

## Carcinogens, Reproductive Toxins, and Teratogens

The materials on this list pose a significant risk of exposure or damage to the human body and require special procedures be developed for their safe use. Refer to page four of the [Laboratory Safety Manual](#) for more information. Materials involving industrial processes or manufacturing conditions which are not generally present at Iowa State University may have been omitted from this list. To ensure the current status of a chemical, check with the coordinating agency at the locations footnoted, a current safety data sheet (SDS) or call Environmental Health and Safety (EH&S) at (515) 294-5359.

OSHA – Occupational Safety and Health Administration<sup>1</sup>  
X – regulated carcinogen

IARC – International Agency for Research on Cancer<sup>2</sup>  
1 – known human carcinogen  
2A – probable human carcinogen  
2B – possible human carcinogen

NTP – National Toxicology Program<sup>3</sup>  
K – known carcinogen  
A – reasonably anticipated to be a carcinogen

Repro Toxin – Reproductive Toxin  
X – material considered by one or more footnoted references to be harmful to adult reproductive systems

Tera – Teratogen  
X – material considered by one or more footnoted references to cause birth defects in off-spring

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
A-a-C (2-Amino-9H-pyrido[2,3-b]indole)		2B			
Acetaldehyde		2B	A	X	
Acetamide		2B			
2-Acetylaminofluorene	X		A		

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Acheson process, occupational exposure associated with		1			
Acrylamide		2A	A	X	
Acrylonitrile	X	2B	A		
Acute Hypoxia				X	
Adriamycin (Doxorubicin Hydrochloride)		2A	A		
AF-2 [2-(2-Furyl)-3-(5-nitro-2-furyl)acrylamide]		2B			
Aflatoxins (B2)		1	K		
Aflatoxins M1		2B			
Alcoholic Beverage Consumption		1	K	X	X
Alkylating Agents				X	
Alloxan					X
2-Aminoanthraquinone			A		
p-Aminoazobenzene		2B			
o-Aminoazotoluene		2B	A		
4-Aminobiphenyl	X	1	K		
1-Amino-2,4-dibromoanthraquinone		2B	A		
2-Amino-3,4-dimethylimidazo[4,5-f]quinoline (MeIQ)			A		
2-Amino-3,8-dimethylimidazo[4,5-f]quinoxaline (MeIQx)			A		
Aminoglycosides					X
1-Amino-2-methylantraquinone			A		

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
2-Amino-3-methylimidazo[4,5-f]quinoline (IQ)		2A	A		
2-Amino-1-methyl-6-phenylimidazo[4,5-b]pyridine (PhIP)			A		
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole		2B			
3-Amino-1,2,4-triazole				X	
Aminopterin and methylaminopterin				X	X
Amitrole			A	X	
Amsacrine		2B			
Androgenic (anabolic) Steroids		2A			X
Anesthetic gases				X	
Aniline & homologues				X	
o-Anisidine		2B			
o-Anisidine Hydrochloride			A		
Anthraquinone		2B			
Anticoagulants				X	
Antidiabetics				X	
Antihistamine antiemetics				X	
Antimony Trioxide		2B			
Antithyroid drugs					X
Aramite		2B			
Areca Nut		1			

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Aristolochic Acids (naturally occurring mixtures of)		1	K		
Arsenic					X
Arsenic (Inorganic) & Arsenic compounds	X	1	K	X	
Asbestos	X	1	K		
Atrazine				X	
Auramine (technical grade)		2B			
Azacitidine		2A	A		
Azaserine		2B			
Azathioprine		1	K		
Aziridine		2B			
Basic red monohydrochloride			A		
Benz(j)aceanthrylene		2B			
Benz(a)anthracene		2B	A		
Benzene	X	1	K	X	
Benzidine and Dyes Metabolized to Benzidine	X	1	K	X	
Benzidine based dyes		2A		X	
Benzo[a]pyrene		1	A		
Benzo[b]fluoranthene		2B	A		
Benzo[j]fluoranthene		2B	A		
Benzo[k]fluoranthene		2B	A		

