

Banned Chemicals

The list below is to inform teachers and technicians. It is taken from *Safety in Science Education*, 1996 (HMSO) and *Topics in Safety*, 1988 and 1982. More detailed sources such as Hazcards (CLEAPSS 1995, updated 2000) or Hazardous Chemicals Manual, Interactive CD2 (SSERC 2001) should be consulted for more details for those and many other chemicals currently used in schools. Education employers may have banned other chemicals, if so, teachers have a legal requirement to follow their employer's instructions. However if the employers recommendations seen harsh or incorrect there is no reason why you cannot discuss the matter with them and make a case for removing the local ban.

Asbestos – all forms	T, Carc 1	Banned	Banned in schools by the Asbestos (Prohibitions) Regulations 1992. Alternative is Superwool.
Benzene	F, T, Carc 1	Banned	COSHH (Amendment) Regulations 1992 prohibited the use of benzene for educational purposes. Alternative are available: see Hazcards (CLEAPSS) and HazChemMan CD2 (SSERC).
Biphenyl-4,4'-diamine (Benzidine)	T, N, Carc 1	Banned	Prohibited by COSHH.
Chloroethene (Vinyl chloride monomer)	F+, T	Banned	Not actually banned, but to use it legally you would need all sorts of sealed systems and frequent monitoring. Thus for practical purposes it is banned in schools.
Crude oil	F, T Carc 1, owing to benzene content	Banned	Genuine crude oil is banned in schools, owing to its benzene content.
1,2-dibromoethane (Ethylene dibromide)	T, N, Carc 2	Banned	Banned in schools as it is carcinogenic. However the reaction between bromine water and ethene does not present a risk as the amount of dibromide formed is very small. No attempt should be made to isolate the dibromide.
3,3'-dichlorobiphenyl-ylenediamine (Chlorobenzidine) & salts	T, N, Carc 2	Banned	Effectively banned in schools by government education departments (AM 70 in England and Wales, SEED Circular 8/95 in Scotland and DENI Guidance in N Ireland).
3,3'-dimethylbiphenyl -4,4'-diamine (o-tolidine)	T, N, Carc 2	Banned	Effectively banned in schools by government education departments (AM 70 in England and Wales, SEED Circular 8/95 in Scotland and DENI Guidance in N Ireland).
Naphthalen-1-amine (1-naphthylamine)	Xn, N	Banned	Old samples of the 1 – isomer are often impure and may contain traces of the 2- isomer which is banned. Banned by virtue of possible impurity.
Naphthalen-2-amine (2-naphthylamine)	T, N, Carc 1	Banned	Known carcinogen banned by COSHH.
4-nitrobiphenyl	T, N, Carc 2	Banned	Banned by COSHH.
2-nitronaphthalenes	T, N, Carc 2	Banned	Known carcinogen. Effectively banned in schools by government education departments (AMs in England and Wales, SEED Circulars in Scotland and DENI Guidance in N Ireland).
Nitrosamines, in general	T & many are potent carcinogens	Banned	Known carcinogens. Effectively banned in schools by government education departments (AM70 in England and Wales, SEED Circular 8/95 in Scotland and DENI Guidance in N Ireland). Avoid having nitrites or nitrogen dioxide in the presence of amines, especially secondary amines, as potent carcinogenic N-nitrosamines will form.
Nitrosonaphthalenes	T	Banned	Effectively banned in schools by government education departments (AM70 in England and Wales, SEED Circular 8/95 in Scotland and DENI Guidance in N Ireland).
Nitrosophenols, 2- and 3- isomers	T	Banned	Known carcinogens. Effectively banned in schools by government education departments (AM70 in England and Wales, SEED Circular 8/95 in Scotland and DENI Guidance in N Ireland). These could be adventitiously formed during the nitration of phenol. Nitration should not be carried out with the usual nitrating mixture but with a solution of sodium nitrate and sulphuric acid in an ice bath. The products of the reaction should only be handled with gloves on and the reaction tube wrapped in paper and discarded at the end of the experiment. Do not attempt to wash out the tubes.

T Toxic

F Flammable

N Dangerous for the environment

Carc 1 Category 1 carcinogen

Carc 2 Category 2 carcinogen