Examples of Hazardous Materials

The following list of hazardous materials are examples of materials that require additional training by Undergraduate Researchers before they can conduct the research or are materials that are prohibited for use by Undergraduate Researchers. For more information, see UCLA Policy 906.

1. Examples (not a complete list) of materials intended as explosives

Cyclotrimethylenetrinitramine (RDX)
Dynamite
Nitroglycerin
Pentaerythritol tetranitrate (PETN)
Triacetone triperoxide (TATP)
Trinitrotoluene (TNT)

2. Examples (not a complete list) of materials with known explosive properties

Diazo compounds
Diazonium salts
Fulminate salts
Perchlorate salts

3. Examples (not a complete list) of potent oxidizing chemicals

Hydrogen peroxide or organic peroxides that are concentrated during the experiment
Liquid oxygen
Nitrogen tetroxide
Perchlorate salts

4. Listed Carcinogens

The term “listed carcinogen” refers to a specific list of 13 chemicals regulated by Cal/OSHA. These chemicals have specific use and handling requirements that requires evaluation by EH&S and reporting to Cal/OSHA, even if work is contained within a laboratory fume hood.

2-Acetylaminofluorene
4-Aminodiphenyl
Benzidine (and its salts)
3,3'-Dichlorobenzidine(and its salts)
4-Dimethylaminoazobenzene
alpha-Naphthylamine
beta-Naphthylamine
4-Nitrobiphenyl
N-Nitrosodimethylamine
beta-Propiolactone
bis-Chloromethyl ether
Methyl chloromethyl ether
Ethyleneimine

5. Chemicals with extremely potent health hazards

Neat (pure), but not diluted solutions of, acute toxins with a LD_{50} of less than 5 mg/kg (oral), 50 mg/kg (dermal), 100 ppm (gases), 0.5 mg/L (vapors), or 0.05 mg/L (dusts/mists).

Acetylenedicarboxylic acid monopotassium salt	Aconitine
Acrolein	Acryloyl chloride
Aflatoxin B1	Allyl chloroformate
Allylamine	Azide salts
bis(2-chloroethyl) sulfide	1,2-Bis(trimethoxysilyl)ethane
Blasticidine S hydrochloride	2-Chloroethanol
Cholera toxin	Colchicine
Crotonaldehyde	Cyanide salts
Cyanogen bromide	1,3-Dichloroacetone
Diethyl chlorophosphite	1α,25-Dihydroxyvitamin D3
1,6-Diisocyanatohexane	Dimethylmercury
Diptheria Toxin	Divinyl sulfone
Eserine hemisulfate salt	Ethidium bromide
Ethyl chloroformate	Fluorine
Hydrofluoric acid	Hygromycin B
Iron(0) pentacarbonyl	Mechlorethamine
Methacryloyl chloride	Methanesulfonyl chloride
Methanesulfonyl fluoride	Methyl chloroformate
N,N-Diethylaniline	N,N-Dimethyl-p-phenylenediamine
1,4-Naphthoquinone	Nitric oxide
Nitrogen dioxide	Osmium Tetroxide
Paraquat dichloride	Phenyl Isocyanate
Phenyl Thiourea	Phorbol esters
Phosgene	Putrescine
Strychnine	Tetramethyl orthosilicate
2,4-Toluene diisocyanate (TDI)	(+)-Valinomycin
Warfarin	Wortmannin

6. Examples of laser hazards

An open beam laser is defined as a system where any part of the laser path is exposed.

A class IIIB visible laser is defined as any visible laser with 5 to 499 mW of power.

A class IV laser is any visible laser with greater than 500 mW of power.

Ultrafast lasers are considered herein as the same as class IV lasers for safety enhancements.

Any ultrafast laser, defined as having pulse durations < 1 ns, has the potential for severe eye damage regardless of power.