



Chemical Segregation FAQ

Proper identification and segregation of chemicals are critical to ensuring safety in the lab. Lab members must be equipped to recognize and understand the labeling systems provided by manufacturers to identify chemical hazards accurately. All chemicals must be appropriately classified based on their hazards and stored in a manner that prevents interactions with incompatible substances. Alphabetizing chemicals is not an acceptable method for storage, as it does not address the risks associated with chemical incompatibility.

Q: What is the general purpose of chemical segregation?

A: Chemical segregation is critical to preventing incompatible interactions, minimizing hazards, and ensuring compliance with regulatory standards. Proper segregation reduces risk in the event of accidents such as spills or leaks.

Q: Is there an online guide available for chemical segregation?

A: Yes, Cornell University provides a helpful guide for chemical segregation practices. Access it here: [Cornell Chemical Segregation Guide](#).

Q: How do I determine the hazards for a chemical?

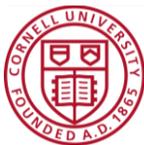
A: Chemical reagent bottles feature manufacturer labels that indicate hazard information. However, older or smaller bottles may lack clear hazard markings. To accurately identify the hazards associated with any chemical, consult its Safety Data Sheet (SDS). The SDS provides detailed information on the chemical's properties, hazards, and safe handling practices.

Q: What are the rules for segregating chemicals with multiple hazards?

A: A general rule is to prioritize flammability over corrosivity when segregating chemicals. If a chemical label contains the GHS flammability pictogram, it should be placed in a flammables cabinet but segregated in secondary containment from the other flammables. An example of this is nitric acid, which must be segregated from other acids due to its oxidizing properties.

Q: What is the recommended secondary containment material for chemical storage?

A: Polyethylene containers are highly recommended for secondary containment since they are resistant to strong acids such as hydrochloric, sulfuric, and nitric acid, as well as bases.



Q: What size secondary containment should I have?

A: Chemicals must be stored within secondary containment capable of holding the full contents of the largest container, or at least 10% of the total volume of all containers in it (whichever is larger).

Q: Can different chemicals be stored in the same secondary container if they share the same hazards?

A: Yes, compatible chemicals may be stored together in secondary containment, but careful consideration is required for acids. For example: Solvents with similar properties (e.g., ethanol and isopropanol) can share containment. But, nitric acid should not be stored with hydrochloric or sulfuric acid, as it is an oxidizing acid and needs its own secondary container within the acid cabinet.

Q: Is secondary containment required for items stored in ventilated chemical cabinets?

A: Secondary containment is not required, but highly recommended, in properly rated ventilated cabinets equipped with shallow spill pans. Secondary containers are recommended to provide an extra layer of protection in case of leaks or spills. Ensure incompatible chemicals are adequately segregated with secondary containment, even within the same cabinet.

Q: What materials should always have dedicated secondary containment?

A: Oxidizing acids like nitric acid require separate secondary containment within an acid cabinet. Similarly, flammable chemicals should not share containment with corrosive or oxidizing compounds.

Q: How should I segregate acids and bases?

A: Acids and bases must always be stored separately. Within acids, oxidizing acids (e.g., nitric acid) should be segregated from non-oxidizing acids to prevent hazardous reactions.

Q: What is the proper chemical segregation for Glacial Acetic Acid (CAS 64-19-7)?

A: Glacial acetic acid must be stored with flammables due to its high flammability at concentrations of 80% or higher. A risk assessment confirms that flammability takes precedence over corrosivity for high-concentration solutions. Acetic acid concentrations below 80% can be stored with other acids.

Acetic Acid (80–100%): Store with flammables

Acetic Acid (1–79%): Store with corrosives



Environment, Health and Safety

Q: How should compressed gases be segregated?

A: Compressed gases should be stored according to their hazard types (e.g., flammable, toxic, inert, or oxidizing gases). Flammable and oxidizing gas must be kept a minimum of 20 feet apart.

Q: How should chemical waste be segregated?

A: Chemical waste should follow similar segregation rules as chemical storage. Use designated, labeled containers for waste, and avoid mixing incompatible substances. Review the [Hazardous Waste Manual](#) for more information.

Q: Where can I seek assistance for laboratory-specific chemical storage concerns?

A: Contact askEHS@cornell.edu for lab-specific guidance. EHS offers assessments, training materials, and guidance on best practices.