

OSHA HAZARD COMMUNICATION
COMPLIANCE CHECKLIST
FOR MANUFACTURING OPERATIONS

1. Designate individual who will coordinate facility compliance with this standard; advise Corporate Medical Services. *V. WAYLON LITTON*
2. Compile a list of all chemical materials (including crude oil, coal and natural gas products) used and produced at the facility, indicating those materials meeting the OSHA definition of a "hazardous chemical" (see attached Classification Guide). Submit this list to Corporate Medical Services for review and any necessary assistance in identification of hazardous chemicals.
3. Request Material Safety Data Sheets (MSDS's) through Purchasing Department using attached form, for those hazardous chemicals for which a current MSDS is not on hand.
4. Purchasing Department will request MSDS's from suppliers and confirm this in writing to the facility.
5. Develop method for communicating hazards of known hazardous process intermediates either by means of MSDS or written operating procedures.
6. Request Kerr-McGee MSDS's for all finished products through appropriate divisional or subsidiary contact (if necessary).
7. Establish master MSDS file and develop system whereby copies of applicable MSDS's are available to potentially exposed employees during each work shift in their work areas.

8. Develop list(s) of hazardous chemicals on the site, either on a facility-wide basis or by department or work area. List(s) must be consistent with MSDS terminology.
9. Develop system for monitoring of incoming containers of hazardous materials for proper labels, tags or markings which specify chemical identity and hazard warnings.
10. Develop a system whereby the identity and hazardous properties of the contents of any container* in the workplace are communicated to potentially exposed employees. (Note: This may be accomplished by means of labels, tags, markings, signs, placards, batch tickets or written operating procedures.)
11. Develop a system for communicating to potentially exposed employees the hazards and identity of hazardous chemicals contained in unlabelled pipelines. (Note: Pipe markers, if used for this purpose, must describe hazards as well as contents.)
12. Develop written procedures for non-routine tasks (e.g., confined space entry, pipeline breaking, emergencies) which will convey to the employees performing these tasks the required information on hazardous chemicals that may be encountered.

*"Container" means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank or the like that contains a hazardous chemical. Pipelines and containers intended for immediate transfer of contents are excluded.

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13. Develop system to inform contractors of the identity and hazards of hazardous chemicals to which their employees may be exposed while working on the site (if applicable). (Note: This should include a procedure governing the facility relationship with contractors and their employees.)
14. Develop written descriptions of any existing industrial hygiene survey, monitoring program, or respiratory protection program, where any of these are applicable.
15. Develop a comprehensive employee training program which covers all of the above items and item (16), below. Establish training schedules whereby affected employees will be trained at the time of their initial assignment and whenever a new hazardous chemical is introduced into their work area.
16. Develop a written hazard communication program either on a facility-wide, or departmental basis. Program should include all applicable documents mentioned above, and methods for documenting all required activities. (Note: A model program will be provided in the near future.)
17. Develop a system whereby required information on hazardous chemicals, including trade secrets if necessary, will be made "immediately" available to health professionals treating a patient in a medical emergency. (Note: Further guidance on this subject will be forthcoming, following a review by the Corporate Law Department.)
18. Develop retrieval system whereby all written material developed in conjunction with this program, with the exception of trade secrets, is made available on request to employees, their designated representative, or an OSHA inspector.

19. Complete required initial training of all current employees.
20. Post list(s) of hazardous chemicals and make MSDS's available, if not already done.

HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Acetaldehyde	X	X		
Acetic acid	X	X		
Acetic anhydride	X	X		
Acetone	X	X		
Acetonitrile	X	X		
2-Acetylaminofluorene	X			
Acetylene		X		
2-Acetylaminofluorene			X	
Acetylene dichloride, see 1, 2-Dichloroethylene				
Acetylene tetrabromide	X	X		
Acetylsalicylic acid (Asprin)		X		
Acrolein	X	X		
Acrylamide	X	X		
Acrylic acid		X		
Acrylonitrile	X	X	X	X
Adriamycin				X
Aflatoxins			X	X
Aldrin	X	X		
Allyl alcohol	X	X		
Allyl chloride	X	X		
Allyl glycidyl ether (AGE)	X	X		
Allyl propyl disulfide	X	X		
alpha-Alumina		X		
Aluminum		X		
Metal & oxide		X		
Pyro powders		X		
Welding fumes		X		
Soluble salts		X		
Alkyls (NOC)		X		
2-Aminoanthraquinone			X	
o-Aminoazotoluene				X
4-Aminobiphenyl, see 4-Aminodiphenyl				
4-Aminodiphenyl	X	X	X	X
2-Aminoethanol, see Ethanolamine				
1-Amino-2-methylantraquinone			X	
2-Aminopyridine	X	X		
2-Amino-5(5-nitro-2-furyl)-1,3,4-thiadiazole				X
3-Amino 1, 2, 4-triazole, see Amitrole				
Amitrole		X	X	X
Ammonia	X	X		
Ammonium chloride fume		X		
Ammonium sulfamate (Ammate)	X	X		
n-Amyl acetate	X	X		
sec-Amyl acetate	X	X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Aniline & homologues	X	X		
Anisidine (o-,p-isomers)	X	X		
o-Anisidine			X	X
o-Anisidine hydrochloride			X	
Antimony & compounds, as Sb	X	X		
Antimony trioxide		X		
Handling and use, as Sb		X		
Production		X		
ANTU (alpha naphthyl thiourea)	X	X		
Aramite ®			X	X
Argon		X		
Arsenic & soluble compounds, as As	X	X	X	
Arsenic trioxide production		X		
Arsine	X	X		
Asbestos, also see MINERAL DUSTS, page 22	X	X	X	X
Asphalt (petroleum) fumes		X		
Atrazine		X		
Auramine manufacture			X	
Azaserine				X
Azinphosmethyl (Guthion®)	X	X		
Barium, soluble compounds, as Ba	X	X		
BCNU (bischloroethyl nitrosourea)				X
Benomyl		X		
Benz(a)anthracene			X	X
Benzene	X	X	X	
Benzidine	X	X	X	X
p-Benzoquinone, see Quinone				
Benzo(b)fluoranthene			X	X
Benzo(a)pyrene		X	X	X
Benzoyl peroxide	X	X		
Benzotrichloride				X
Benzyl chloride	X	X		
Benzyl violet 4B				X
Beryllium and beryllium compounds	X	X	X	X
Biphenyl, see Diphenyl				
Bismuth telluride		X		
Se-doped		X		
Borates, tetra, sodium salts,		X		
Anhydrous		X		
Decahydrate		X		
Pentahydrate		X		
Boron oxide	X	X		
Boron tribromide		X		
Boron trifluoride	X	X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Bromacil		X		
Bromine	X	X		
Bromine pentafluoride		X		
Bromochloromethane, see Chlorobromomethane				
Bromoform	X	X		
1,3-Butadiene	X	X		
Butane		X		
Butanethiol, see Butyl mercaptan				
2-Butanone, see Methyl ethyl ketone (MEK)				
2-Butoxyethanol (Butyl Cellosolve)	X	X		
n-Butyl acetate	X	X		
sec-Butyl acetate	X	X		
tert-Butyl acetate	X	X		
Butyl acrylate		X		
n-Butyl alcohol	X	X		
sec-Butyl alcohol	X	X		
tert-Butyl alcohol	X	X		
Butylamine	X	X		
tert-Butyl chromate, as CrO ₃	X	X		
n-Butyl glycidyl ether (BGE)	X	X		
n-Butyl lactate		X		
Butyl mercaptan (Butanethiol)	X	X		
alpha-sec-Butylphenol		X		
p-tert-Butyltoluene	X	X		
beta-Butyrolactone				X
Cadmium Dust & salts, as Cd	X	X	X	
Cadmium Chloride				X
Cadmium oxide		X		X
Fume, as Cd	X	X		
Production		X		
Cadmium sulfate				X
Cadmium sulfide				X
Calcium carbonate/marble		X		
Calcium chromate				X
Calcium cyanamide		X		
Calcium hydroxide		X		
Calcium oxide	X	X		
Calcium silicate		X		
Camphor, synthetic	X	X		
Caprolactam		X		
Dust		X		
Vapor		X		
Captafol		X		
Captan		X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Carbaryl (Sevin®)	X	X		
Carbofuran		X		
Carbon black	X	X		
Carbon dioxide	X	X		
Carbon disulfide	X	X		
Carbon monoxide	X	X		
Carbon tetrabromide		X		
Carbon tetrachloride	X	X	X	X
Carbonyl chloride, see Phosgene				
Carbonyl fluoride		X		
Catechol (Pyrocatechol)		X		
CCNU (1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea)				X
Cellulose (paper fiber)		X		
Cesium hydroxide		X		
Chlorambucil			X	X
Chlordane	X	X		
Chlordecone, see Kepone®				
Chlorinated camphene	X	X	X	X
Chlorinated diphenyl oxide	X	X		
Chlorine	X	X		
Chlorine dioxide	X	X		
Chlorine trifluoride	X	X		
Chlornaphazine			X	
Chloroacetaldehyde	X	X		
alpha-Chloroacetophenone (Phenacyl chloride)	X	X		
Chloroacetyl chloride		X		
Chlorobenzene (Monochlorobenzene)	X	X		
o-Chlorobenzylidene malononitrile (OCBM)	X	X		
Chlorobromomethane (Bromochloromethane)	X	X		
2-Chloro-1,3-butadiene, see B-Chloroprene				
Chlorodifluoromethane		X		
1-Chloro, 2, 3-epoxy-propane, see Epichlorohydrin				
2-Chloroethanol, see Ethylene chlorohydrin				
N, N-bis (2-chloroethyl)-2-naphthylamine, see Chlornaphazine				
Chloroethylene, see Vinyl chloride				
Chloroform (trichloromethane)	X	X	X	X
bis-Chloromethyl ether	X	X	X	X
Chloromethyl methyl ether, technical grade		X	X	X
1-Chloro-1-nitropropane	X	X		
Chloropentafluoroethane		X		
4-Chloro-o-phenylenediamine				X
Chloropicrin (nitrotrichloromethane)	X	X		
B-Chloroprene (2-chloro-1,3-butadiene)	X	X		
o-Chlorostyrene		X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD
COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
o-Chlorotoluene		X		
2-Chloro-6-(trichloromethyl) pyridine, see Nitrapyrin				
Chlorpyrifos		X		
Chromic acid and chromates	X	X		
Chromite ore processing (Chromate), as Cr		X		
Chromium Metal	X	X	X	
Chromium (II) compounds, as Cr	X	X	X	
Chromium (III) compounds, as Cr	X	X	X	
Chromium (VI) compounds, as Cr	X	X	X	
Water soluble	X	X	X	
Certain water insoluble	X	X	X	
Chromyl chloride		X		
Chrysene		X		
Citrus Red No. 2				X
Clopidol		X		
Coal dust, see MINERAL DUSTS, page 22				
Coal tar pitch volatiles	X	X		
(as benzene soluble fractions; anthracene, BaP, phenanthrene, acridine, chrysene, pyrene)				
Cobalt, as Co metal, dust & fume	X	X		
Cobalt carbonyl, as Co		X		
Cobalt hydrocarbonyl, as Co		X		
Coke oven emissions	X		X	
Copper				
Fume	X	X		
Dusts & mists, as Cu	X	X		
Cotton dust, raw	X	X		
Crag® herbicide	X			
p-Cresidine			X	X
Cresol, all isomeres	X	X		
Crotonaldehyde	X	X		
Crufomate		X		
Cumene	X	X		
Cupferron			X	
Cyanamide		X		
Cyanides, as CN	X	X		
Cyanogen		X		
Cyanogen chloride		X		
Cycasin			X	X
Cyclohexane	X	X		
Cyclohexanol	X	X		
Cyclohexanone	X	X		
Cyclohexene	X	X		
Cyclohexylamine		X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Cyclonite		X		
Cyclopentadiene	X	X		
Cyclopentane		X		
Cyclophosphamide			X	X
Cyhexatin		X		
2,4-D	X	X		
DDT (Dichlorodiphenyltrichloroethane)	X			X
DDVP	X			X
Dacarbazine				X
Daunomycin				X
Decaborane	X	X		
Demeton®	X	X		
Diacetone alcohol (4-hydroxy-4 methyl-2-pentanone)	X	X		X
N,N'-Diacetylbenzidine			X	X
2,4-Diaminoanisole sulfate			X	X
4,4'-Diaminodiphenyl ether				X
1,2-Diaminoethane, see Ethylenediamine				
2,4-Diaminotoluene			X	X
Diazinon		X		
Diazomethane	X	X		
Dibenz (a,h) acridine			X	X
Dibenz (a,j) acridine			X	X
Dibenz (a,h) anthracene			X	X
7H-Dibenzo (c,g) carbazole			X	X
Dibenzo (a,e) pyrene				X
Dibenzo (a,h) pyrene			X	X
Dibenzo (a,i) pyrene			X	X
Diborane	X	X		
1,2 Dibromo-3-Chloropropane	X		X	X
1,2-Dibromoethane, see Ethylene dibromide				
2-N-Dibutylaminoethanol		X		
Dibutyl phosphate	X	X		
Dibutyl phthalate	X	X		
Dichloroacetylene		X		
o-Dichlorobenzene	X	X		
p-Dichlorobenzene	X	X		
3,3'-Dichlorobenzidine (and its salts)	X	X	X	X
3,3'-Dichloro-4,4'-diaminodiphenyl ether				X
Dichlorodifluoromethane	X	X		
1,3-Dichloro-5,5-dimethyl hydantoin	X	X		
1,1-Dichloroethane (Ethyldene chloride)	X	X		
1,2-Dichloroethane, see Ethylene dichloride				
1,1-Dichloroethylene, see Vinylidene chloride				
1,2-Dichloroethylene (Acetylene dichloride)	X	X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD
COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Dichloroethyl ether	X	X		
Dichlorofluoromethane		X		
Dichloromethane, see Methylene chloride				
Dichloromonofluoromethane	X			
1,1-Dichloro-1-nitroethane	X	X		
1,2-Dichloropropane, see Propylene dichloride				
Dichloropropene		X		
2,2-Dichloropropionic acid		X		
Dichlorotetrafluoroethane	X	X		
Dichlorvos		X		
Dicrotophos		X		
Dicyclopentadiene		X		
Dicyclopentadienyl iron		X		
Dieldrin	X	X		
Diepoxybutane			X	X
Diethanolamine		X		
Diethylamine	X	X		
Diethylaminoethanol	X	X		
Diethylene triamine		X		
Diethyl ether, see Ethyl ether				
Di (2-ethylhexyl) phthalate			X	X
1,2-Diethylhydrazine				X
Diethyl ketone		X		
Diethyl phthalate		X		
Diethylstilbestrol			X	X
Diethyl sulfate				X
Difluorodibromomethane	X	X		
Diglycidyl ether (DGE)	X	X		
Dihydroxybenzene, see Hydroquinone				
Dihydrosafrole				X
Diisobutyl ketone (2,6-Dimethyl-4-heptanone)	X	X		
Diisopropylamine	X	X		
3, 3'-Dimethoxybenzidine (o-Dianisidine)			X	X
Dimethoxymethane, see Methylal				
Dimethyl acetamide	X	X		
Dimethylamine	X	X		
p-Dimethylaminoazobenzene	X		X	X
Dimethylaminobenzene, see Xylidene				
trans-2 [(Dimethylamino)methyliminol-5-[2-(5-nitro-2-furyl)vinyl]- 1,3,4-oxadiazole				X
Dimethylaniline (N, N-Dimethylaniline)	X	X		
Dimethylbenzene, see Xylene				
3,3'-Dimethylbenzidine (o-Tolidine)			X	X
Dimethyl carbamyl chloride		X	X	X
Dimethyl-1,2-dibromo-2-dichloroethyl phosphate, See Naled (Dibrom)				

