with this Administrative Rule.
6. If the cabinet is not vented, then it shall be sealed with the bungs supplied by the manufacturer.
7. Toxic material storage cabinets, when used to store highly toxic materials in excess of an exempt amount, shall be vented in a manner similar to flammable liquid storage cabinets.

## **E. General Installation Requirements**

1. Flammable liquid storage cabinets shall not be located near exit doorways, stairways, or in locations that would impede leaving the area.
2. Flammable liquid storage cabinets shall not be wall-mounted. Wall-mounted cabinets are not UL listed or FM approved. The mounting could breach the fire-resistant integrity of the cabinet.
3. Flammable and toxic/corrosive liquid storage cabinets shall be seismically anchored to prevent spillage of contents.