

Particularly Hazardous Substances

Carnegie Mellon University

*References, and notes on the proper use of this table appear on page 12.

Substance	CAS	National Toxicity Program Carcinogen ¹	Acute Toxin ²	OSHA Regulated Carcinogen ³	IARC Group Carcinogen ⁴	Reproductive Toxin ⁵	Violently Reactive/Explosive/Peroxide Forming/Pyrophoric ⁶
A-a-C(2-Amino-9H-pyrido[2,3,b]indole)	2648-68-5				2B		
Acetal	105-57-7						yes
Acetaldehyde	75-07-0	NTP	AT		2B		
Acrolein (2-Propenal)	107-02-8		AT				
Acetamide	126850-14-4				2B		
2-Acetylaminofluorene	53-96-3	NTP		ORC			
Acrylamide	79-06-6	NTP			2B		
Acrylyl Chloride	814-68-6		AT				
Acrylonitrile	107-13-1	NTP		ORC	2B		
Adriamycin	23214-92-8	NTP			2A		
Aflatoxins	1402-68-2	NTP			1		
Allylamine	107-11-9		AT				
Alkylaluminums	varies		AT				
Allyl Chloride	107-05-1		AT				
ortho-Aminoazotoluene	97-56-3	NTP			2B		
para-aminoazobenzene	60-09-3				2B		
4-Aminobiphenyl	92-67-1	NTP		ORC	1		
1-Amino-2-Methylantraquinone	82-28-0	NTP					
(2-Amino-6-methyldipyrido[1,2-a:3',2'-d]imidazole)	67730-11-4				2B		
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole					2B		
2-Aminoanthraquinone	117-79-3	NTP					
Amitrole	61-82-5	NTP			2B		
Ammonia, Anhydrous	7664-41-7		AT				
Ammonia solutions (>44%by weight)	7664-41-7		AT				
Ammonia Perchlorate	7790-98-9		AT				yes
Ammonia Permanganate	7787-36-2		AT				yes
Analgesic mixtures containing phenacetin	62-44-2	NTP			1		
Androgenic steroids					2A		
Anesthetic gases (Halothane, methoxyflurane)	various					yes	
ortho-Anisidine	91-04-0	NTP			2B		
Antimony trioxide	1309-64--4				2B		
AramiteTM	140-57-8				2B		
Arochlor 1254 (PCB)	11097-69-1	NTP					
Arochlor 1260 (PCB)	11096-82-5	NTP					
Arsenic and arsenic compounds	7440-38-2	NTP		ORC	1	yes	
Arsine (arsenic hydride)	7784-42-1		AT				
Asbestos	1332-21-4	NTP		ORC	1		
Auramine, technical-grade	492-80-8				2B		
Azactidine	320-67-2	NTP			2A		
Azaserine	115-02-6				2B		
Azathioprine	446-86-6	NTP			1		

