The CFR List of Incompatible Waste (40 CFR 264 Appendix V)

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

**Group 1–A**

- Acetylene sludge
- Alkaline caustic liquids
- Alkaline cleaner
- Alkaline corrosive liquids
- Alkaline corrosive battery fluid
- Caustic wastewater
- Lime sludge and other corrosive alkalies
- Lime wastewater
- Lime and water
- Spent caustic

**Group 1–B**

- Acid sludge
- Acid and water
- Battery acid
- Chemical cleaners
- Electrolyte, acid
Etching acid liquid or solvent
Pickling liquor and other corrosive acids
Spent acid
Spent mixed acid
Spent sulfuric acid

*Potential consequences: Heat generation; violent reaction.*

**Group 2–A**

Aluminum
Beryllium
Calcium
Lithium
Magnesium
Potassium
Sodium
Zinc powder
Other reactive metals and metal hydrides

**Group 2–B**

Any waste in Group 1–A or 1–B

*Potential consequences: Fire or explosion; generation of flammable hydrogen gas.*

**Group 3–A**

Alcohols
Water

**Group 3–B**

Any concentrated waste in Groups 1–A or 1–B
Calcium
Lithium
Metal hydrides
Potassium
SO₂ Cl₂, SOCl₂, PCl₃, CH₃ SiCl₃
Other water-reactive waste

*Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.*
**Group 4–A**

Alcohols  
Aldehydes  
Halogenated hydrocarbons  
Nitrated hydrocarbons  
Unsaturated hydrocarbons  
Other reactive organic compounds and solvents

**Group 4–B**

Concentrated Group 1–A or 1–B wastes  
Group 2–A wastes

*Potential consequences: Fire, explosion, or violent reaction.*

**Group 5–A**

Spent cyanide and sulfide solutions

**Group 5–B**

Group 1–B wastes

*Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.*

**Group 6–A**

Chlorates  
Chlorine  
Chlorites  
Chromic acid  
Hypochlorites  
Nitrates  
Nitric acid, fuming  
Perchlorates  
Permanganates  
Peroxides  
Other strong oxidizers

**Group 6–B**

Acetic acid and other organic acids  
Concentrated mineral acids  
Group 2–A wastes  
Group 4–A wastes
Other flammable and combustible wastes

*Potential consequences: Fire, explosion, or violent reaction.*


1 These include counties, city-county consolidations, and independent cities. In the case of Alaska, the political jurisdictions are election districts, and, in the case of Hawaii, the political jurisdiction listed is the island of Hawaii.

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