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Benzofuran		2B			
Benzo[c]phenanthrene		2B			
Benzophenone		2B			
Benzotrichloride		2A	A	X	
Benzyl Trichloride				X	
Benzyl Violet 4B		2B			
Beryllium and Beryllium compounds		1	K	X	
Betel quid without tobacco		1			
Betel quid with tobacco		1			
Bischloroethyl Nitrosourea		2A	A		
2,2-Bis(Bromomethyl)-1,3-propanediol (technical grade)		2B	A		
N,N'-Bis (2-Chloroethyl)-2-Naphylamine (Chlornaphazine)		1			
Bis (Chloromethyl) Ether	X	1	K		
Bisphenol A				X	
Bitumens, extracts of steam-refined and air-refined		2B			
Bleomycins		2B			
Boron				X	
Boron Anhydride				X	
Bracken Fern		2B			
Bromochloroacetic acid		2B			

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Bromodichloromethane		2B	A		
1-Bromopropane			A		
Busulfan		1			X
1,3-Butadiene	X	1	K	X	
1,4-Butanediol Dimethanesulfonate (Busulphan; Myleran)		1	K		
Butiphos					X
Butylated Hydroxyanisole		2B	A		
b-Butyrolactone		2B			
Cadmium and Cadmium compounds	X	1	K	X	
Caffeic Acid		2B			
Captafol		2A	A		
Captopril (renal failure)					X
Carbamates				X	
Carbamazepine					X
Carbaryl				X	
Carbazole		2B			
Carbendazim				X	X
Carbon Black		2B			
Carbon Disulfide				X	X
Carbon Monoxide				X	X

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Carbon Nanotubes, multi-walled MWCNT-7		2B			
Carbon Tetrachloride		2B	A	X	
Catechol		2B			
Ceramic Fibers (Refractory, respirable size)		2B	A		
Chemotherapeutic Agents (MOPP, etc)		1		X	
Chloral		2A			
Chloral hydrate		2A			
Chlorambucil		1	K		
Chloramphenicol		2A	A	X	
Chlordane		2B		X	
Chlordecone (Kepone)		2B	A	X	
Clorendic Acid		2B	A		
Chlorinated Camphene				X	
Chlorinated Parafins		2B	A		
α-Chlorinated Toluenes (Benzyl Chloride, Benzoyl Chloride, Benzal Chloride, Benzotrichloride)		2A			
p-Chloroaniline		2B			
Chlorobiphenyls					X
3-Chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone		2B			
Chlorodiphenyls (42% chlorine and 54% chlorine)				X	
1-Chloro-2,3-epoxypropane				X	

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU)		2A	A		
Chloroethylene				X	
1-(2-Chloroethyl)-3-(4-Methylcyclohexyl)-1-Nitrosourea (MeCCNU)		1	K		
Chloroform		2B	A	X	
Chloromethyl Methyl Ether (technical grade)		1	K	X	
1-Chloro-2-methylpropene		2B			
3-Chloro-2-methylpropene			A		
4-Chloro-o-Phenylenediamine		2B	A		
Chlorophenoxy Herbicides		2B			
Chloroprene		2B	A	X	
Chloroquine				X	
Chlorothalonil		2B			
p-Chloro-o-toluidine and p-Chloro-o-toluidine Hydrochloride		2A	A		
Chlorozotocin		2A	A		
Chromium Hexavalent Compounds		1	K	X	
Chrysene		2B			
CI Acid Red 114		2B			
CI Basic Red 9		2B	A		
CI Direct Blue 15		2B			
Cigarette Smoke		1	K	X	X



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Cisplatin		2A	A		
Citrus Red 2		2B			
Clonorchis sinensis (infection with)		1			
Coal Tars and Coal Tar Pitches		1	K		
Cobalt and Cobalt Compounds		2B			
Cobalt Sulfate and other soluble cobalt (II) salts		2B	A		
Cobalt-Tungsten Carbide: Powders & Hard Metals			A		
Cocaine					X
Coconut oil diethanolamine condensate		2B			
Coke Oven Emissions	X	1	K		
Copper				X	
Coumarin Anticoagulants					X
p-Cresidine		2B	A		
Creosotes (from coal-tars)		2A			
Cumene		2B	A		
Cupferron			A		
Cycasin		2B			
Cyclopenta[cd]pyrene		2A			
Cyclophosphamide		1	K		X
Cyclosporin A (Ciclosporin)		1	K		

