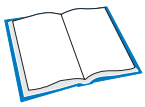
Appendix C

Basis of OSHA Carcinogen Listing for Individual Chemicals



Appendix C — Basis of OSHA Carcinogen Listing for Individual Chemicals

Table C-1. Basis of OSHA Carcinogen Listing for Individual Chemicals

Chemical	IARC	NTP	OSHA–Z	Chemical	IARC	NTP	OSHA–Z
Acetaldehyde	2B	P	–	p-Chloroaniline	2B	–	–
Acetamide	2B	–	–	Chloroform	2B	P	–
2-Acetylaminofluorene	–	P	Z	Chloromethyl methyl ether	1	K	Z
Acrylamide	2A	P	–	3-Chloro-2-methyl-1-propene	–	P	–
Acrylonitrile	2A	P	Z	Chlorophenols	2B	–	–
2-Aminoanthraquinone	–	P	–	p-Chloro-o-toluidine	2B	–	–
4-Aminoazobenzene	2B	–	–	Chromium (VI) compounds	1	K	–
4-Aminobiphenyl	1	K	Z	Cobalt and cobalt compounds	2B	–	–
1-Amino-2-methylanthraquinone	–	P	–	Creosote	2A	–	–
Amitrole	2B	P	–	p-Cresidine	2B	P	–
o-Anisidine	2B	–	–	Cupferron	–	P	–
o-Anisidine hydrochloride	–	P	–	2,4-D‡	2B	–	–
Arsenic and inorganic arsenic compounds	1	K†	Z	2,4-D butoxyethyl ester‡	2B	–	–
Asbestos (friable)	1	K	Z	2,4-D butyl ester‡	2B	–	–
Atrazine	2B	–	–	2,4-D chlorocrotyl ester‡	2B	–	–
Benzene	1	K	Z	2,4-D 2-ethylhexyl ester‡	2B	–	–
Benzidine	1	K	Z	2,4-D 2-ethyl-4-methylpentyl ester‡	2B	–	–
Benzoic trichloride	2B	P	–	2,4-Diaminoanisole	2B	–	–
Beryllium and beryllium compounds	1	P†	–	2,4-Diaminoanisole sulfate	–	P	–
Bis(chloromethyl)ether	1	K	Z	4,4'-Diaminodiphenyl ether	2B	–	–
1,3-Butadiene	2A	P	–	2,4-Diaminotoluene	2B	P	–
C.I. Acid Red 114	2B	–	–	Diaminotoluene (mixed isomers)	2B	P	–
C.I. Direct Black 38	2A	P	–	1,2-Dibromo-3-chloropropane	2B	P	Z
C.I. Direct Blue 6	2A	P	–	1,2-Dibromoethane	2A	P	–
C.I. Direct Brown 95	2A	–	–	1,4-Dichlorobenzene	2B	P	–
C.I. Food Red 5	2B	–	–	Dichlorobenzene (mixed isomers)	2B	P	–
C.I. Solvent Yellow 34 (Auramine)	2B	–	–	3,3'-Dichlorobenzidine	2B	P	Z
Cadmium and cadmium compounds	1	P†	–	3,3'-Dichlorobenzidine dihydrochloride	2B	P	–
Carbon tetrachloride	2B	P	–	3,3'-Dichlorobenzidine sulfate	2B	P	–
Chlordane	2B	–	–	1,2-Dichloroethane	2B	P	–
Chlorendic acid	2B	P	–	Dichloromethane	2B	P	–

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NTP: *K–The chemical is known to be carcinogenic; P–The chemical may reasonably be anticipated to be carcinogenic.*
OSHA: *Z–The chemical appears at 29 CFR part 1910 Subpart Z.*
†*Certain compounds.*
‡*Chlorophenoxy herbicides (IARC 2B).*

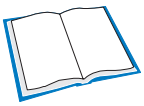

Table C–1. Basis of OSHA Carcinogen Listing for Individual Chemicals *(continued)*