Substance	CAS	National Toxicity Program Carcinogen ¹	Acute Toxin ²	OSHA Regulated Carcinogen ³	IARC Group Carcinogen ⁴	Reproductive Toxin ⁵	Violently Reactive/ Explosive/Peroxide Forming/Pyrophoric ⁶
Azides	various						yes
Aziridine	151-56-4				2B		
Benz[a]anthracene	56-55-3				2A		
Benzene	100-41-4	NTP		ORC	1	yes	
Benzidine	92-87-5	NTP		ORC	1		
Benzidine-based dyes	various				2A		
Benzo[a]pyrene	50-32-8	NTP			2A		
Benzo[b]fluoranthene	205-99-2	NTP			2B		
Benzo[f]fluoranthene					2B		
Benzo[j]fluoranthene	205-82-3	NTP					
Benzo[k]fluoranthene	207-08-9	NTP			2B		
Benzofuran	271-89-6				2B		
Benzyl violet (acid violet)	1694-09-3				2B		
Benzoyl peroxide	94-36-0						yes
Beryllium and Be compounds	7440-41-7	NTP			2A		
Beryllium Chloride	7787-47-5	NTP			2A		
Beryllium Fluoride	7787-49-7	NTP			2A		
Beryllium Hydroxide	13327-32-7	NTP			2A		
Beryllium Oxide	1304-56-9	NTP			2A		
Beryllium Phosphate	13598-15-7	NTP			2A		
Beryllium Sulfate	13510-49-1	NTP			2A		
Beryllium Sulfate Tetrahydrate	7787-56-6	NTP			2A		
Beryllium Zinc Silcate	39413-47-3	NTP			2A		
Betel quid with tobacco					1		
Bis(chloroethyl) nitrosourea (BCNU)	154-93-8	NTP			2A		
Bis(chloroethylnaphthyl)amine					1		
Bis(chloromethyl) ether	542-88-1	NTP	AT	ORC	1		
bitumens, extracts of steam-refined & air refined					2B		
Bleomycins	11056-06-7				2B		
Boron Trichloride	10294-34-5		AT				
Boron Trifluoride	7637-07-2		AT				
Braken fern: Toxic Component is shikimic acid	138-59-0				2B		
Bromine	7726-95-6		AT				
Bromine Chloride	13863-41-7		AT				
Bromine Pentafluoride	7789-30-2		AT				
Bromine Trifluoride	7787-71-5		AT				
Bromodichloromethane	75-27-4	NTP			2B		
3-Bromopropyne	106-96-7		AT				
1,3 Butadiene	106-99-0	NTP		ORC	2A		
1,4 Butanediol dimethanesulfonate ("Busulfan" "Myleran")	55-98-1	NTP			1		
Butyl Hydroperoxide (tertiary)	75-91-2		AT				yes
Butyl Perbenzoate (tertiary)	614-45-9		AT				yes
Butyl Peroxyacetate, tert							yes
Butyl Peroxypivalate, tert							yes
Butylated hydroxyanisole (BHA)	25013-16-5	NTP			2B		
b-Butyrolactone	3068-88-0				2B		
Cadmium Chloride	10108-64-2	NTP		ORC	2A	yes	

Substance	CAS	National Toxicity Program Carcinogen¹	Acute Toxin²	OSHA Regulated Carcinogen³	IARC Group Carcinogen⁴	Reproductive Toxin⁵	Violently Reactive/ Explosive/Peroxide Forming/Pyrophoric⁶
Cadmium and Cadmium compounds	7440-43-9	NTP		ORC	2A	yes	
Cadmium Oxide	1306-19-0	NTP		ORC	2A	yes	
Cadmium Sulfate	10124-36-4	NTP		ORC	2A	yes	
Cadmium Sulfide	1306-23-6	NTP		ORC	2A	yes	
Caffeic acid	331-39-5				2B		
Captafol	191906				2A		
Carbon Disulfide	75-15-0					yes	
Carbon Monoxide	630-08-0		AT			yes	
Carbon tetrachloride	56-23-5	NTP			2B		
Carbon-black extracts	1333-86-4				2B		
Carbonyl Chloride (see Phosgene)	75-44-5		AT				
Carbonyl Fluoride	353-50-4		AT				
Carrageenan, degraded	9049-05-2				2B		
Catechol	120-80-9				2B		
Cellulose Nitrate (conc.>12.6% nitrogen)	9004-70-0		AT				
Ceramic fibers					2B		
Chloramphenicol	56-75-7				2A		
Chlordane	57-74-9				2B		
Chlordecone ("Kepone")	143-50-0				2B		
Chlorendic acid	115-28-6				2B		
a-Chlorinated toluenes	various				2A		
Chlorine	7782-50-5		AT				
Chlorine Dioxide	10049-04-4		AT				
Chlorine Pentafluoride	13637-63-3		AT				
Chlorine Trifluoride	7790-91-2		AT				
Chloroambucil	305-03-3	NTP			1		
para-Chloroaniline	106-47-8				2B		
Chlorodiethylaluminum	96-10-6		AT				
1-Chloro-2,4-Dinitrobenzene	97-00-7		AT				yes
1-Chloro-2-methylpropene	513-37-1				2B		
1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU)	13010-47-4	NTP			2A		
1-(2-chloroethyl)-3-methylcyclohexyl)-1-nitrosourea (Methyl-CCNU)	13909-09-6	NTP			1		
Chloroform	67-66-3	NTP			2B		
Chloromethyl Methyl Ether	107-30-2	NTP	AT				
Chlorophenols	various				2B		
Chlorophenoxy herbicides	various				2B		
Chloropicrin	76-06-2		AT				
Chloropicrin & methyl bromide mixture	none		AT				
Chloropicrin & methyl chloride mixture	none		AT				
Chloroprene	126-99-8				2B		
Chlorothalonil	1897-45-6				2B		
Chlorotrifluoroethylene	79-38-9						yes
CI Acid Red	6459-94-5				2B		
CI Basic Red 9	569-61-9	NTP			2B		
CI Direct Blue 15	2429-74-5				2B		
Citrus Red no. 2	6358-53-8				2B		
Clorozotocin	54749-90-5	NTP			2A		