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Cytarabine					X
Cytomegalovirus (CMV)					X
Dacarbazine		2B	A		
Danazol					X
Dantron (Danthron; Chrysazin; 1,8-Dihydroxyanthraquinone)		2B	A		
Daunomycin		2B			
DDT (Dichlorodiphenyltrichloroethane)		2B	A	X	
DDT (4,4'-Dichlorodiphenyltrichloroethane)		2A			
Di(2-Ethylhexyl)phthalate			A		
N,N'-Diacetylbenzidine		2B			
2,4-Diaminoanisole and its Sulfate		2B	A		
4,4'-Diaminodiphenyl Ether		2B			
2,4-Diaminotoluene		2B	A	X	
Diazinon		2A			
Diazoaminobenzene			A		
Dibenz[a,h]acridine		2B	A		
Dibenz[a,j]acridine		2A	A		
Dibenz[a,h]anthracene		2A	A		
Dibenz[c,h]acridine		2B			
7H-Dibenzo[c,g]carbazole		2B	A		

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Dibenzo[a,e]pyrene			A		
Dibenzo[a,h]pyrene		2B	A		
Dibenzo[a,i]pyrene		2B	A		
Dibenzo[a,l]pyrene		2A	A		
Dibromoacetic acid		2B			
Dibromoacetonitrile		2B			
1,2-Dibromo-3-Chloropropane	X	2B	A	X	
1,2-Dibromoethane (Ethylene Dibromide, EDB)		2A	A	X	
2,3-Dibromo-1-propanol		2B	A		
Di-N-butylphthalate				X	
Dichloroacetic Acid		2B			
1,4-Dichlorobenzene			A		
p-Dichlorobenzene		2B			
3,3'-Dichlorobenzidine (and its salts)	X	2B	A		
3,3'-Dichlorobenzidine Dihydrochloride			A		
3,3'-Dichloro-4,4'-diaminodiphenyl ether		2B			
1,2-Dichloroethane (Ethylene Dichloride)		2B	A	X	
Dichloromethane (Methylene Chloride)	X	2B	A	X	
2,4-Dichlorophenoxy acetic acid				X	
1,2-Dichloropropane				X	

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
1,3-Dichloro-2-propanol		2B			
1,3-Dichloropropene (Technical Grade)		2B	A		
Dichlorvos		2B			
Diepoxybutane			A		
Diesel Engine Exhaust		2A	A		
Diesel Fuel, marine		2B			
Diethylene dioxide (1,4-dioxane)		2B	A	X	
Diethanolamine		2B			
Di(2-Ethylhexyl) Phthalate		2B		X	
1,2-Diethylhydrazine		2B			
Diethylstilbestrol		1	K		X
Diethyl Sulfate		2A	A		
Diglycidyl Resorcinol Ether		2B	A		
Digoxin		2B			
Dihydrosafrole		2B			
Diisopropyl Sulfate		2B			
3,3'-Dimethoxybenzidine (o-Dianisidine) and Metabolized Dyes		2B	A		
4-Dimethylaminoazobenzene	X		A		
p-Dimethylaminoazobenzene		2B			
trans-2-[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)-vinyl]-1,3,4-oxadiazole		2B			

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
2,6-Dimethylaniline (2,6-Xylidine)		2B			
3,3'-Dimethylbenzidine (o-Tolidine) and Metabolized Dyes		2B	A		
Dimethylcarbamoyl Chloride		2A	A		
1,1-Dimethylhydrazine		2B	A	X	
1,2-Dimethylhydrazine		2A			
N,N-Dimethylnitrosamine				X	
Dimethyl Sulfate		2A	A	X	
Dimethylvinyl Chloride			A		
3,7-Dinitrofluoranthene		2B			
3,9-Dinitrofluoranthene		2B			
1,6-Dinitropyrene		2B	A		
1,8-Dinitropyrene		2B	A		
2,4-Dinitrotoluene		2B		X	
2,6-Dinitrotoluene		2B		X	
Di-sec-octyl-phthalate				X	
1,4-Dioxane (Diethylene dioxide)		2B	A	X	
Diphenylhydantoin					X
Disperse Blue 1		2B	A		
Enalapril (renal failure)					X
Engine Exhaust, Gasoline		2B			