Chemical	IARC	NTP	OSHA-Z	Chemical	IARC	NTP	OSHA-Z
trans-1,3-Dichloropropene	2B	–	–	Ethylene oxide	1	P	Z
1,3-Dichloropropylene	2B	P	–	Ethylene thiourea	2B	P	–
Dichlorvos	2B	–	–	Formaldehyde	2A	P	Z
Diepoxybutane	2B	P	–	Heptachlor	2B	–	–
Di-(2-ethylhexyl)phthalate	2B	P	–	Hexachlorobenzene	2B	P	–
Diethyl sulfate	2A	P	–	Hexamethylphosphoramide	2B	P	–
Diglycidyl resorcinol ether	2B	p	–	Hydrazine	2B	P	–
Dihydrosafrole	2B	–	–	Hydrazine sulfate	–	P	–
3,3'-Dimethoxybenzidine	2B	P	–	Lead and inorganic lead compounds	2B	–	Z
3,3'-Dimethoxybenzidine dihydrochloride	2B	P	–	Lindane	2B	P	–
3,3'-Dimethoxybenzidine hydrochloride	2B	P	–	Mecoprop‡	2B	–	–
4-Dimethylaminoazobenzene	2B	P	Z	Methoxone‡	2B	–	–
3,3'-Dimethylbenzidine	2B	P	–	Methoxone sodium salt‡	2B	–	–
3,3'-Dimethylbenzidine dihydrochloride	2B	P	–	4,4-Methylenebis (2-chloroaniline)	2A	P	–
3,3'-Dimethylbenzidine dihydrofluoride	2B	P	–	4,4'-Methylenebis (N,N-dimethyl) benzeneamine	2B	P	–
Dimethylcarbamyl chloride	2A	P	–	4,4'-Methylenedianiline	2B	P	Z
N,N-Dimethylformamide	2B	–	–	Michler's ketone	–	P	–
1,1-Dimethylhydrazine	2B	P	–	Mustard gas	1	K	–
Dimethyl sulfate	2A	P	–	alpha-Naphthylamine	–	–	Z
2,4-Dinitrotoluene	2B	–	–	beta-Naphthylamine	1	K	Z
2,6-Dinitrotoluene	2B	–	–	Nickel	2B	P	–
1,4-Dioxane	2B	P	–	Nickel compounds	1	P†	–
1,2-Diphenylhydrazine	–	P	–	Nitrilotriacetic acid	–	P	–
2,4-D isopropyl ester‡	2B	–	–	Nitrobenzene	2B	–	–
2,4-DP‡	2B	–	–	4-Nitrobiphenyl	–	–	Z
2,4-D propylene glycol butyl ether ester‡	2B	–	–	Nitrofen	2B	P	–
2,4-D sodium salt‡	2B	–	–	Nitrogen mustard	2A	–	–
Epichlorohydrin	2A	P	–	2-Nitropropane	2B	P	–
Ethyl acrylate	2B	P	–	N-Nitrosodi-n-butylamine	2B	P	–
Ethyleneimine	–	–	Z	N-Nitrosodiethylamine	2A	P	–

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‡*Chlorophenoxy herbicides (IARC 2B).*

Table C–1. Basis of OSHA Carcinogen Listing for Individual Chemicals *(continued)*

Chemical	IARC	NTP	OSHA-Z	Chemical	IARC	NTP	OSHA-Z
N-Nitrosodimethylamine	2A	P	Z	Potassium bromate	2B	–	–
N-Nitrosodi-n-propylamine	2B	P	–	Propane sultone	2B	P	–
N-Nitroso-N-ethylurea	2A	P	–	beta-Propiolactone	2B	P	Z
N-Nitroso-N-methylurea	2A	P	–	Propyleneimine	2B	P	–
N-Nitrosomethylvinylamine	2B	P	–	Propylene oxide	2B	P	–
N-Nitrosomorpholine	2B	P	–	Saccharin (manufacturing)	2B	P	–
N-Nitrosonornicotine	2B	P	–	Safrole	2B	P	–
N-Nitrosopiperidine	2B	P	–	Sodium o-phenylphenoxide	2B	–	–
Pentachlorophenol	2B	–	–	Styrene	2B	–	–
Phenytoin	2B	P	–	Styrene oxide	2A	–	–
Polybrominated biphenyls (PBBs)	2B	P	–	Tetrachloroethylene	2B	P	–
Polychlorinated biphenyls (PCBs)	2A	P	–	Thioacetamide	2B	P	–
Polycyclic aromatic compounds (PACs):				4,4'-Thiodianiline	2B	P	–
Benz(a)anthracene	2A	P	–	Thiourea	2B	P	–
Benzo(b)fluoranthene	2B	P	–	Toluene-2,4-diisocyanate	2B	P	–
Benzo(j)fluoranthene	2B	P	–	Toluene-2,6-diisocyanate	2B	P	–
Benzo(k)fluoranthene	2B	–	–	Toluene diisocyanate (mixed isomers)	2B	P	–
Benzo(rst)pentaphene	2B	–	–	o-Toluidine	2B	P	–
Benzo(a)pyrene	2A	P	–	o-Toluidine hydrochloride	–	P	–
Dibenz(a,h)acridine	2A	P	–	Toxaphene	2B	P	–
Dibenz(a,j)acridine	2B	P	–	Trichloroethylene	2A	–	–
Dibenzo(a,h)anthracene	2B	P	–	2,4,6-Trichlorophenol	2B	P	–
7H–Dibenzo(c,g)carbazole	2B	P	–	1,2,3-Trichloropropane	2A	–	–
Dibenzo(a,e)pyrene	2B	P	–	Tris(2,3-dibromopropyl) phosphate	2A	P	–
Dibenzo(a,h)pyrene	2B	P	–	Trypan blue	2B	–	–
Dibenzo(a,l)pyrene	2B	P	–	Urethane	2B	P	–
7,12–Dimethylbenz(a) anthracene	2B	–	–	Vinyl acetate	2B	–	–
Indeno[1,2,3–cd]pyrene	2B	P	–	Vinyl bromide	2A	–	–
5–Methylchrysene	2B	P	–	Vinyl chloride	1	K	Z
1–Nitropyrene	2B	–	–	2,6-Xylidine	2B	–	–

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