Flammable Liquid Storage FAQ

SafetyNet #: 524

The following guidance applies to all cabinets used for storage of flammable and combustible liquids, including cabinets under fume hoods and in rooms where greater than 10 gallons of flammable and combustible liquids are stored. In rooms where 10 gallons or less are stored, flammable cabinets are recommended but not required. For additional guidance regarding flammable liquids storage, please refer to the UC Davis Fire Prevention Fire Net, “Flammable Liquid Storage.” For questions not covered in these documents or for assistance with more complicated issues, please contact Fire Prevention at 752-1493.

Q: Why store flammable and combustible liquids inside a flammable liquid storage cabinet?

A: To protect flammable liquids against flash fire, to prevent the containers from building excessive internal pressure, and to contain spilled flammable liquids that can further spread fire. The pictures below demonstrate how flammable storage cabinets effectively protect the contents inside from fire.

![Fire burnt the exterior of the storage cabinet](image1)

![Flammable solvents inside were protected from the fire](image2)

Q: Is my existing flammable liquid storage cabinet acceptable?

A: Cabinets must be Underwriter Laboratories (U.L.) 1275 listed which is indicated by a permanent label on the cabinet by the manufacturers. Alternatively, cabinets must be constructed in accordance with the following:
1. Unlisted metal cabinets shall be of steel having a thickness of not less than 0.044" (1.12 mm) (18 gauge). The cabinet, including the door, shall be double-walled with 1-1/2" (38.1 mm) airspace between the walls. Joints shall be riveted or welded and shall be tight fitting. Doors shall be well fitted, self-closing and equipped with a latching device, OR,

2. Unlisted wooden cabinets, including doors, shall be constructed of not less than 1” (25.4 mm) exterior grade plywood. Joints shall be rabbited and shall be fastened in two directions with wood screws. Door hinges shall be of steel or brass. Cabinet shall be painted with intumescent-type paint. Doors shall be well fitted, self-closing and equipped with a latch.

Regardless of wood or metal cabinet, each cabinet shall have the followings:

1. The bottom of the cabinet shall be liquid-tight to a height of at least 2" (50.8 mm).
2. The door shall be well fitted, self-closing and equipped with a 3 point latch.
3. A conspicuous label on contrasting background which reads, “FLAMMABLE –KEEP FIRE AWAY” on the front.

Q: Are the doors of the flammable liquid storage cabinet required to be self-closing? Self-latching?

A: Self-closing doors are required per the California Fire Code, Section 3404.3.2.1.3. Please specify this option when you are purchasing a new cabinet, as not all cabinets include this feature. Self-latching doors are not required, but this feature can provide additional safeguard against fire.

Q: What if the flammable liquid storage cabinet I have does not have self-closing doors?

A: Contact the manufacturer of the cabinet and see if you can purchase a kit to retrofit the cabinet. If no kit from the manufacturer or other universal kit is available, the storage cabinet should be replaced.

Q: What is the maximum quantity of flammable and combustible liquids that I can store inside a single storage cabinet?

A: Cabinets are available in different sizes ranging from 4-gallon (15-liter) to 120 gallon (454 liter) capacity. However, per regulations, no more than 60 gallons of Class IA flammable liquids may be stored inside a single cabinet. AClass IA flammable liquid is liquid having a closed cup flash point below 73°F (22.8 °C) and boiling point below 100°F (37.8 °C).

The maximum allowable quantities of flammable or combustible liquids allowed in a control area (laboratory or suite of laboratories) are limited by the location in the building and the construction specifications. Typical laboratories are not constructed to high hazard group specifications (check with the Campus Fire Marshal).
Q: Should the flammable liquid storage cabinet be vented?

A: When used for storage of closed containers, a flammable liquid storage cabinet is not required to be vented for fire protection purposes. Vent openings must be sealed with the bungs supplied with the cabinet or with bungs specified by the cabinet manufacturer.

June 2013

Contact

Fire Prevention Services
fireprevention@ucdavis.edu 530-752-1493
More information

Copyright ©2015 The Regents of the University of California, Davis campus. All rights reserved.

Source URL (modified on 01/26/17 02:30pm): https://safetyservices.ucdavis.edu/safetynet/flammable-liquid-storage-faq

Links