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Epichlorohydrin		2A	A	X	
1,2-Epoxybutane		2B			
1,2-Epoxypropane				X	
Epstein-Barr virus		1			
Ergotamine					X
Erionite		1	K		
Erythromycin				X	
Estrogens (Conjugated)		1	K	X	
Ethanol				X	
Ethyl Acrylate		2B			
Ethylbenzene		2B			
Ethylene Dibromide (1,2-Dibromoethane, EDB)		2A	A	X	
Ethylene Dichloride (1,2-Dichloroethane)		2B	A	X	
Ethylene Glycol Ethers				X	
Ethylene Glycol Monoethyl Ether				X	
Ethyl Methanesulfonate		2B	A		
N-Ethyl-N-nitrosourea		2A			
Ethylene Oxide	X	1	K	X	
Ethylene Thiourea			A		X
Ethyleneimine	X				

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Etoposide		1			
Etoposide in combination with Cisplatin and Bleomycin		1			
Etretinate					X
Fluconazole					X
Fluconazole, high dose					X
Fluoro-edenite fibrous amphibole		1			
Formaldehyde	X	1	K	X	
Formaldehyde (gas)			A	X	
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole		2B			
Fuel Oils, residual (heavy)		2B			
Fumonisin B1, B2, and Fusarin C		2B			
Furan		2B	A		
Gallium Arsenide		1			
Gamma Radiation		1	K		
Gasoline		2B			X
Ginkgo Biloba extract		2B			
Glasswool (respirable size)			A		
Glucocorticoids					X
Glu-P-1 (2-Aminodipyrido[1,2-a:3',2'-d]imidazole)		2B			
Glu-P-1 (2-Amino-6-methyldipyrido[1,2-a:3',2'-d]imidazole)		2B			

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Glycidaldehyde		2B			
Glycidol		2A	A		
Glyphosate		2A			
Griseofulvin		2B			
Hallucinogens				X	
HC Blue 1		2B			
Helicobacter pylori (infection with)		1			
Hepatitis B and C virus (chronic infection with)		1	K		X
Heptachlor		2B			
Herpes Simplex Virus I and II					X
Hexachlorobenzene		2B	A	X	
Hexachlorocyclohexanes		2B	A	X	
Hexachloroethane		2B	A		
2,4-Hexadienal		2B			
Hexamethylphosphoramide		2B	A	X	
2,5-Hexanedione				X	
High Temperatures		2A		X	
Hot Mate		2A			
Human Immunodeficiency Virus type 1 (infection with)		1			
Human Immunodeficiency Virus type 2 (infection with)		2B			



SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Human Papillomavirus types 16,18,31,33,35,39,45,51,52, 56,58,59,66		1	K		
Human T-cell Lymphotropic Virus type I		1			
Hydrazine		2B	A		
Hydrazine Sulfate			A		
Hydrazobenzene			A		
Hydrochlorothiazide		2B			
1-Hydroxyanthraquinone		2B			
Hyperthermia					X
Ideno(1,2,3-cd)pyrene		2B	A		
Indium Phosphide		2A			
IQ (2-Amino-3-methylimidazo[4,5-f]quinoline)		2A	A		
Iodides and goiter					X
Ionizing Radiation		1			X
Iron Dextran Complex		2B	A		
Irradiation				X	
Isoprene		2B	A		
Kaposi's Sarcoma Herpesvirus/Human Herpesvirus 8		1			
Kava extract		2B			
Kepone (Chlordecone)		2B	A	X	
Lamotrigine					X

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Lasiocarpine		2B			
Lead and Lead Compounds, Inorganic		2A	A	X	
Lead Chromate				X	
Lindane and other Hexachlorocyclohexane Isomers		1	A	X	
Linuron				X	
Lithium					X
Magenta (containing CI Basic Red 9)		2B			
Magnetic Fields (extremely low-frequency)		2B			
Manganese				X	
Malathion		2A			
Marijuana Smoking				X	
MeA-a-C (2-Amino-3-methyl-9H-pyrido[2,3-b]indole)		2B			
Medroxyprogesterone Acetate		2B			
MeIQ (2-Amino-3,4-dimethylimidazol[4,5-f]quinoline)		2B			
MeIQx (2-Amino-3,8-dimethylimidazol[4,5-f]quinoxaline)		2B			
Melphalan		1	K		
Mercury, Inorganic				X	
Mercury, Organic					X
Merphalan		2B			
Methotrexate					X

