



Proper chemical segregation is part of basic laboratory safety. This prevents incompatible chemicals inadvertently mixing during a fire, explosion, earthquake, or any other type of incident.

Ideally, chemical families should be kept in separate cabinets, but most labs have limited space. Use secondary containment (such as plastic tubs) to segregate under these conditions.

Do's and Don'ts

1. Always consult your SDS for specific storage segregation.
2. Do not store your chemicals in alphabetical order, except within each hazard family.
3. Avoid storing chemicals on the floor.
4. If you do have to store chemicals on the floor, use secondary containment and ensure that containers are not in the walkways or aisles.
5. Install lips on the shelves to prevent bottles from falling off the shelf due to normal building vibrations and earthquakes.
6. Store your flammable liquids in flammable liquid cabinets.
7. Store only flammable or combustible liquids in a flammable liquid cabinet.
8. Some chemicals have multiple hazards. Consult the SDS for best method of segregation.
9. Be aware that acids are either organic, inorganic or oxidizing. Segregate organic acids eg acetic acid from oxidizing acids eg nitric acid.
10. The chemical fume hood is not designed for storage. Excessive items in a hood impedes air flow.
11. Keep oxidizing chemicals separate from most chemicals, especially flammable or combustible materials.



Chemical Families for Segregation

These are general guidelines; always consult your SDS for specifics.

1. Flammable and Combustible Liquids eg solvents
2. Flammable Solids eg activated charcoal
3. Oxidizing Materials eg sodium chromate, potassium permanganate
4. Corrosive Materials – Acids eg hydrochloric acid, phosphoric acid
5. Corrosive Materials – Bases eg ammonia, sodium hydroxide
6. Water-Reactive Compounds eg sodium
7. Pyrophoric Compounds eg phosphorus
8. Highly toxic compounds or carcinogens eg, arsenic compounds, nickel compounds, cyanides
9. Relatively non-reactive chemicals eg potassium chloride, sodium phosphate, silica, magnesium sulfate