

SAFETY RULES FOR REFRIGERATED STORAGE
University of Missouri – Columbia

A. Storage of Flammable Materials:

1. Any refrigerated storage unit located on or in a UMC facility, used to store flammable materials, shall have the storage compartment(s), including door and frame, designed and constructed so as not to provide sources of ignition for the ignitable vapors contained inside the unit.
2. Such a unit must, in addition, have all sources of ignition on the outside of the storage compartment(s) designed and constructed so as either to:
 - a. Minimize the possibility of igniting vapors that may leak from the compartment or may be found in the environment around the refrigerator. (Such a refrigerator is often loosely referred to as a “flammable storage refrigerator”).
 - b. Eliminate the possibility of igniting vapors that will leak from the compartment(s) and will be found in the environment around the refrigerator. (Such a refrigerator is often loosely referred to as an “explosion-proof refrigerator”).
3. For most storage applications, the “flammable storage refrigerator” will be quite acceptable. Consult your safety representative before investing in the more expensive “explosion—proof” refrigerator. (Not only are the “explosion—proof” units more expensive to purchase, but they also cost more to install since they must be connected permanently. They are usually intended for installation in areas where flammable materials are stored in quantity and all ignition sources have been removed – i.e. a designated flammable chemical storeroom.)

B. Storage of Hazardous Materials in General:

1. Biological or radioactive materials having a flammable hazard shall be stored in units as in A above.
2. If hazardous materials are stored within a unit, the appropriate warning signs shall appear on the door (e.g.—carcinogen, biohazard, radioactive, etc.) See the Health Physicists for advice on handling radioactive materials.

C. Storage of Food:

1. Food or drink shall be stored only in refrigerators which are designated exclusively for that purpose and are located away from areas where toxic substances are employed.

Footnotes:

1. An electrical device may be designed and constructed so as to operate in a Class 1, Division 1, location. Under code, a Class 1, Division 1, location is continuously exposed to hazardous flammable vapors under normal operating conditions. NFPA 70-1986, 45-1986.
2. An electrical device may be designed and constructed so as to operate in a Class 1, Division 2, location. Under code, a Class 1, Division 2, location is possibly exposed to hazardous flammable vapors under normal operating conditions. NFPA 70-1986, 45-1986.
3. “Prudent Practices for Handling Hazardous Chemicals in Laboratories”, National Academy Press, 1981.

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