5.2 Corrosives

Characteristics

Strong acids and bases can destroy human tissue and corrode metals. Acids and bases are incompatible with one another and may react with many other hazard classes.

Laboratory Chemicals

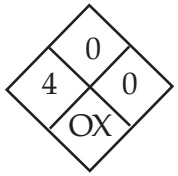
Acids

Organic Acids

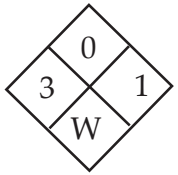
acetic acid (C)
citric acid (C)
formic acid (C, T)
oxalic acid (T)

Inorganic Oxidizing Acids

chromic acid (O, T)
nitric acid (HT, O)
perchloric acid (O, PEC)
sulfuric acid (O, T, WR)



nitric acid



sodium hydroxide

Inorganic Non-Oxidizing Acids

hydrochloric acid
phosphoric acid

Bases

ammmonium hydroxide (T)
calcium hydroxide
potassium hydroxide (T, WR)
sodium hydroxide (T, WR)
tri-sodium phosphate (T)

Non-Laboratory Chemicals

Acids

muriatic acid (contains hydrochloric acid)

Bases

drain declogger (containing sodium hydroxide)
wall cleaner (containing tri-sodium phosphate)

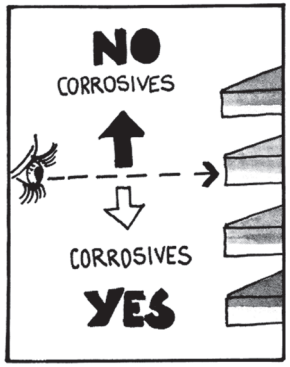
Additional hazardous characteristics: C–Combustible liquid or solid; HT–Highly toxic; O–Oxidizer; PEC–Potentially explosive chemical; T–Toxic; WR–Water reactive

Storage Precautions for Corrosives

Segregate acids from bases. Segregate inorganic oxidizing acids (e.g., nitric acid) from organic acids (e.g., acetic acid), flammables, and combustibles.

Segregate acids from chemicals that could generate toxic gases upon contact (e.g., sodium cyanide and iron sulfide).

Segregate acids from water reactive metals such as sodium, potassium, and magnesium.



Use tight-fitting goggles, gloves, and closed-toe shoes while handling corrosives.

Store solutions of inorganic hydroxides in polyethylene containers.

Store corrosives on lower shelves, at least below eye level and in compatible secondary containers.

Do not store corrosives on metal shelves. Although ventilation helps, chemicals will still corrode the shelves. Store containers in plastic tubs or trays as secondary containment.

If you notice powder deposits, discoloration, and crystallization around the cap of a container, particularly an oxidizing acid, contact EH&S immediately. The material may be potentially explosive.

Follow the special handling and use procedures for hydrofluoric acid (See the Fact Sheet about hydrofluoric acid at *http://ehs.berkeley.edu*). Keep calcium gluconate available as an antidote.

Have spill control pillows or neutralizing agents available in case of a spill. These may be purchased from safety supply companies.