

Refrigerators & Chemical Storage Options

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TEMED and Sigmacote

One ongoing issue that we struggle with in labs is the storage of flammable materials in household-type refrigerators. This is a risky practice due to the potential of vaporization of these materials in the closed space and explosion of those vapors from a spark generated by electrical contacts from the thermostat or light.

While this has not happened on our campus, there are many reported incidents at other institutions that have caused injuries and property damage from this type of explosion.

How are these and other flammable materials safely stored? If they must be stored cold, an explosion-safe (AKA flammable materials storage) refrigerator must be used. Unfortunately, many labs have only household type refrigerators due to the higher cost of the explosion-safe type. Since the only flammable material stored in the refrigerator for many labs is TEMED or Sigmacote, Sigma was contacted concerning storage options for these chemicals. Dr. Jeffrey Howard responded that storage of both of these materials in the cooler is optimal but it is not necessary. Both of these chemicals may be stored in a solvent cabinet as long as the lab is maintained at room temperature without extreme fluctuations. Dr. Howard states that both chemicals are stable at room temperature for several months.

Due to the moderately low cost of both of these chemicals, it is recommended that they be stored at room temperature if there is no explosion-safe refrigerator available. Date the chemical when received and dispose after several months to insure effective results with its use. If you use TEMED or Sigmacote, look in your refrigerator now and remove these chemicals if they are located in a household-type refrigerator.

To view pictures of refrigerator explosions from improperly stored flammable materials, click [here](#).