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Dimethylformamide	X	X		
2,6-Dimethyl-4-heptanone, see Diisobutyl ketone				
1,1-Dimethylhydrazine	X	X		X
1,2-Dimethylhydrazine				X
Dimethylphthalate	X	X		
Dimethyl sulfate	X	X	X	X
Dinitolmide (3,5-Dinitro-o-toluidide)		X		
Dinitrobenzene (all isomers)	X	X		
Dinitro-o-cresol	X	X		
3,5-Dinitro-o-toluidide, see Dinitolmide				
Dinitrotoluene	X	X		
1,4-Dioxane, tech. grade (Diethylene dioxide)	X	X	X	X
Dioxathion		X		
Diphenyl (Biphenyl)	X	X		
Diphenylamine		X		
Diphenylmethane diisocyanate, See Methylene bisphenyl isocyanate (MDI)				
Dipropylene glycol methyl ether	X	X		
Dipropyl ketone		X		
Diquat		X		
Direct Black 38			X	X
Direct Blue 6			X	X
Di-sec, octyl phthalate (Di-2-ethylhexylphthalate)	X	X		
Disulfiram		X		
Disulfoton		X		
2,6-Ditert. butyl-p-cresol		X		
Diuron		X		
Divinyl benzene		X		
Emery		X		
Endosulfan		X		
Endrin	X	X		
Epichlorohydrin (1-Chloro,2,3-epoxy-propane)	X	X		X
EPN	X	X		
1,2-Epoxypropane, see Propylene oxide				
2,3-Epoxy-1-propanol, see Glycidol				
Ethane		X		
Ethanethiol, see Ethyl mercaptan				
Ethanolamine (2-Aminoethanol)	X	X		
Ethinylloestradiol				X
Ethion		X		
2-Ethoxyethanol (Glycol monoethyl ether)	X	X		
2-Ethoxyethyl acetate (cellosolve acetate)	X	X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Ethyl acetate	X	X		
Ethyl acrylate	X	X		
Ethyl alcohol (Ethanol)	X	X		
Ethylamine	X	X		
Ethyl amyl ketone (5-methyl-3-heptanone)	X	X		
Ethyl benzene	X	X		
Ethyl bromide	X	X		
Ethyl butyl ketone (3-heptanone)	X	X		
Ethyl chloride	X	X		
Ethylene		X		
Ethylene chlorohydrin (2 Chloroethanol)	X	X		
Ethylenediamine (1,2 Diaminoethane)	X	X		
Ethylene dibromide (1,2 Dibromoethane)	X	X	X	X
Ethylene dichloride (1,2 Dichloroethane)	X	X	X	X
Ethylene glycol				
Particulate		X		
Vapor		X		
Ethylene glycol dinitrate and/or Nitroglycerin	X	X		
Ethylene glycol methyl ether acetate, see 2-Methoxyethyl acetate				
Ethylene oxide	X	X		
Ethyleneimine	X	X		
Ethylene thiourea			X	X
Ethyl ether (Diethyl ether)	X	X		
Ethyl formate	X	X		
Ethylidene chloride, see 1,1-Dichloroethane				
Ethylidene norbornene		X		
Ethyl mercaptan (Ethanethiol)	X	X		
Ethyl methanesulfonate				X
N-Ethylmorpholine	X	X		
Ethyl silicate	X	X		
Fensulfothion		X		
Fenthion		X		
Ferbam	X	X		
Ferrovanadium dust	X	X		
Fibrous glass dust (Glass, fibrous or dust)		X		
Fluorides, as F	X	X		
Fluorine	X	X		
Fluorotrichloromethane, see Trichlorofluoromethane				
Fonofos		X		
Formaldehyde	X	X	X	
Formaldehyde gas				X
Formamide		X		