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Methimazole, scalp defects and choanal atresia					X
Methoxsalen with Ultraviolet A Therapy (PUVA)		1	K		
5-Methoxypsoralen		2A			
2-Methylaziridine (Propyleneimine)		2B	A		
Methylazoxymethanol Acetate		2B			
Methyl Chloromethyl Ether	X				
5-Methylchrysene		2B	A		
4,4'-Methylene bis(2-chloroaniline) (MOCA)		1	A		
4,4'-Methylene bis(N,N-dimethyl)benzenamine			A		
4,4'-Methylene bis(2-methylaniline)		2B			
Methylene Blue via intra-amniotic injection					X
Methylene Chloride	X	2B	A	X	
Methylenedianiline	X				
4,4'-Methylenedianiline		2B	A		
4,4'-Methylenedianiline Dihydrochloride			A		
Methyl isobutyl ketone				X	
Methyl isocyanate				X	X
Methylmercury Compounds		2B		X	
Methyleugenol		2B	A		
2-Methylimidazole		2B			

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4-Methylimidazole		2B			
Methyl Methanesulfonate		2A	A		
Methyl isobutyl ketone		2B			
2-Methyl-1-nitroanthraquinone		2B			
N-Methyl-N'-nitro-N-nitrosoguanidine (MNNG)		2A	A		
N-Methyl-N-nitrosourea		2A			
N-Methyl-N-nitrosourethane		2B			
Methyl Parathion					X
1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP)				X	X
Methylstyrene		2B			
Methylthiouracil		2B			
Metronidazole		2B	A		
Michler's Ketone [4,4'-(Dimethylamino )benzophenone]		2B	A		
Microcystin-LR		2B			
Microwaves				X	
Mineral Deficiency				X	
Mineral Oils (Untreated and Mildly Treated)		1	K		
Mirex		2B	A		
Misoprostol					X
Mitomycin C		2B			

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Mitoxantrone		2B			
3-Monochloro-1,2-propanediol		2B			
Monocrotaline		2B			
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)amino]-2-oxazolidinone		2B			
Mustard Gas (bis(2-Chloroethyl)Sulfide)		1	K		
Nafenopin		2B			
Naphthalene		2B	A		
Naphthylamine (Alpha)	X				
Naphthylamine (Beta) and 2-Naphthylamine	X	1	K		
(Alpha) Naphthyl-Nmethylcarbamate				X	
Narcotic				X	
Neutrons		1	K		
Nickel Compounds		1	K		
Nickel, metallic and alloys		2B	A		X
Niridazole		2B			
Nitrilotriacetic Acid and its salts		2B	A		
5-Nitroacenaphthene		2B			
2-Nitroanisole		2B			
o-Nitroanisole			A		
3-Nitrobenzanthrone		2B			

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Nitrobenzene		2B	A		
4-Nitrobiphenyl	X			X	
6-Nitrochrysene		2A	A		
Nitrofen (2,4-Dichlorophenyl-p-nitrophenyl ether; technical grade)		2B	A		
2-Nitrofluorene		2B			
1-[(5-Nitrofurfurylidene)amino]-2-imidazolidinone		2B			
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide		2B			
Nitrogen Mustard		2A			
Nitrogen Mustard Hydrochloride			A		
Nitrogen Mustard N-oxide		2B			
Nitromethane		2B	A		
2-Nitropropane		2B	A	X	
1-Nitropyrene		2A	A		
4-Nitropyrene		2B	A		
N-Nitrosodiethanolamine		2B	A		
N-Nitrosodiethylamine		2A	A		
N-Nitrosodimethylamine	X	2A	A	X	
N-Nitrosodi-n-butylamine		2B	A		
N-Nitrosodi-n-propylamine		2B	A		
3-(N-Nitrosomethylamino) propionitrile		2B			

