

Chemical Storage Fact Sheet: Liquids and Solids



Penn Chemical Hygiene Plan (CHP) Section VI: Chemical Storage and Transportation

Chemical Inventory Support:

cheminv@ehrs.upenn.edu

EHRHS 24/7 Emergency:

215-898-4453

EHRHS Homepage:

<https://ehrs.upenn.edu>

- Segregate chemicals by hazard class into storage locations appropriate for the hazard class,
- Follow additional storage recommendations from the manufacturer, such as storage at sub-ambient temperatures,
- Separate any incompatible chemicals that share a hazard class from each other in storage.

To “Separate” chemicals in storage:

Best Practice: Store chemicals in different cabinets or different shelves in a cabinet.

Minimum Requirement: Store chemicals in different secondary containment bins.

For information on the storage of compressed gases, see [SOP: Compressed Gases](#), [SOP: Hazardous and Highly Toxic Gases](#), and [Section VI: Chemical Storage and Transportation](#).

Flammables & Pyrophores



Store flammables and pyrophoric materials in a Flammable Liquids Storage Cabinet (FLSC) or a refrigerator rated for the storage of flammable materials.

Incompatible with: Oxidizers

Flammables and Pyrophoric Materials are incompatible with each other in storage.

Corrosives



Store all corrosive liquids **below** eye level. (Approximately 5 ft. or shorter.)

All containers of acids with the GHS "Strong Oxidizer" hazard must be labeled with the date of receipt and the expiration date.

Corrosive chemicals are classified as **Corrosive to Metals** and/or **Corrosive to Skin**. See the SDS for this information.

Store chemicals that are **Corrosive to Metals** within a corrosives cabinet. Store chemicals that are **Corrosive to Skin** according to the requirements of their other hazards; *if* they have no other hazards, it is best, though not required, to store in a corrosives cabinet.

Acids and bases are incompatible with each other in storage. They must be stored separately.

Oxidizers



Oxidizers do not necessitate a particular kind of storage cabinet but are incompatible with many chemicals. A dedicated storage area is recommended, though not required.

Incompatible with: Flammables, Pyrophores, and [Reducing Agents](#). (Note: Reducing Agents do not have a specific GHS Pictogram.)

Explosives



Explosives often have specific storage requirements noted by the manufacturer in the SDS. Observing these, as well as any chemical incompatibilities, is necessary to prevent an explosion.

Explosives synthesized within a lab must have the following information on its container, or a tag affixed to the container: *date synthesized, compound information, researcher name, notebook page, concentration and solvent, a warning statement such as “Explosive”, “Potentially Explosive”, or “Explosive when concentrated”, etc.*

Store lab-synthesized explosive materials in solution at concentrations < 1 M if possible. Do not store > 5 g of any lab-synthesized explosive materials no matter how dilute.

Explosives purchased from a manufacturer must retain their original labels and be labeled with the dates of receipt and opening.

Reassess your need for any (potential) explosives every **6 months**. Request EHRHS disposal for any unneeded material.

Incompatible with: Varies per explosive. Consult the SDS of each explosive.



Chemical Waste Request Form

Chemical Waste Support:

chem_waste@lists.upenn.edu

Other Hazardous Chemicals



Chemicals that are only **toxins, irritants, carcinogens, environmental hazards** or **chronic health hazards** do not have specific storage requirements.

These can be stored in cabinets or on shelves suitable for general use. **Check the SDS for unique incompatibilities and other requirements before storing**