

Appendix: Examples of “Particularly Hazardous Chemicals”

The chemicals listed below are extremely hazardous due to their toxic or carcinogenic effects. This is not an exclusive list, and may be expanded, based on the professional judgment of the laboratory supervisor. Workers must have knowledge of the dangers of these chemicals prior to use, and documentation of training in safe working procedures.

Some Common Select Carcinogens in Research Laboratories

2-Acetylaminofluorene	4-Diethylaminoazobenzene
Acrylamide	Dimethyl sulfate
Acrylonitrile	Ethylene dibromide
Aflatoxins	Ethylene oxide
4-Aminobiphenyl	Ethyleneimine
Arsenic and certain As compounds	Formaldehyde
Asbestos	Hexamethylphosphoramide
Azathioprine	Hydrazine
Barium chromate	Melphalan
Benzene	4,4'-Methylene-bis[2-chloroaniline]
Benzidine	Mustard gas (bis(2-Chloroethyl)sulfide)
Bis(chloromethyl)ether	α -Naphthylamine
Myleran	β -Naphthylamine
Chlorambucil	Nickel carbonyl
Chlornaphazine	4-Nitrobiphenyl
Chloromethyl methyl ether	N-Nitrosodimethylamine
Chromium and certain Cr compounds	β -Propiolactone
Cyclophosphamide	Thorium dioxide
1,2-Dibromo-3-chloropropane	Treosulfan
3,3'-Dichlorobenzidine (and its salts)	Vinyl chloride
Diethylstilbesterol	

Some Common Reproductive and Developmental Toxins in Research Laboratories

Arsenic and certain As compounds	Ethylene oxide
Benzene	Lead compounds

Cadmium and certain Cd compounds	Mercury compounds
Carbon disulfide	Toluene
Ethylene glycol monomethyl ether	Vinyl chloride
Ethylene glycol monoethyl ether	Xylenes

Some Common Acute Toxins in Research Laboratories

Acrolein	Nickel carbonyl
Arsine	Nitrogen dioxide
Chlorine	Osmium tetroxide
Diazomethane	Ozone
Diborane (gas)	Phosgene
Hydrogen cyanide	Sodium azide
Hydrogen fluoride	Sodium cyanide (and other cyanide salts)
Methyl fluorosulfonate	Sodium sulfide (and other sulfide salts)

Please see <http://oregonstate.edu/ehs/carcinogen/appendx4.html> for a more exhaustive list of chemical carcinogens.