Chemical Storage and Compatibility

Improper storage and handling of chemicals is thought to be the leading cause of laboratory accidents. The two basic rules are: store the least amount of each chemical necessary and segregate incompatible chemicals. Acutely hazardous chemicals and carcinogens require special handling and storage. The Safety Data Sheet (MSDS) can provide guidance for storage and handling as well as spill clean up procedures. Basic storage guidelines include:

1. Flammable liquids should be stored in metal cabinets away from heat or ignition sources and provided with proper ventilation.
2. Bases and acids should be stored separately.
3. Oxidizers should be separated from organic compounds and/or reducing agents.
4. Special precautions should be taken for peroxides, peroxide forming compounds and especially organic peroxides.
5. Chemicals reactive with water or air (such as sodium or phosphorus) require special handling and storage according to labeling and the SDS.
6. Gas cylinders should be properly labeled and double fastened to the wall or cabinet that has been bolted to the floor. Also, cylinders should be capped when not being used to protect the stem and valve.
7. Biological, radioactive acutely toxic chemicals require special handling procedures and should not be handled until proper training has been given by knowledgeable trainers as assigned by the PI.

Whenever the handling of chemicals is necessary a thorough knowledge of the chemicals and the appropriate personal protective equipment is imperative. Often a simple secondary container can provide the protective barrier between incompatible chemicals. Contact Risk Management for training or any questions regarding the use, storage or disposal of any chemical.