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4-Chloro-ortho-phenylenediamine	563-47-3	NTP			2B		
para-Chloro-ortho-toluidine	95-69-2	NTP			2A		
Chromium (VI) compounds	various	NTP			1		
Cisplatin	15663-27-1				2A		
Citrus Red No. 2	6358-53-8				2B		
Coal tar pitches	65996-93-2			ORC	1		
Coal tars	8007-45-2	NTP		ORC	1		
Cobalt & cobalt compounds	7440-48-4				2B		
Creosotes	8001-58-9	NTP			2A		
para-Cresidine	120-71-8				2B		
Crystobalite (Crystalline Silica)	14464-46-1	NTP			2A		
Cumene hydroperoxide	80-15-9		AT				yes
Cyanide Compounds	various		AT				
Cyanogen	460-19-5	NTP	AT				
Cyanogen Chloride	506-77-4		AT				
Cyanuric Fluoride	675-14-9		AT				
Cycasin	14901-08-7				2B		
Cyclophosphamide	50-18-0	NTP			1		
Cyclosporin A	59865-12-1	NTP					
Dacarbazine	4342-03-4	NTP			2B		
Dantron (Chrysazin; 1,8-Dihydroxyanthraquinone)	117-10-2	NTP			2B		
Daunomycin	20830-81-3				2B		
DDT	5029-3				2B		
N,N'-Diacetylbenzidine	613-35-4				2B		
Diacetylene							yes
Diacetyl Peroxide (conc.>70%)	110-22-5		AT				
2,4-Diaminoanisole	615-05-4	NTP			2B		
4,4'-Diaminodiphenyl ether	28434-86-8	NTP			2B		
2,4-Diaminotoluene	95-80-7	NTP			2B		
Diazomethane	334-88-3		AT				yes
Dibenz[a,j]acridine	224-42-0	NTP			2B		
Dibenz[a,h]acridine	226-36-8	NTP			2B		
Dibenz[a,f]acridine	224-42-0				2B		
7H-Dibenzo[c,g]carbazole	194-59-2				2B		
Dibenz[a,h]anthracene	53-70-3	NTP			2A		
Dibenzo[a,e]pyrene	192-65-4	NTP			2B		
Dibenzo[a,h]pyrene	189-64-0	NTP			2B		
Dibenzo[a,i]pyrene	189-55-9	NTP			2B		
Dibenzoyl Peroxide	94-36-0		AT				
Dibenzo[a,l]pyrene	191-30-0				2B		
Diborane	19287-45-7		AT				
1,2-Dibromo-3-chloropropane	96-12-8	NTP		ORC	2B	yes	
Dibutyl Peroxide (tertiary)	110-05-4		AT				
Dichloro Acetylene	7572-29-4		AT				
Dichlorvos	62-73-7				2B		
para-Dichlorobenzene	106-46-7	NTP			2B		
3,3'-Dichlorbenzidine	91-94-1	NTP		ORC	2B		

