

















## Chemical Compatibility, Segregation, & Storage Recommendation Table

Chemical Class	Recommended Storage Method	Common Chemical Examples	Common Incompatible Chemical Classes	Possible Reactions if Mixed/Health Concerns
<b>Flammable Liquids</b> 	A flammable storage cabinet equipped with self-closing and latching doors.	Ethanol, Methanol, Xylene, Toluene, Tetrahydrofuran, Acetonitrile, Acetone	Acids, Bases, Oxidizers, Reactives, & Toxics.	Fire Hazard Heat Violent Reaction
<b>Flammable Solids</b> 	Store in a cool dry area away from oxidizers and corrosives.	Carbon, Charcoal, Paraformaldehyde, Phosphorus, Magnesium	Acids, Bases, Oxidizers, & Toxics.	Fire Hazard Violent Reaction
<b>Flammable Compressed Gases</b> 	Store in a well ventilated location away from oxidizers, flames, sparks, heat, and other sources of ignition.	Methane, Acetylene, Butane, Propane, Hydrogen	Oxidizers & Toxic Compressed Gases.	Fire Hazard Explosion Hazard
<b>Oxidizers</b> 	Store in secondary containment separately from combustibles and flammable materials.	Perchlorates, Permanganates, Nitrates, Sodium Hypochlorite, Ethyl Acetate, Potassium Dichromate	Flammable Liquids & Solids, Combustibles, Reducing Agents, & Organic Materials.	Fire Hazard Gas Generation Toxic Gas
<b>Oxidizing Compressed Gases</b> 	Store separately from flammable gases and combustible materials (Minimum separation distance is 20 feet).	Oxygen, Chlorine, Fluorine, Nitrogen Oxides, Gas mixtures containing greater than 21% oxygen	Flammable Compressed Gases, Flammable Liquids & Solids, Toxic Compressed Gases.	Fire Hazard Explosion Hazard
<b>Water Reactives</b> 	Store in a cool dry area designated for water-reactives storage. Keep away from fire sprinklers and water.  Label the area for Water Reactives storage.	Sodium, Lithium, and Potassium Metals. Sodium Borohydride	Aqueous Solutions, Oxidizers, & Water. Consult with Lab Safety and SDS for specific information.	Heat Violent Reaction

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<b>Toxics/Poisons</b> 	Store in a dark, cool, dry, and ventilated area in a suitable secondary container. *Fluorine should only be accessible to authorized personnel and handled in specialized containers/equipment.	Chloroform, Cyanides, Heavy Metal Compounds, Formamide, Carbon Tetrachloride	Flammable Liquids & Solids, Acids, Bases, Reactives, & Oxidizers. Consult with Lab Safety and SDS for specific information.	Generation of Toxic Gas Generation of Flammable Gas Combustion Heat Fire Hazard Explosion Hazard Violent Reaction Chloroform explosively reacts with chemically-reactive metals (e.g., Aluminum or Magnesium powder, Sodium, and Lithium), Strong Oxidizers, Strong Caustics, and decomposes in sunlight
<b>Toxic/Poison Compressed Gases</b> 	Storage or use of toxic/poison compressed gases must be performed in a gas cabinet, vented enclosure, or gas room.	Carbon Monoxide, Hydrogen Chloride, Hydrogen Sulfide, Nitrogen Dioxide	Flammable Compressed Gases & Oxidizing Compressed Gases.	Release of Toxic Gas
<b>Corrosive Acids – Inorganic</b> 	Store in a corrosives cabinet or in secondary containment on protected shelving. *Do not use metal shelving for acids storage.	Hydrochloric Acid, Sulfuric Acid, Phosphoric Acid, Chromic Acid, Nitric Acid, Hydrofluoric Acid	Flammable Liquids & Solids, Bases, Oxidizers, Organic Acids, Cyanides, Toxics, & Sulfides.	Heat Gas Generation Violent Reaction <b>DO NOT POUR WATER INTO ACID</b> Perchloric acid vapor can form explosive compounds inside of fume hood ducts. Hydrofluoric acid can result in severe burns to skin and lungs.
<b>Corrosive Acids – Organic</b> 	Store in a corrosives cabinet or in secondary containment on protected shelving. *Do not use metal shelving for acids storage.	Acetic Acid, Trifluoroacetic Acid, Formic Acid, Butyric Acid, Propionic Acid, Picric Acid	Flammable Liquids & Solids, Bases, Oxidizers, Inorganic Acids, Cyanides, & Sulfides	Heat Gas Generation Violent Reaction <b>DO NOT POUR WATER INTO ACID</b>
<b>Corrosive Bases – Inorganic</b> 	Store in a corrosives cabinet or in secondary containment on protected shelving away from water sources.	Ammonium Hydroxide, Potassium Hydroxide, Sodium Hydroxide	Flammable Liquids & Solids, Acids, Oxidizers, Toxins, & Organic Bases.	Heat Gas Generation Violent Reaction

