Safe Method of Use 17
UN Class 8 - Corrosive Chemicals

Purpose: This Safe Method of Use applies to **principal investigators (PIs), sector managers, designated laboratory person (DLPs)**, technical staff and students who use laboratories within the University of Auckland.

Please note:

- *UN Class 5 compounds and Toxic compounds may have very corrosive properties (eg Perchloric acid and Phenol).*
- *Concentrated nitric is a strong oxidising agent and **shall** be stored and handled appropriately*.
- *See specific Safe Method of Use for Hydrofl*uoric Acid

A. Incompatibilities

- HSNO Class 8 compounds ***shall*** not be stored with HSNO Class 3, 4 or 5 compounds.

B. Storage

- HSNO Class 8 compounds ***shall*** not be stored with HSNO Class 3, 4 or 5 compounds.
- Acids ***shall*** be stored separately from alkalis.
- Strong mineral acids can react violently with organic compounds and bases and ***shall*** not be stored .with bases or organic compounds.
- All containers of strong mineral acids and phosphorous and sulphur halides ***shall*** be checked annually to ensure adequate labelling.
- Refer to SMOU for Oxidisers for specific recommendations concerning perchloric acid.

C. Use

- Fume hoods ***shall*** always be used when handling concentrated acids
- Safety Glasses and/or face shields ***shall*** always be worn when handling any corrosive liquid or solid.

- When diluting acid, ALWAYS add acid to water ("A comes before W") not water to acid.

D. Personal Protective Equipment

- Fume hoods ***shall*** always be used when handling concentrated acids
- Eye protection and/or face shields ***shall*** always be worn when handling corrosives
- Face shields, plastic coats and rubber gloves should be worn when handling bulk acids

E. Disposal

- Concentrated acids or bases ***shall*** never be discharged to sewer
- Disposal of concentrated acids or bases ***shall*** be undertaken by a licensed chemical waste contractor
- Please contact Hazards and Containment Manager to arrange for disposal.

F. Spills

- Use correct gloves
- Neutralise acids with a large volume of sodium bicarbonate or sodium carbonate which will neutralise and absorb liquid leaving a solid which can be swept up.
- Neutralise alkali spills with dilute acetic acid and absorb with absorbent or sawdust.
- Use absorbent material in spill kits to wipe up solvent – wiping from outside of spill toward centre
- Place used absorbent material in impermeable/airtight container
- Inform Laboratory Manager and arrange for immediate disposal

Appendix 1: Representative List of UN Class 8 - Corrosives

Acids

Organic Acids and derivatives

Acetic acid	Acetic anhydride	Acetyl Bromide
Acetyl iodide	Benzenesulfonyl chloride	Benzoyl chloride
n-Butyric acid	n-Butyric anhydride	Bromoacetic acid
NN-Dimethylcarbamoyl chloride	Diphenylmethyl Bromide	Formic acid
Propionic acid	Propenoic acid	Propionic anhydride
Thioglycolic acid	Thymol	Toluene trichloride
Trichloroacetic acid	Trifluoroacetic acid	

Mineral Acids

Fluoroboric acid	Fluorophosphoric acid	Fluorosilicic acid
Hydrobromic acid	Hydroiodic acid	Hydrochloric Acid
Hydrofluoric acid	Hydrophosphorous acid	Nitric Acid
Orthophosphoric acid	Sulphuric Acid	Sulphurous acid
Tetrachloroauric acid		

Other Acidic compounds

Aluminium bromide	Aluminium chloride	Antimony pentachloride
Antimony pentafluoride	Antimony trichloride	Boron Tribromide
Boron trifluoride	Bromine	Chromium fluoride
Chromium oxychloride	Copper (II) chloride	Iodine chloride
Iodine trichloride	Iron (III) chloride	Molybdenum pentachloride
Phosphorous pentoxide	Phosphoryl tribromide	Phosphorous trioxide
Phosphoryl bromide	Phosphorous pentabromide	Phosphoryl trichloride
Potassium hydrogen sulfate	Potassium sulphide	Silicon tetrachloride
Sodium hydrogen difluoride	Sodium sulphide	Sulfur trioxide
Sulfuryl chloride	Thionyl chloride	Tin (IV) chloride
Vanadium oxytrichloride	Vanadium tetrachcloride	Vanadium trichloride
Zinc chloride		

Bases

Ammonia	Ammonium cerium sulphate	Ammonium hydrogen difluoride
Ammonium polysulphide solution	Caesium hydroxide	Lithium hydroxide
Potassium hydroxide	Sodium hypochlorite	Sodium hydroxide
Tetramethylammonium hydroxide	2-(2-Aminoethylpiperazine)	N-aminoethylpiperazine
NN-Dimethylbenzylamine	Cyclohexylamine	Di (n-butyl)amine
Dicyclohexylamine	Diethylenetriamine	N,N-Diethylenediamine
2-Dimethylaminoethanol	N,N-Dimethylcyclohexylamine	Diproylenetriamine
Ethanolamine	Ethylenediamine	Hexamthylenediamine
Hydrazine	Hydrazine hydrate	Propylenediamine
Tetraethylenepentamine	Tributylamine	Triethylenetetramine
Trimethylcyclohexylamine	Trimethylhexamethylenediamine	