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3,3'-Dichloro-4,4'-diaminophenyl ether	101-80-4				2B		
1,2-Dichloroethane	107-06-2	NTP			2B		
Dichloromethane	75-09-2	NTP			2B		
1,3-Dichloropropene (technical-grade)	8003-19-8				2B		
Dichlorosilane	4109-96-0		AT				
Dicyclopentadiene	77-73-6						yes
Diepoxybutane	1464-53-5	NTP			2B		
Di(2-ethylhexyl)phthalate	117-81-7	NTP			2B		
1,2-Diethylhydrazine	1615-80-1				2B		
Diacetyl Peroxide (conc.>70%)	110-22-5		AT				
Diethyl Azodicarboxylate	1972-28-7						yes
Diethyl sulfate	64-67-5				2A		
Diethylstilbestrol	56-53-1	NTP		ORC	1		
Diethylzinc	557-20-0		AT				
Diglycidyl resorcinol ether	101-90-6	NTP			2B		
Dihydrosafrole	94-58-6				2B		
Diisopropyl Peroxydicarbonate	105-64-6		AT				yes
Diisopropyl sulfate	392186				2B		
Dilauroyl Peroxide	105-74-8		AT				
2,6-Dimethylaniline (2,6-Xylidine)	87-62-7				2B		
3,3'-Dimethoxybenzidine (ortho-Dianisidine)	119-90-4	NTP			2B		
Dimethylamine, Anhydrous	124-40-3		AT				
para-Dimethylaminoazobenzene	60-11-7	NTP			2B		
trans-2[(Dimethylamino)methylimino]-	x	x	x	x	x		
5(2-(5-nitro-2-furyl)vinyl)-1,3,4-oxadiazole	55738-54-0				2B		
3,3-Dimethylbenzidine (ortho-Tolidine)	119-93-7				2B		
1,1-Dimethylhydrazine	57-14-7	NTP			2B		
1,2-Dimethylhydrazine	540-73-8				2A		
Dimethylcarbamoyl chloride	79-44-7	NTP			2A		
Dimethyldichlorosilane	75-78-5		AT				
Dimethyl sulfate	77-78-1	NTP			2A		
2,4,-Dinitroaniline	97-02-9		AT				
Dinitrobenzene, ortho	99-65-0						yes
3,7-Dinitrofluoranthene	105735-71-5				2B		
3,9-Dinitrofluoranthene	22506-53-2				2B		
1,6-Dinitropyrene	42397-64-8	NTP			2B		
1,8-Dinitropyrene	42397-65-9	NTP					
2,4-Dinitrotoluene	121-14-2				2B		
2,6-Dinitrotoluene	606-20-2				2B		
1,4-Dioxane	123-91-1	NTP			2B		yes
Direct Black 38	1937-37-7	NTP					
Direct Blue 6	2602-46-2	NTP					
Divinyl acetylene							yes
Epichlorohydrin	106-89-8	NTP			2A		
Erionite	66733-21-9	NTP			1		
Ethidium Bromide	1239-45-8					yes	
Ethyl acrylate	140-88-5	NTP			2B		

