Safetygram

NCI-Frederick

ISM-120 Laboratory Personnel February 2013

Safe Storage of Laboratory Chemicals

Safe storage of chemicals in the laboratory involves three basic concepts;

- reasonable quantities,
- appropriate location, and
- segregation by compatibility

The quantity of chemicals stored within the laboratory should be kept to a minimum at all times. (Any excess can be eliminated during a laboratory clean out project). A reasonable amount should be no more than a couple weeks supply. A good rule of thumb is if the chemical has not been used within a one-year's time, then it should be discarded. Excess or unwanted chemicals may be given to EHS for recycling and disposal purposes. The group to be contacted for pickup is Waste Management, and they can be reached at x5718.

Storage of chemicals should be restricted to specifically designated areas and clearly labeled within the laboratory. Chemical fume hoods, biological safety cabinets, hallways and floors are not appropriate for the storage of chemicals. Chemical storage shelves should be less than six feet above the floor and equipped with raised lips to reduce the possibility of items spilling or falling from the shelving and causing accidents or injury. Reagent bottles should never be stacked on shelving.

Store flammable liquids in a flammable storage room or approved cabinet with the appropriate labeling. Refrigerators and freezers used for storage of flammable liquids must be rated as either explosion safe or explosion proof. The Fire Department limits lab bench quantities to a one-day supply of flammable liquids. These chemicals are to be returned to the flammable storage area at the end of the day. It is also recommended that these storage cabinets have locks on them.

Acids and bases should be stored separately in non-reactive plastic drip trays. The drip tray should be of adequate capacity to contain the contents of the largest container in the event of a spill or broken bottle.

Oxidizers and reactive compounds, such as nitrates, chlorates, permanganates, and Grignard reagents, should also be stored in non-reactive plastic drip trays away from other organic compounds.

Diethyl ether and other compounds that may form shock-sensitive peroxides should be dated upon receipt and then also marked and dated at first use. To prevent the possibility of explosion, dispose of these compounds within one year of receipt or six months of first use (whichever occurs first).

If you have any questions regarding the safe storage of chemicals or have old or excess chemicals for disposal, please contact EHS at x1451.