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SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Formic acid	X	X		
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole				X
Furfural	X	X		
Furfuryl alcohol	X	X		
Gasoline		X		
Germanium tetrahydride		X		
Glass, fibrous or dust, see Fibrous glass dust				
Glutaraldehyde		X		
Glycerin mist		X		
Glycidaldehyde				X
Glycidol (2,3-Epoxy-1-propanol)	X	X		
Glycol monoethyl ether, see 2-Ethoxyethanol				
Graphite (Natural), see MINERAL DUSTS, page 22				
Graphite (Synthetic)		X		
Guthion®, see Azinphosmethyl				
Gypsum		X		
Hafnium	X	X		
Helium		X		
Hematite underground mining			X	
Heptachlor	X	X		
Heptane (n-Heptane)	X	X		
2-Heptanone, see Methyl n-amyl ketone				
3-Heptanone, see Ethyl butyl ketone				
Hexachlorobenzene			X	X
Hexachlorobutadiene		X		
Hexachlorocyclohexane isomers			X	
Hexachlorocyclopentadiene		X		
Hexachloroethane	X	X		
Hexachloronophthalene	X	X		
Hexafluoroacetone		X		
Hexamethyl phosphoramide		X		X
Hexane (n-Hexane)	X	X		
Other isomers		X		
2-Hexanone, see Methyl n-butyl ketone				
Hexone, see Methyl isobutyl ketone				
sec-Hexyl acetate	X	X		
Hexylene glycol		X		
Hydrazine	X	X	X	X
Hydrazine sulfate			X	
Hydrazobenzene			X	
Hydrogen		X		
Hydrogenated terphenyls		X		
Hydrogen bromide	X	X		
Hydrogen chloride	X	X		