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Ethyl ether (w/o inhibitor)	60-29-7						yes
Ethyl methanesulphonate	62-50-0	NTP			2B		
Ethyl Methyl Ketone Peroxide (conc.>60%)	1338-23-4		AT				
Ethyl Nitrate	109-95-5		AT				yes
Ethylamine	75-04-7		AT				
Ethylene dibromide	106-93-4				2A		
Ethylene Fluorohydrin	371-62-0		AT				
Ethylene glycol dimethyl ether (glyme)	110-71-4						yes
Ethylene oxide ¹	75-21-8	NTP	AT	ORC	1	yes	
Ethylene thiourea	96-45-7	NTP			2B	yes	
Ethyleneimine ¹ (aziridine)	151-56-4		AT				
N-methyl-N-nitrosourea	684-93-5	NTP			2A		
Fluorine	7782-41-4		AT				
Formaldehyde	50-00-0	NTP	AT	ORC	2A		
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole					2B		
Furan	110-00-9	NTP	AT				
2[2-(2-Furyl)-3-(5-nitro-2-furyl)acrylamide]	3688-53-7				2B		
Glu-P-2 (2-Aminodipyrido[1,2-a:3',2'-d]imidazole)	67730-10-3				2B		
Glycidaldehyde	765-34-4				2B		
Grisofulvin	126-07-8				2B		
Halothane	151-67-7					yes	
HC Blue No. 1	2784-94-3				2B		
Heptachlor	76-44-8				2B		
Hexachlorobenzene	118-74-1	NTP			2B		
Hexachlorocyclohexanes	608-73-1	NTP			2B		
Hexachloroethane	67-72-1	NTP			2B		
Hexafluoroacetone	684-16-2		AT				
Hexamethylphosphoramide	680-31-9	NTP			2B		
Hexone (MIBK)	108-10-1						yes
Hydrazine	302-01-2	NTP			2B		yes
Hydrochloric Acid, anhydrous	7647-01-0		AT				
Hydrofluoric Acid, anhydrous	7664-39-3		AT				
Hydrogen Bromide	10035-10-6		AT				
Hydrogen Chloride	7647,01,0		AT				
Hydrogen Cyanide,anhydrous	74-90-8		AT				
Hydrogen Flouride	7664-39-3		AT				
Hydrogen Peroxide(>52%by weight)	7722-84-1		AT				
Hydrogen Selenide	7783-07-5		AT				
Hydrogen Sulfide	7783-06-4		AT				
Hydroxylamine	7803-49-8		AT				yes
Indeno[1,2,3-cd]pyrene	193-39-5	NTP			2B		
IQ (2-Amino-3methylimidazo[4,5-f]quinoline					2A		
Iron, Pentacarbonyl	13463-40-6		AT				
Iron-dextran complex	9004-66-4	NTP			2B		
Isoprene	78-79-5				2B		
Isopropylamine	75-31-0		AT				
Isopropyl ether	108-20-3						yes

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Ketene	463-51-4		AT				
Lasiocarpine	303-34-4				2B		
Lead Chromate (Cr+6)	7758-97-6	NTP					
Lead compounds (inorganic)	various	NTP			2B	yes	
Magenta, manufacture of	632-99-5				1		
MeA-a-C(2-Amino-3-methyl-9H-pyrido[2,3-b]indole)	68006-83-7				2B		
Medroxyprogesterone acetate	71-58-9				2B		
MelQ (2-Amino-3,4-dimethylimidazo[4,5-f]quinoline)	77094-11-2				2B		
MelQx (2-Mino-3,8-dimethylimidazo[4,5-f]quinoxaline)	77500-04-0				2B		
Melipan	3771-19-5				2B		
Melphalan (l-phenylalanine mustard)	148-82-3	NTP			2A		
Melphan		NTP			1		
Mercury Compounds	various		AT			yes	
Merphalan	531-76-0				2B		
Metalorganic compounds	various						yes
Methacrylaldehyde	78-85-3		AT				
Methacryloyl Chloride	920-46-7		AT				
Methacryloyloxyethyl Isocyanate	30674-80-7		AT				
Methoxyflurane	76-38-0					yes	
Methoxyprogesterone acetate					1		
Methyl acetylene	74-99-7						yes
Methyl Acrylonitrile	126-98-7		AT				
Methylazoxymethanol acetate	592-62-1				2B		
2-Methylaziridine	75-55-8				2B		
Methyl Bromide	74-83-9		AT				
Methyl Chloride	74-87-3		AT				
Methyl Chloroformate	79-22-1		AT				
Methyl chloromethyl ether	107-30-2			ORC	1		
5-Methylchrysene	3697-24-3				2B		
Methylcyclopentane	98-37-7						yes
Methyl Ethyl Ketone Peroxide (>60%)	1338-23-4		AT				yes
Methyl Fluoroacetate	453-18-9		AT				
Methyl Fluorosulfate	421-20-5		AT				
Methyl Hydrazine	60-34-4		AT				
Methyl Iodide	74-88-4		AT				
Methyl l-butyl ketone (Hexone)	108-10-1						yes
Methyl Isocyanate	624-83-9		AT				
Methyl Mercaptan	74-93-1		AT				
Methyl Vinyl Ketone	79-84-4		AT				
Methylamine, anhydrous	74-89-5		AT				
Methylmercury Chloride	115-09-3		AT		2B		
Methylmercury compounds	various				2B		
Methyltrichlorosilane	75-79-6		AT				
5-Methoxy psoralen	484-20-8				2A		
8-Methoxy psoralen 7 UV light		NTP			1		
4,4'-Methylene bis(2-chloroaniline) (MOCA)	101-14-4	NTP			2A		
4,4'-Methylene bis(2-methylaniline)	838-88-0				2B		