Chemical Class	Recommended Storage Method	Common Chemical Examples	Common Incompatible Chemical Classes	Possible Reaction if Mixed/Health Concerns
<b>Corrosive Bases – Organic</b> 	Store in a corrosives cabinet or in secondary containment on protected shelving away from water sources.	Hydroxylamine, Tetramethylethylamine Diamine, Triethylamine	Acids, Oxidizers, Hypochlorites, & Inorganic Bases.	Heat Gas Generation Violent Reaction
<b>Explosives</b> 	Store in a secure location away from other chemicals, and sources of friction or shock.	Trinitrophenol, Picric Acid, Diazoisobutylnitrile, Ammonium Nitrate, Benzoyl Peroxide	Always consult with Lab Safety prior to working with explosive chemicals. Always review the SDS.	Explosion Hazard Violent Reaction Heat Shock Friction
<b>Peroxide Formers</b> 	Store in airtight bottles, away from light and heat in a dark, cool, dry area. Do not use containers with loose fitting lids/stoppers. Date all containers when first received and when first opened.	Diethyl Ether, Tetrahydrofuran, Acrylonitrile, Acetals, Ketals, Aldehydes *Consult the “Safely Managing Peroxide Forming Chemicals” Guideline for a detailed list.	Consult with Lab Safety and individual chemical SDS.	Explosion Hazard Violent Reaction Shock Sensitive Combustion (Exothermic Reaction) Immediately contact Lab Safety at 856-256-5105 if an old/expired container is found.
<b>Strong Reducing Agents</b>	Store in a cool, dry, well ventilated location. Keep away from water sources. Segregate from other chemicals.	Acetyl Chloride, Thionyl Chloride, Maleic Anhydride, Ferrous Sulfide	Consult with Lab Safety and individual chemical SDS.	Consult with Lab Safety and individual chemical SDS.
<b>Carcinogens</b> 	Label all containers “Cancer Suspect Agents”. Store according to the hazard(s) posed by the chemical.	Benzidine, Beta-Naphthylamine, Benzene, Methylene Chloride, Beta-Propiolactone, Carbon Tetrachloride	Consult with Lab Safety and individual chemical SDS.	Consult with Lab Safety and individual chemical SDS.
<b>Teratogens</b> 	Label all containers “Suspect Reproductive Hazard”. Store according to the hazard(s) posed by the chemical.	Lead Compounds, Mercury Compounds, Benzene, Aniline	Consult with Lab Safety and individual chemical SDS.	Consult with Lab Safety and individual chemical SDS.
<b>General Stock Chemicals</b>	Store in designated benchtop locations or shelves with other like chemicals.	Sodium Bicarbonate, Sodium Chloride, Agar, Sugars, Most Non-Reactive Salts, Buffers	Review the chemical SDS for specific storage requirements.	Consult with Lab Safety and individual chemical SDS.