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SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Hydrogen cyanide	X	X		
Hydrogen fluoride, as F		X		
Hydrogen peroxide	X	X		
Hydrogen selenide, as Se	X	X		
Hydrogen sulfide	X	X		
Hydroquinone (Dihydroxybenzene)	X	X		
4-Hydroxy-4-methyl-2-pentanone, see Diacetone alcohol				
2-Hydroxypropyl acrylate		X		
Indene		X		
Indeno (1,2-cd) pyrene				X
Indeno (1,2,3-cd) pyrene			X	
Indium & compounds, as In		X		
Inert (nuisance) dust, see MINERAL DUSTS, page 22				
Iodine	X	X		
Iodoform		X		
Iron dextran complex			X	X
Iron oxide fume (Fe ₂ O ₃), as Fe	X	X		
Iron pentacarbonyl, as Fe		X		
Iron salts, soluble, as Fe		X		
Isoamyl acetate	X	X		
Isoamyl alcohol	X	X		
Isobutyl acetate	X	X		
Isobutyl alcohol	X	X		
Isooctyl alcohol		X		
Isophorone	X	X		
Isophorone diisocyanate		X		
Isopropoxyethanol		X		
Isopropyl acetate	X	X		
Isopropyl alcohol	X	X		
Isopropylamine	X	X		
Manufacture (strong-acid process)			X	
N-Isopropylaniline		X		
Isopropyl ether	X	X		
Isopropyl glycidyl ether (IGE)	X	X		
Isosafrole				X
Kaolin		X		
Kepone® (Chlordecone)			X	X
Ketene	X	X		
Lasiocarpine				X
Lead, inorg., dusts & fumes, as Pb	X	X		
Lead acetate			X	X
Lead arsenate, as Pb ₃ (AsO ₄) ₂		X		
Lead chromate, as Cr		X		X

