

Chemicals which are not recommended for School laboratories December 2008

The following list comprises those chemicals which are not recommended for use in school laboratories. They are either strongly toxic, unstable, highly reactive or considered too dangerous for use by inexperienced personnel. The list is not an official one it is simply based on our professional experience and opinion.

Class 3

- carbon disulphide very low flash point , highly volatile, very toxic
- diethyl ether low flash point, easily ignited; aka sulphuric ether.
- benzene human carcinogen
- toluene suspected human carcinogen; methyl benzene

Class 4.3

- potassium metal very vigorous reaction with water
- sodium amide flammable, strong reaction with water; aka sodamide

Class 4,2

- white phosphorous flammable, pyrophoric solid, highly toxic; aka yellow phosphorous

Class 5.1

- chlorates dangerous explosion risk. Explosive mixtures easily formed
- perchlorates form explosive mixtures with some organic, combustible materials
- ammonium dichromate explosive when dry.
- perchloric acid as for perchlorates
- chromium trioxide strong oxidiser; aka chromic acid. Very toxic
- sodium peroxide strong oxidiser

Class 6

- arsenic salts most are schedule poisons
- beryllium salts many are considered carcinogens
- asbestos crocidolite, amosite and chrysotile are the three commonly encountered forms that are human carcinogens. Mounted and sealed specimens are considered safe when intact.
- aniline strongly toxic
- benzidine human carcinogen. Used to make dyes
- cadmium salts all considered to be too toxic
- cyanides usually fatal if swallowed; special permits required
- naphthylamines both alpha and beta forms considered carcinogens

-chloral hydrate	hypnotic, dangerous to eyes
-dimethyl sulphate	suspected carcinogen
-fluorides	can evolve HF if acidified; all are very strongly toxic.
-halogenated solvents	carbon tetrachloride, chloroform, trichloroethylene, trichloroethane. Considered too toxic and are suspected human carcinogens
-mercury salts	highly toxic for most
-picric acid	can be explosive when dry or in contact with metals
-thallium salts	highly toxic
-thorium salts	many are radioactive
-uranium salts	usually strongly toxic and radioactive.

Class 8 acids

-hydrofluoric acid	particularly dangerous.
-formic acid 90%	conc formic acid emits carbon monoxide on aging
-perchloric acid	see under oxidisers

Others	calcium hypochlorite (solid pool chlorine) , o-toluidine, sodium azide, anhydrous sodium sulphide ,sodium hydroxide, organic peroxides eg mekp, phenol, nickel salts.
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