This Information Sheet provides guidance on chemical compatibility to assist in the safe storage and mixing of common laboratory chemicals. It should be read in conjunction with other supporting Information Sheets eg *'Identifying Chemical Hazards'*.

The improper storage or mixing of chemicals can result in serious accidents. Violent reactions can occur between incompatible chemicals, leading to injury, fire, explosion, property and environmental damage and even death.

The following is a list of common laboratory chemicals that should guide you to ensure you only mix / store compatible chemicals together.

REMEMBER this list only includes common chemicals found at the University. You must also **ALWAYS** refer to the COSHH Assessment and supporting Material Safety Data Sheet information before storing or mixing chemicals. *Information Sheet 3 – Safe Storage of Chemicals* also provides useful information.

CHEMICAL	INCOMPATIBLE WITH
Acetic Acid	Chromic Acid, Nitric Acid, Hydroxyl Compounds, Ethylene Glycol, Perchloric Acid, Peroxides, Permanganates, Sulphuric Acid
Acetylene	Chlorine, Bromine, Copper, Fluorine, Silver, Mercury
Acetone	Concentrated Nitric Acid, Sulphuric Acid and Sulphuric Acid Mixtures
Alkali and Alkaline Earth Metals	Water, Carbon Tetrachloride, Chlorinated Hydrocarbons, Carbon Dioxide, Halogens
Ammonia (Anhydrous)	Mercury, Chlorine, Calcium Hypochlorite, Iodine, Bromine, Hydrofluoric Acid (Anhydrous)
Ammonium Nitrate	Acids, Powdered Metals, Flammable Liquids, Chlorates, Nitrates, Sulphur, finely divided Organic or Combustible Materials
Aniline	Nitric Acid, Hydrogen Peroxide
Arsenical Materials	Any reducing Agent
Azides	Acids
Bromine	See Chlorine

CHEMICAL	INCOMPATIBLE WITH
Flammable Liquids	Ammonium Nitrate, Chromic Acid, Hydrogen Peroxide, Nitric Acid, Sodium Peroxide, Halogens
Fluorine	All other chemicals
Hydrocarbons (such as Butane, Propane, Benzene)	Fluorine, Chlorine, Bromine, Chromic Acid, Sodium Peroxide
Hydrocyanic Acid	Nitric Acid, Alkali
Hydrofluoric Acid (Anhydrous)	Ammonia (Aqueous or Anhydrous)
Hydrogen Sulphide	Fuming Nitric Acid, Oxidising Gases
Hypochlorites	Acids, Activated Carbons
Iodine	Acetylene, Ammonia (Aqueous or Anhydrous), Hydrogen
Mercury	Acetylene, Fulminic Acid, Ammonia
Nitrates	Acids
Nitric Acid (Concentrated)	Acetic Acid, Aniline, Chromic Acid, Hydrocyanic Acid, Hydrogen Sulphide, Flammable Liquids and Gases, Copper, Brass, Heavy Metals
Nitrates	Acids
Nitroparrafins	Inorganic Bases, Amines
Oxalic Acid	Silver, Mercury
Oxygen	Oils, Greases, Hydrogen, Flammable Liquids, Solids, Gases
Perchloric Acid	Acetic Acid, Anhydride, Bismuth and its alloys, Alcohols, Paper, Wood, Grease, Oils
Peroxides, Organic	Acids (Organic or Mineral)
Phosphorous (White)	Air, Oxygen, Alkalies, Reducing Agents
Potassium Chlorate	Sulphuric and other Acids
Potassium Perchlorate (also see Chlorates)	Sulphuric and other Acids
Potassium Permanganate	Glycerol, Ethylene Glycol, Benzaldehyde, Sulphuric Acid
Selenides	Reducing Agents
Silver	Acetylene, Oxalic Acid, Tartaric Acid, Ammonium Compounds, Fulminic Acid
Sodium	Carbon Tetrachloride, Carbon Dioxide, Water
Sodium Nitrite	Ammonium Nitrate, Ammonium Salts
Sodium Peroxide	Ethyl, Methyl Alcohol, Glacial Acetic Acid, Acetic Anhydride, Benzaldehyde, Carbon Disulfide, Glycerin, Ethylene Glycol, Ethyl Acetate, Methyl Acetate, Furfural
Sulphides	Acids
Sulphuric Acid	Potassium Chlorate, Potassium Perchlorate, Potassium Permanganate (similar compounds of Light Metal eg Sodium, Lithium), Acetic Acid, Acetone
Tellurides	Reducing Agents