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Methylene Chloride	75-09-2	NTP		ORC	2B		
4,4'-Methylenedianiline	101-77-9			ORC	2B		
Methyl methanesulphonate	66-27-3				2B		
2-Methyl-1-nitroanthraquinone	129-15-7				2B		
N-Methyl-N-nitrosourethane	615-53-2				2B		
N-methyl-N'-nitro-N-nitrosoguanidine	70-25-7				2A		
N-methyl-N-nitrosourea	684-93-5				2A		
methylthiouracil	56-04-2				2B		
Metronidazol	443-48-1				2B		
Mineral oils	8012-95-1	NTP			1		
Mirex	2385-85-5				2B		
Mitomycin C	50-07-7				2B		
Monocrotaline	23291-96-5				2B		
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)amino]-2-oxazolinone	139-91-3				2B		
Mustard gas	505-60-2	NTP			1		
Nafenopin	3771-19-5				2B		
1-Naphthylamine	134-32-7	NTP		ORC	3		
2-Naphthylamine	91-59-8	NTP		ORC	1		
Nickel acetate	373-02-4	NTP					
Nickel and Nickel compounds	7440-02-0	NTP			1		
Nickel carbonate	3333-67-3	NTP			1		
Nickel Carbonyl	13463-39-3	NTP	AT		1		
Nickel Hydroxide	12054-48-7	NTP			1		
Nickel oxide	1313-99-1	NTP			1		
Nickel subsulfide	12035-72-2	NTP			1		
Nickelocene	1271-28-9	NTP					
Niridazole	61-57-4				2B		
Nitric Acid (>94.5% by weight)	7697-37-2		AT				
Nitric Oxide	10102-43-9		AT				
Nitrilotriacetic acid	139-13-9				2B		
5-Nitroacenaphthene	602-87-9				2B		
Nitroaniline (para)	100-01-6		AT				
2-Nitroanisole	91-23-6				2B		
Nitrobenzene	98-95-3				2B		
4-Nitrobiphenyl	92-93-3			ORC			
6-Nitrochrysene	2043937				2B		
Nitrofen (technical-grade)	1836-75-5				2B		
2-Nitrofluorene	2043937				2B		
1-[5-Nitrofurfurylidene)amino]-2-imidazolidonone	555-84-0				2B		
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531-82-8				2B		
Nitrogen Dioxide	10102-44-0		AT				
Nitrogen mustard	51-75-2				2A		
Nitrogen mustard N-oxide	126-85-2				2B		
Nitrogen Oxides(NO,NO2,N2O4,N2O3)	10102-44-0		AT				
Nitrogen Tetroxide (nitrogen peroxide)	10544-72-6		AT				
Nitrogen Trifluoride	7783-54-2		AT				
Nitrogen Trioxide	10544-73-7		AT				

