Table 1. Chemicals evaluated in *IARC Monographs*, Volumes 1-20 for which there is *sufficient evidence* of carcinogenicity in experimental animals[1]

Compound	IARC Monograph volume and page number
A	
Acrylonitrile[1]	*19*, 73
Actinomycins	*10*, 29
Aflatoxins	*10*, 51
ortho-Aminozotoluene	*8*, 61
4-Aminobiphenyl	*1*, 74
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	*7*,143
Amitrole	*7*, 31
Aramite	*5*, 39
Asbestos	*14*
Azaserine	*10*, 73
B	
Benz[*a*]anthracene	*3*, 45
Benzidine	*1*, 80
Benzo[*b*]fluoranthene	*3*, 69
Benzo[*a*]pyrene	*3*, 91
Benzyl violet 4B	*16*,153
Beryllium	*1*, 17
Beryllium oxide	*1*, 17
Beryllium phosphate	*1*, 17
Beryllium sulphate	*1*, 17
Bis(chloromethyl)ether	*4*,231
β-Butyrolactone	*11*,225

[1] Chemicals with data on cancer in humans appear in italics.

Compound	IARC Monograph volume and page number
C	
Cadmium	*2*, 74; *11*, 39
Cadmium chloride	*2*, 74; *11*, 39
Cadmium oxide	*2*, 74; *11*, 39
Cadmium sulphate	*2*, 74; *11*, 39
Cadmium sulphide	*2*, 74; *11*, 39
Calcium chromate	*2*,100
Carbon tetrachloride	*1*, 53; *20*
Chlorambucil	*9*,125
Chlordecone (Kepone)	*20*
Chloroform	*20*
Chromium	*2*,100
Citrus red no. 2	*8*,101
Cycasin	*1*,157; *10*,121
Cyclophosphamide	*9*,135
D	
Daunomycin	*10*,145
N,N'-Diacetylbenzidine	*16*,293
4,4'-Diaminodiphenyl ether	*16*,301
2,4-Diaminotoluene	*16*, 83
Dibenz[*a*,*h*]acridine	*3*,247
Dibenz[*a*,*j*]acridine	*3*,254
Dibenz[*a*,*h*]anthracene	*3*,178
7H-Dibenzo[*c*,*g*]carbazole	*3*,260
Dibenzo[*a*,*e*]pyrene	*3*,201
Dibenzo[*a*,*h*]pyrene	*3*,207
Dibenzo[*a*,*i*]pyrene	*3*,215
1,2-Dibromo-3-chloropropane	*15*,139; *20*
3,3'-Dichlorobenzidine	*4*, 49
3,3'-Dichloro-4,4'-diaminodiphenyl ether	*16*,309
1,2-Dichloroethane	*20*
Diepoxybutane	*11*,115
1,2-Diethylhydrazine	*4*,153
Diethylstilboestrol	*6*, 55; *20*
Diethyl sulphate	*4*,277
Dihydrosafrole	*1*,170; *10*,233
3,3'-Dimethoxybenzidine (*ortho*-Dianisidine)	*4*, 41
para-Dimethylaminoazobenzene	*8*,125
trans-2[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole	*7*,147
3,3'-Dimethylbenzidine (*ortho*-Tolidine)	*1*, 87
Dimethylcarbamoyl chloride	*12*, 77
1,1-Dimethylhydrazine	*4*,137
1,2-Dimethylhydrazine	*4*,145
Dimethyl sulphate	*4*,271
1,4-Dioxane	*11*,247

