Chemical Compatibility
(In 4 easy steps)

Use these 4 steps to segregate your chemicals for the safest possible storage. As you gather information about the characteristics of your chemicals fill in the 4 sections of the chart.

Once all information has been entered compare the information. The chemicals that have the same answers in all 4 categories can be stored in the same secondary containment.

1.) Chemical Hazard

Physical: Flammable, Corrosive, Oxidizer, Reactives ***Health:*** Toxic

Segregate chemicals into like type hazards. Be aware that some chemicals have multiple hazards and therefore require further segregation.

2.) pH Value

Acid, Neutral, Base

Continue to segregate the chemical groups by identifying if they are acidic (pH < 4), neutral (pH 4 - 10) or basic (pH > 10).

3.) Inorganic or Organic

Identify whether a chemical is an inorganic or organic compound. Organic compounds will have carbon (C) in the chemical formula. Take note that even though a "C" may appear in the formula it might be referencing a different chemical element. A few examples of these elements are cadmium (Cd), calcium (Ca), and chlorine (Cl). This step is extremely important for the segregation and storage of corrosives and oxidizing chemicals.

4.) Solid or Liquid

Solid and liquid chemicals should be stored separately to minimize the involvement of chemicals in the event of a liquid spill.

Example Chart

Chemical Name	1) Hazard	2) pH Value	3) Inorganic/Organic	4) Solid/Liquid
Ammonium Hydroxide	*Corrosive*	*Base*	*Inorganic*	*Liquid*
Sulfuric Acid	*Corrosive*	*Acid*	*Inorganic*	*Liquid*
Isopropanol	*Flammable*	*Neutral*	*Organic*	*Liquid*
Acetic Acid	*Corrosive*	*Acid*	*Organic*	*Liquid*
Nitric Acid	*Corrosive, Oxidizer*	*Acid*	*Inorganic*	*Liquid*
Ethyl Alcohol	*Flammable*	*Neutral*	*Organic*	*Liquid*
Formalin	*Toxic*	*Neutral*	*Organic*	*Liquid*

Notice: In the above example only Isopropanol and Ethyl Alcohol can be stored together in the same secondary containment.

See definitions and a blank chart on the following page.

Definitions

Flammable: Any solid, liquid, vapor, or gas material that will ignite easily and burn rapidly. This is a chemical that when in liquid form will have a flash point of < 100_F (37.7_C). A flash point is the temperature at which a liquid or volatile solid gives off vapors that will ignite when exposed to an ignition source.

Combustible: Solids that are difficult to ignite and burn relatively slowly, and liquids having a flash point between 100_F (37.7_C) and 200_F (93.3_C).

Toxic: A substance that can cause damage to living tissue, impairment of the central nervous system, severe illness, or death when ingested, injected, inhaled, or absorbed through skin.

Corrosive: Any solid, liquid, or gaseous substance that burns, irritates, or destructively attacks organic tissue. Chemicals with a pH value less than 4.0 (acidic) or greater than 10.0 (basic) are considered to be corrosive substances.

Oxidizer: A compound that supplies its own oxygen and heat (ignition source) when in contact with organic compounds. These are chemicals that can react vigorously and explode.

Chemical Name	1) Hazard	2) pH Value	3) Inorganic/Organic	4) Solid/Liquid