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Nitromethane	75-52-5		AT				yes
2-Nitropropane	79-46-9				2B		
1-Nitropyrene	5522-43-0				2B		
4-Nitropyrene	57835-92-4				2B		
N-Nitrosodiethylamine	55-18-5	NTP			2A		
N-Nitrosodimethylamine	62-75-9	NTP		ORC	2A		
N-Nitrosodi-n-butylamine	924-16-3				2B		
N-Nitrosodi-n-propylamine	621-64-7				2B		
3-(N-Nitrosomethylamino)propionitrile	60153-49-3				2B		
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone (NNK)	64091-91-4				2B		
N-Nitrosomethylethylamine	57629-90-0				2B		
N-Nitrosomethylvinylamine	4549-40-0				2B		
N-Nitrosomorpholine	59-89-2				2B		
N-Nitrosornicotine	16543-55-8				2B		
N-Nitrosopiperidine	5632-47-3				2B		
N-Nitrosopyrrolidine	35884-45-8				2B		
N-Nitrososarcosine	13256-22-9				2B		
Ochratoxin A	303-47-9				2B		
Oestrogens, non-steroidal					1		
Oestrogens, steroidal					1		
Oil Orange SS	2646-17-5				2B		
Oleum (65-80% fuming sulfuric acid)	8014-94-7		AT				
Oral contraceptives, combined					1		
Oral contraceptives, sequential					1		
Osmium Tetroxide	20816-12-0		AT				
Oxygen Difluoride (fluorine monoxide)	7783-41-7		AT				
Ozazepam	604-75-1				2B		
Ozone	10028-15-6		AT				
Panfuran S (containing dihydroxymethylfuratrizine)	794-93-4				2B		
Pentaborane	19624-22-7		AT				
Peracetic Acid (>60%)	79-21-0		AT				yes
Perchloric Acid (>60%)	7601-90-3		AT				yes
Perchloryl Fluoride	7616-94-6		AT				
Perchlorylmethyl Mercaptan	594-42-3		AT				
Peroxyacetic Acid (>60%)	79-21-0		AT				yes
Phenacetin & analgesics	101-93-9				2A		
Phenazopyridine hydrochloride	136-40-3				2B		
Phenobarbital					2B		
Phenoxybenzamine hydrochloride	59-96-1				2B		
Phenytoin	630-93-3				2B		
Phosgene (carbonyl chloride)	75-44-5		AT				
Phosphine (hydrogen phosphide)	7803-51-2		AT				
Phosphorus, elemental	7723-14-0						yes
Phosphorus Oxychloride	10025-87-3		AT				
Phosphorus Trichloride	7719-12-2		AT				
Phosphoryl Chloride	10025-87-3		AT				
Picric Acid	88-89-1						yes

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Piperazine Estrone Sulfate (under Conjugated Estrogens)	7280-37-7	NTP					
Polybrominated biphenyls	59536-65-1	NTP			2B		
Polychlorinated biphenyls	1336-36-3	NTP			2A		
Ponceau 3R2B	608016				2B		
Ponceau MX	3761-53-3				2B		
Potassium (elemental)	7440-09-7						yes
Potassium bromate	7758-01-2				2B		
Potassium Cyanide	151-50-8		AT				
Procarbazine hydrochloride	366-70-1				2A		
Progestins					2B		
1,3-Propane sultone	1120-71-4				2B		
Propargyl Bromide	106-96-7		AT				
b-Propiolactone	57-57-8			ORC	2B		
Propyl Nitrate	627-3-4		AT				
Propylene oxide	75-56-9				2A		
Propylthiouracil	51-52-5				2B		
Quartz (Crystalline Silica)	14808-60-7	NTP					
Radon	10043-92-2	NTP					
Saccharin	128-44-9				2B		
Safrole	94-59-7				2B		
Sarin	107-44-8		AT				
Selenium Hexafluoride	7783-79-1		AT				
Shale oils	68308-34-9				1		
Shikimic Acid	138-59-0				2B		
Silica, crystalline	112945-52-5	NTP			1		
Sodium, elemental	7440-23-5						yes
Sodium amide	7782-92-5						yes
Sodium Azide	26628-22-8						yes
Sodium cyanide	143-33-9		AT				
Sodium Equilin Sulfate (under conjugated Estrogens)	16680-47-0	NTP					
Sodium Estrone Sulfate (under conjugated Estrogens)	438-67-5	NTP					
Sodium ortho-phenylphenate	132-27-4				2B		
Soots		NTP			1		
Sterigmatocystin	10048-13-2				2B		
Stibine (antimony hydride)	7803-52-3		AT				
Streptozotocin	18883-66-4				2B		
Strontium Chromate (Cr+6)	7789-06-2	NTP					
Styrene	100-42-5				2A		yes
Styrene oxide	96-09-3				2A		
Sulfallate	95-06-7				2B		
Sulfur Dioxide (liquid)	7446-09-5		AT				
Sulfur Pentafluoride	5714-22-7		AT				
Sulfur Tetrafluoride	7783-60-0		AT				
Sulfur Trioxide	7446-11-9		AT				
Sulfuric Anhydride	7446-11-9		AT				
Talc containing asbestiform fibers	14807-96-6				1		
Tamoxifen	10540-29-1	NTP					