Compound	IARC Monograph volume and page number
E	
Ethinyloestradiol	*6*, 77
Ethylene dibromide	*15*,195
Ethylenethiourea	*7*, 45
Ethyl methanesulphonate	*7*,245
F	
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl) thiazole	*7*,151
G	
Glycidaldehyde	*11*,175
H	
Hexachlorobenzene	*20*
Hexamethylphosphoramide	*15*,211
Hydrazine	*4*,127
I	
Indeno[1,2,3-*cd*]pyrene	*3*,229
Iron dextran	*2*,161
Isosafrole	*1*,169; *10*,232
L	
Lasiocarpine	*10*,281
Lead acetate	*1*, 40
Lead phosphate	*1*, 40
Lead subacetate	*1*, 40
M	
Melphalan	*9*,167
Merphalan	*9*,167
Mestranol	*6*, 87
2-Methylaziridine	*9*, 61
Methylazoxymethanol acetate	*1*,164; *10*,131
4,4'-Methylene bis(2-chloroaniline)	*4*, 65
4,4'-Methylene bis(2-methylaniline)	*4*, 73
Methyl iodide	*15*,245
Methyl methanesulphonate	*7*,253
N-Methyl-N'-nitro-N-nitrosoguanidine	*4*,183
Methylthiouracil	*7*, 53
Mirex	*5*,203; *20*

Compound	IARC Monograph volume and page number
Mitomycin C	*10*,171
Monocrotaline	*10*,291
5-(Morpholinomethyl)-3-[(5-nitro-furfurylidene)-amino]-2-oxazolidinone	*7*,161
N	
2-Naphthylamine	*4*, 97
Nickel	*2*,126; *11*, 75
Nickel subsulphide	*2*,126; *11*, 75
Niridazole	*13*,123
5-Nitroacenaphthene	*16*,319
1-[(5-Nitrofurfurylidene)amino]-2-imidazolidinone	*7*,181
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	*1*,181; *7*,185
Nitrogen mustard and its hydrochloride	*9*,193
Nitrogen mustard N-oxide and its hydrochloride	*9*,209
N-Nitrosodi-*n*-butylamine	*4*,197; *17*, 51
N-Nitrosodiethanolamine	*17*, 77
N-Nitrosodiethylamine	*1*,107; *17*, 83
N-Nitrosodimethylamine	*1*, 95; *17*,125
N-Nitrosodi-*n*-propylamine	*17*,177
N-Nitroso-N-ethylurea	*1*,135; *17*,191
N-Nitrosomethylethylamine	*17*,221
N-Nitroso-N-methylurea	*1*,125; *17*,227
N-Nitroso-N-methylurethane	*4*,211
N-Nitrosomethylvinylamine	*17*,257
N-Nitrosomorpholine	*17*,263
N-Nitrosonornicotine	*17*,281
N-Nitrosopiperidine	*17*,287
N-Nitrosopyrrolidine	*17*,313
N-Nitrososarcosine	*17*,327
O	
Oestradiol-17β	*6*, 99
Oestrone	*6*,123
Oil orange SS	*8*,165
P	
Polychlorinated biphenyls	*18*, 43
Ponceau MX	*8*,189
Ponceau 3R	*8*,199
1,3-Propane sultone	*4*,253
β-Propiolactone	*4*,259
Propylthiouracil	*7*, 67

Table 2. Chemicals from IARC Monographs Volumes 1-20 with evidence from human studies which were not considered by the Working Group.

ortho- and *para*-Dichlorobenzene
Dichlorobenzidine
Phenylbutazone
2,3,7,8-Tetrachlorodibenzo-*para*-dioxin (TCDD)
ortho- and *para*-Toluidine
Vinylidene chloride

Table 3. Classification of the degree of evidence of carcinogenicity for humans of chemicals or industrial processes from *IARC Monographs Volumes 1-20*