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone (NNK)		1	A		
N-Nitrosomethylethylamine		2B			
N-Nitrosomethylvinylamine		2B	A		
N-Nitrosomorpholine		2B	A		
N-Nitrosornicotine (NNN)		1	A		
N-Nitrosopiperidine		2B	A		
N-Nitrosopyrrolidine		2B	A		
N-Nitrososarcosine		2B	A		
N-Nitroso-n-ethylurea			A		
N-Nitroso-n-methylurea			A		
o-Nitrotoluene		2A	A		
Non-Arsenical Insecticides		2A			
Norethisterone			A		
Novobiocin				X	
Ochratoxin A		2B	A		
Oestrogen-progestogen therapy, postmenopausal		1			
Oil Orange SS		2B			
Opisthorchis viverrini (infection with)		1			
Organophosphates				X	
Oxazepam		2B			

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Oxydemeton Methyl					X
4,4'-Oxydianiline			A		
Oxymetholone			A		
Palygorskite (attapulgite) (long fibers > 5 micrometers)		2B			
Panfuran S (containing Dihydroxymethylfuratrizine)		2B			
Parathion		2B			
Parovirus B-19 (Erthema infectiosum)					X
Pencillamine					X
Pentachlorophenol and by-products of its synthesis			A		
Pentosan Polysulfate Sodium		2B			
Perchloroethylene				X	
Perfluorooctanoic Acid		2B			
Phenacetin		1	A		
Phenacetin (analgesic mixtures)		1	K		
Phenazopyridine Hydrochloride		2B	A		
Phenobarbital		2B			
Phenolphthalein		2B	A		
Phenoxybenzamine Hydrochloride		2B	A		
Phenyl Glycidyl Ether		2B		X	
Phenytoin (and its sodium salts)		2B	A		



SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
PhIP (2-Amino-1-methyl-6-phenylimidazo[4,5-b]pyridine)		2B			
Phosphorus-32, as Phosphate		1			
Pioglitazone		2A			
Plutonium-239 and its decay products		1			
Polybrominated Biphenyls (PBB)		2A	A		
Polychlorinated Biphenyls (PCB)		1	A		X
Polychlorophenols and their sodium salts (mixed exposures)		2B			
Polycyclic Aromatic Hydrocarbons			A		
Ponceau MX		2B			
Ponceau 3R		2B			
Potassium Bromate		2B			
Prednisolone				X	
Primidone		2B			
Procarbazine Hydrochloride		2A	A		
Progesterone			A		
Progestins		2B			
Progestogen-only Contraceptives		2B			
1,3-Propane Sultone		2A	A		
Propazine				X	
b-Propiolactone	X	2B	A		

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Propylene Imine				X	
Propylene Oxide		2B	A	X	
Propylthiouracil		2B	A		
Pulegone		2B			
Quinoline				X	
Radioiodines, short-lived isotopes, including iodine-131		1			X
Radionuclide, a and b-particle-emitting, internally deposited		1			
Radium-224, -226, -228 and their decay products		1			
Radon-222 (and decay products)		1	K		
Refractory Ceramic Fibers		2B			
Reserpine			A		
Riddelliine		2B	A		
1,3-cis-Retinoic Acid (Isotretinoin & Accutane)					X
Rubella Virus				X	X
Safrole		2B	A		
Sartans					X
Schistosoma Haematobium (infection with)		1			
Schistosoma Japonicum (infection with)		2B			
Selenium				X	
Selenium Sulfide			A		

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Shale-oils		1			
Silica, Crystalline (respirable size)		1	K		
Silicon Carbide Whiskers		2A			
Silicon Carbide, Fibrous		2B			
Simazine				X	
Sodium o-phenylphenate		2B			
Solar Radiation		1	K		
Soots		1	K		
Sterigmatocystin		2B			
Steroid Hormones				X	
Streptomycin				X	
Streptozotocin		2B	A		
Strong Inorganic Acid Mists Containing Sulfuric Acid		1	K		
Styrene		2B	A	X	
Styrene-7,8-oxide		2A	A		
Sulfallate		2B	A		
Sulfasalazine		2B			
Sulfonamides				X	
Syphilis				X	X
Talc containing asbestiform fibers		1			

