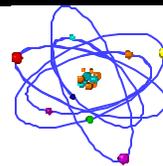


LABORATORY SAFETY FACT SHEET #5



Refrigerators & Freezers in Lab



Certain refrigerator/freezer units are designed for the safe storage of flammable materials, and to prevent potentially injurious explosions in your lab. These units have special protections to prevent ignition of flammable vapors. For example, the light switch, defrost feature, and thermostat inside the storage compartment have been removed or relocated outside the box. This is critical, since flammable vapors coupled with an ignition source could result in an explosion. Before purchasing a new refrigerator/freezer, or using an existing one, consider whether chemicals will be used for storage in this unit.

There are two types of refrigerator/freezer models that should be considered, depending on the type of hazardous material the unit will store.

I. FLAMMABLE MATERIAL STORAGE REFRIGERATORS/FREEZERS:

These have no internal electrical components which could trigger an explosion inside the unit. These must always be used for storage of volatile materials.

II. EXPLOSION-PROOF REFRIGERATORS/FREEZERS :

These units prevent triggering of interior or exterior explosions in a hazardous environment. Every motor and thermostat is designed to prevent arcing and possible ignition. They are used for storage of volatile materials in areas with explosive atmospheres. This model is rarely necessary in lab environments

All refrigerator/freezer purchases and modifications on campus **must be pre-approved** by EH&S at X8243. In addition, all approved refrigerator/freezer units storing flammable materials must be labeled with signage reading, "Approved For Chemical Storage, No Food Storage". All refrigerator/freezer units in labs, which are not approved for storage of flammable materials must be affixed with signage reading, "Explosion Hazard". Contact EH&S to receive your free label(s).



This picture shows a UCI lab refrigerator which exploded when chemicals were inappropriately stored in a unit which was not designed for flammables storage.

For further information contact EH&S Laboratory Safety Specialist at X4899