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Tellurium Hexafluoride	7783-80-4		AT				
2,3,7,8- Tetrachlorodibenzo-para-dioxin (TCDD)	1746-01-6				1		
Tetrachloroethylene	127-18-4				2A		
Tetrafluoroethylene	116-14-3		AT		2B		yes
Tetrafluorohydrazine	10036-47-2		AT				
Tetrahydrofuran (w/o inhibitor)	109-99-9						yes
Tetrahydronaphthalene							yes
Tetramethyl Lead	75-74-1		AT				
Tetranitromethane	509-14-8				2B		
Thioacetamide	62-55-5				2B		
4,4'-Thiodianiline	139-65-1				2B		
Thionyl Chloride	7719-09-7		AT				
Thiourea	62-56-6				2B		
Thorium dioxide	1314-20-1	NTP					
Tobacco products, smokeless					1		
Tobacco smoke					1		
Toluene diisocyanates	26471-67-5				2B		
ortho-Toluidine	119-93-7				2B		
Toxaphene (polychlorinated camphenes)	8001-35-2				2B		
Treosulphan					1		
Triethylborane	97-94-9						yes
Trichlormethine (trimustine hydrochloride)	817-09-4				2B		
Trichloro (chloromethyl) silane	1558-25-4		AT				
Trichloro (dichlorophenyl) silane	27137-85-5		AT				
Trichloroethylene	79-01-6				2B		
Trichlorofluoroethylene	79-38-9		AT				
1,2,3-Trichloropropane	96-18-4				2A		
Trichlorosilane	10025-78-2		AT				
Tridymite (Crystalline Silica)	15468-32-3	NTP					
Trimethoxysilane	2487-90-3		AT				
Trinitrobenzene	99-35-4						yes
Trinitrotoluene	118-96-7						yes
Tris(1-aziridinyl)phosphine sulfide (Thiotepa)	52-24-4	NTP			2A		
Tris(2,3-dibromopropyl) phosphate	126-72-7				2A		
Trp-P-1 (3-Amino-1,4-dimethyl-5H-pyrido[4,3-b]indole) acetate	68808-54-8				2B		
Trp-P-2 (3-Amino-1-methyl-5H-pyrido[4,3-b]indole)	72254-58-1				2B		
Trypan blue	72-57-1				2B		
Uracil mustard	66-75-1				2B		
Urethane	51-79-6	NTP			2B		
Vinyl acetate	108-05-4				2B		yes
Vinyl acetylene							yes
Vinyl bromide	593-60-2				2A		
Vinyl chloride	75-01-4	NTP		ORC	1	yes	yes
Vinyl ethers	109-93-3						yes
Vinyl fluoride	75-02-5				2A		
2-vinyl pyridine	100-69-6						yes
4-vinyl pyridine	100-43-6						yes

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Vinylidene chloride	75-35-4						yes
Zinc Chromate (Cr+6)	13530-65-9	NTP					

In its Laboratory Standard, OSHA requires the establishment of additional protections for persons working with "Particularly Hazardous Substances" (PHS). OSHA defines these materials as "**select**" **carcinogens**, **reproductive toxins** and **acutely toxic materials**. Carnegie Mellon adds **explosive** and **violently reactive** materials to this category.

This table is designed to assist the laboratory in the identification of PHS, although it is not definitively conclusive.

In identifying PHS for a laboratory, it is necessary to consider the nature of the hazard. For example, mineral oil is a PHS when it is aerosolized and available for inhalation. Elemental materials such as cadmium and lead are PHS when they can be inhaled or ingested. They need not be considered a PHS when their presence is in a non-respirable, solid form (such as a piece of metal), and not being released to the atmosphere.