Chemical or process	Degree of evidence[a]		Evaluation[b] of carcinogenic risk to humans
	In humans	In experimental animals	
1. Acrylonitrile	limited	sufficient	2B
2. Aflatoxins	limited	sufficient	2A
3. 4-Aminobiphenyl	sufficient	sufficient	1
4. Amitrole (aminotriazole)	inadequate	sufficient	2B
5. Arsenic and certain arsenic compounds	sufficient	inadequate	1
6. Asbestos	sufficient	sufficient	1
7. Auramine[d]	limited	limited	2B
8. Manufacture of auramine	sufficient	not applicable[e]	1
9. Benzene	sufficient	inadequate	1
10. Benzidine	sufficient	sufficient	1
11. Beryllium and certain beryllium compounds[c]	limited	sufficient	2B
12. *N,N*-Bis (2-chloroethyl)-2-naphthylamine (chlornaphazine)	sufficient	limited	1
13. Bis(chloromethyl)ether and technical grade chloromethyl methyl ether	sufficient	sufficient	1
14. Cadmium and certain cadmium compounds[c]	limited	sufficient	2A
15. Carbon tetrachloride	inadequate	sufficient	2B
16. Chlorambucil	limited	sufficient	2A
17. Chloramphenicol	inadequate	no data	3

Table 3 - continued

Chemical or process	Degree of evidence[a]		Evaluation[b] of carcinogenic risk to humans
	In humans	In experimental animals	
18. Chlordane and heptachlor	inadequate	limited	3
19. Chloroprene	inadequate	inadequate	3
20. Chromium and certain chromium compounds[c]	sufficient	sufficient	1
21. Cyclophosphamide	limited	sufficient	2A
22. Dichlorodiphenyltrichloroethane (DDT)	inadequate	limited	3
23. Dieldrin	inadequate	limited	3
24. Diethylstilboestrol	sufficient	sufficient	1
25. Dimethylcarbamoyl chloride	inadequate	sufficient	2B
26. Dimethyl sulphate	inadequate	sufficient	2B
27. Epichlorohydrin	inadequate	limited	3
28. Ethylene oxide	limited	inadequate	2B
29. Haematite[d]	inadequate	negative	3
30. Underground haematite mining	sufficient	not applicable[e]	1
31. Hexachlorocyclohexane (technical HCH & lindane)	inadequate	limited	3
32. Iron dextran	inadequate	sufficient	2B
33. Isoniazid	inadequate	limited	3
34. Isopropyl oils[c,d]	inadequate	inadequate	3

Table 3 - continued

Chemical or process	Degree of evidence[a]		Evaluation[b] of carcinogenic risk to humans
	In humans	In experimental animals	
35. Manufacture of isopropyl alcohol (strong acid process)	sufficient	not applicable[e]	1
36. Lead and certain lead compounds[c]	inadequate	sufficient (for some soluble salts)	3
37. Melphalan	sufficient	sufficient	1
38. Mustard gas	sufficient	limited	1
39. 2-Naphthylamine	sufficient	sufficient	1
40. Nickel and certain nickel compounds[c,d]	limited	sufficient	2A
41. Nickel refining	sufficient	not applicable[e]	1
42. Oxymetholone	limited	no data	2B
43. Phenacetin	limited	limited	2B
44. Phenobarbitone	limited	limited	3
45. *N*-Phenyl-2-naphthylamine	inadequate	inadequate	3
46. Phenytoin	limited	limited	3
47. Polychlorinated biphenyls	inadequate	sufficient	2B
48. Reserpine	inadequate	inadequate	3
49. Soots, tars and mineral oils[c]	sufficient	sufficient	1
50. Styrene	inadequate	limited	3
51. Trichloroethylene	inadequate	limited	3
52. Tris(aziridinyl)*para*-benzoquinone (triaziquone)	inadequate	limited	3

Table 3 - continued

Chemical or process	Degree of evidence[a]		Evaluation[b] of carcinogenic risk to humans
	In humans	In experimental animals	
53. Tris(1-aziridinyl)phosphine sulphide (thiotepa)	limited	sufficient	2A
54. Vinyl chloride	sufficient	sufficient	1

[a] For an explanation of the categories of *Degree of Evidence*, see Methods.

[b] For an explanation of the categories of *carcinogenic risk to humans*, see Methods.

[c] The specific compounds which may be responsible for a carcinogenic effect cannot be specified precisely.

[d] Please refer to section on industrial processes, and to the evaluations in the appendix.

[e] It is difficult to expose experimental animals to the same conditions to which workers are exposed, therefore no animal data are available.