

**Notes:**

- Ensure compatibility by following guidance in the flowchart
- Liquid vials: empty liquid into appropriate stream as per chart
- Original containers: items in original containers can be left as is
- if the waste isn't on this chart contact [esf@uwaterloo.ca](mailto:esf@uwaterloo.ca) AFTER consultation with your PI.

Choose a starting Material

Solvents

Aqueous substances

Highly reactive materials

Corrosives

Organic Solvent (< 20% water)

Halogenated organic solvent (< 20% water)

Examples include acetone, alcohols, hexane, THF, and acetonitrile.

Examples include perchloroethylene, methylene chloride

Chemicals in this class can be mixed with one another.

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**Examples:**

- 1.) Halogenated - groundwater contaminated with chloroform or solvent rinses
- 2.) Non-halogenated - groundwater contaminated with xylene or solvent rinses
- 3.) PFAS - aqueous solvents containing polyfluoroalkyl substances
- 4.) Metals - solutions contaminated with heavy metals
- 5.) Inorganic salts - ferric sulphate, sodium sulphate solutions
- 6.) Weak acid rinses

Use compatible bottle and label with list of compounds. Label should include "AQ" denoting an aqueous substance.

Note - examples 1 through 6 cannot be mixed together. As an example, water contaminated with halogenated compounds cannot be mixed with anything other than water and other halogenated compounds.

Acid

Base

**Rules:**

- 1.) Never mix inorganic acid and organic acid wastes
- 2.) Never mix oxidizing acid wastes with any other wastes
- 3.) Before mixing acid wastes, ensure you have a good reference for the process.
- 4.) Do not neutralize waste unless you have an SOP and it has been directed by the ESF technician or your PI.
- 5.) Labs must develop SOPs for the use, storage and disposal of:
  - aqua regia,
  - piranha solution,
  - hydrofluoric acid,
  - perchloric acid; and picric acid.
- 5.) All acid waste should be placed in **plastic** bottles with the exception of piranha solution and aqua regia - use pyrex or glass.

**Rules:**

- 1.) Never mix any organic base wastes with inorganic base wastes
- 2.) Inorganic bases wastes or metal hydroxides wastes may be mixed with one another when compatible.
- 3.) Organic base wastes or amine wastes may be mixed with one another when compatible.
- 4.) Do not neutralize waste unless you have an SOP and it has been directed by the ESF technician or your PI
- 4.) All basic waste should be placed in **plastic** bottles

Pyrophorics and Water Reactives

Inorganic Peroxides

Organic Peroxides

DO NOT MIX! Package individually in inerting or stabilizing substances - SOPs are required for these substances that outline specific disposal, storage and packaging requirements.

Peroxides should not be mixed with other substances, Do not mix with other wastes, and determine properties before storing or transporting

Some organic peroxides are shock, light, and/or temperature sensitive. Do not mix with other wastes, and determine properties before storing or transporting