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Tamoxifen		1	K		
Tellurium and Compounds				X	
Teniposide		2A			
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)		1	K		
1,1,1,2- Tetrachloroethane		2B			
1,1,2,2- Tetrachloroethane		2B			
Tetrachloroethylene (Perchloroethylene)		2A	A	X	
Tetrachloromethane				X	
Tetrachlorvinphos		2B			
Tetracyclines				X	X
Tetrafluoroethylene		2A	A		
Tetranitromethane		2B	A		
Thalidomide				X	X
Therapeutic Radiation					X
Thiazide Diuretics				X	
Thioacetamide		2B	A		
4,4'-Thiodianiline		2B	A		
Thiotepa		1	K		
Thiouracil		2B			
Thiourea			A		

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
Thorium-232 and its decay products		1			
Thorium Dioxide		1	K		
Titanium Dioxide		2B			
Tobacco Products and Related Exposures		1	K	X	X
Toluene (and abuse)				X	X
Toluene Diisocyanate		2B	A		
Toluene-2,4-diisocyanate				X	
o-Toluidine		1	K	X	
o-Toluidine Hydrochloride			A		
Topiramate				X	
Toxaphene (Polychlorinated camphenes)		2B	A		
Toxoplasmosis				X	X
Treosulfan		1			
Triamterene		2B			
Trichloroacetic Acid		2B			
Trichlormethine (Trimustine Hydrochloride)		2B			
Trichloroethylene		1	A	X	
Trichloromethane				X	
2,4,6-Trichlorophenol			A		
Trichlorophenoxyacetic Acid (2,4,5-T)					X

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
1,2,3-Trichloropropane		2A	A	X	
Trimethadione					X
tris(2,3-Dibromopropyl) Phosphate		2A	A		
Trp-P-1 (3-Amino-1,4-dimethyl-5H-pyrido[4,3-b]indole)		2B			
Trp-P-2 (3-Amino-1-methyl-5H-pyrido[4,3-b]indole)		2B			
Trypan Blue		2B			
Ultraviolet Radiation A		1	A		
Ultraviolet Radiation B		1	A		
Ultraviolet Radiation, Broad Spectrum UV Radiation			K		
Ultraviolet Radiation C		1	A		
Uracil Mustard		2B			
Urethane		2B	A		
Vanadium Pentoxide		2B			
Valproic Acid					X
Varicella Virus (chicken pox)					X
Venezuelan Equine Encephalitis Virus					X
Vinyl Acetate		2B			
Vinyl Bromide		2A	A		
Vinyl Chloride	X	1	K		X
Vinyl Cyanide				X	

SUBSTANCE	OSHA	IARC	NTP	Repro Toxin	Tera
4-Vinylcyclohexene		2B			
4-Vinylcyclohexene Diepoxide		2B			
4-Vinyl-1-cyclohexene Diepoxide			A		
Vinylcyclohexene Dioxide				X	
Vinyl Fluoride		2A	A		
Vitamin K (excess)				X	
Warfarin					X
Wood Dust		1	K		
X-Radiation		1	K		
Xylenes				X	X
Zalcitabine		2B			
Zidovudine (AZT)		2B			
Zinc Chromates				X	

## Carcinogen Reference

Casarett and Doull's Toxicology: The Basic Science of Poisons, Eighth Edition, Curtis D. Klaassen, McGraw-Hill, 2013

Catalog of Teratogenic Agents, Thirteenth Edition, Thomas Shepard, John Hopkins University Press, Baltimore, Maryland, 2010.

Chemicals Known to the State to Cause Cancer or Reproductive Toxicity, State of California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), December 2015.

Occupational and Environmental Reproductive Hazards: a Guide for Clinicians, Edited by Maureen Paul, Williams and Wilkins, Baltimore, Maryland, 1993

Occupational Safety and Health Standards for General Industry - 29 CFR 1910 - Subpart Z, U.S. Department of Labor, Occupational Safety and Health Administration. <https://www.osha.gov/SLTC/carcinogens/standards.html>

Monographs on the Evaluation of the Carcinogenic Risk to Humans, International Agency for Research on Cancer (IARC), Volumes 1 to 115 (last updated 22 February 2016) <http://monographs.iarc.fr/ENG/Classification/index.php>

Thirteenth Annual Report on Carcinogens - Summary, National Toxicology Program (NTP), Technical Resources, Inc., Rockville, MD. (last updated 2 October 2014) <https://ntp.niehs.nih.gov/pubhealth/roc/index-1.html>

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