

# **Chemical Waste Management Poster**

# **Reactivity of Chemical Waste**

### **Flammable**

Includes solvents such as acetone, ethanol and acetonitrile, mixtures and by-products from synthetic reactions. Sometimes, volatile solvents are mistakenly thought to be flammable. Refer to the SDS for verification.

**Waste Classifications** 

## Stability and Reactivity (MSDS Section 10)

There are many chemicals that require specialist waste streams. Information regarding the reactivity of chemicals and their incompatibilities is found within the SDS.

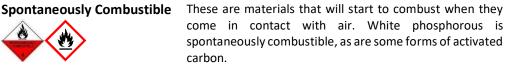
#### **Flammable Solids**



These are solid materials that undergo rapid combustion or are self-reactive. Aluminium powder and other metallic powders are flammable solids.

#### **Reactive Chemicals**

Nitric Acid – nitric acid is incompatible with strong bases, reducing agents, metals, powdered metals, organic materials, aldehydes, alcohols, cyanides and ammonia. Avoid excess heat or exposure to air/moisture over time.



# Explosive Chemicals (Temperature/Pressure):

Picric Acid – incompatible with strong oxidising agents. Chemical poses an explosive hazard when dry. Unstable if heated.

Azides – highly toxic and explosive (shock sensitive). Reacts vigorously with CS<sub>2</sub> bromine, nitric acid, dimethyl sulphate and heavy metals. Reacts with water, highly toxic/explosive hydrogen azide may be released. Avoid heat.

**Hydrogen Peroxide (91% by weight)** – aggressive oxidiser. May corrode materials. In presence of reducing agent, high concentrations of H<sub>2</sub>O<sub>2</sub> will react violently.

Oxidisers - cause ignition of combustible materials without ignition source. Commonly reactive with other oxidisers. Can evolve oxygen therefore fuelling fires.

**Thallium Nitrate** – avoid heat or shock. Intensifies fires. Incompatible with strong acids, strong reducing agents and combustible materials.

#### **Dangerous When Wet**



These are materials that combust or give off toxic vapours when they come into contact with water. Sodium is an example of a material that is dangerous when wet.



Includes nitrates such as ammonium nitrate and chlorates such as potassium chlorate and hypochlorites such as calcium hypochlorite (bleach).

#### **Toxic**



Includes bromide, acrylamide, ethidium phenol/chloroform, cadmium and mercury batteries, mercaptoethanol waste, solid paraformaldehyde and other toxic wastes.

#### **Halogenated Solvent**



Generally, these have chloro-, bromo- or fluoro- atoms

### **Highly Dangerous Chemicals:**

**Hydrofluoric Acid** – highly corrosive. Poisoning occurring with skin contact. Symptoms may not be immediately apparent. Specialist training required.

**Cyanides** – highly toxic. Should be segregated and isolated from other users.

**Bromine** – highly corrosive and reacts vigorously with many other chemicals.

attached. Any contaminants must be identified on the label. Can form explosive mixtures with acetone.

Includes all acids where the corrosive properties are the

greatest hazard. Examples include hydrochloric, sulfuric

## **Corrosive Base**



and acetic acid. Some acids are incompatible with other acids and should not be mixed. Waste should be diluted. Includes all bases where the corrosive properties represent

### Carcinogenic Chemicals:

**Scheduled Carcinogens** – must be disposed of as per license agreements.

**Dichloromethane** – high volatility makes this an acute inhalation hazard. Potentially carcinogenic. Commonly used in paint stripper.

the greatest hazard. Some examples are sodium hydroxide and ammonia. Waste should be diluted.

This is chemical waste that while not classified as hazardous must still be disposed of via a waste contractor.

#### **Mixed Waste**

While it is best to not generate waste with mixed chemicals from different dangerous goods classes, often it cannot be avoided. It is important to seek expert advice when generating and disposing of mixed class waste.

**Combustible Liquid** 

Miscellaneous Non-hazard



Cytotoxic

Combustible liquids will burn, but are not sufficiently volatile to be classified as flammable. Some examples are diesel and some motor oils.

Cytotoxic waste is material or drugs which are harmful to living cells or are carcinogenic, mutagenic and/or teratogenic. Cytotoxic waste includes cytotoxic waste chemicals and materials associated with their use.

# Waste Labelling Guidelines



DANGER, WARNING or CAUTION

# **PICTOGRAMS**

To ensure the chemical can be traced to its source in case of

# Picture of hazard type **CONTACT DETAILS** emergencies



Contact details of waste contractor. Contact for specialist waste advice.