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SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Lead phosphate			X	X
Lead subacetate				X
Limestone		X		
Lindane	X	X	X	
Lithium hydride	X	X		
L.P.G. (Liquified petroleum gas)	X	X		
Magnesite		X		
Magnesium oxide fume	X	X		
Malathion	X	X		
Maleic anhydride	X	X		
Manganese, as Mn; Dust & compounds	X	X		
Fume	X	X		
Manganese cyclopentadienyl tricarbonyl, as Mn		X		
Manganese tetroxide		X		
Marble/calcium carbonate		X		
Melphalan			X	X
Mercury, as Hg; Alkyl compounds	X	X		
All forms except alkyl; Vapor	X	X		
Aryl & inorganic compounds	X	X		
Merphalan				X
Mesityl oxide	X	X		
Mestranol				X
Methacrylic acid		X		
Methane		X		
Methanethiol, see Methyl mercaptan				
Methomyl		X		
Methoxsalen with ultra-violet A therapy (PUVA)				X
Methoxychlor	X	X		
2-Methoxyethanol, see Methyl cellosolve				
2-Methoxyethyl acetate (Ethylene glycol methyl ether acetate)		X		
4-Methoxyphenol		X		
Methyl acetate	X	X		
Methyl acetylene (propyne)	X	X		
Methyl acetylene-propadiene mixture (MAPP)	X	X		
Methyl acrylate	X	X		
Methylacrylonitrile		X		
Methylal (Dimethoxymethane)		X		
Methyl alcohol (methanol)	X	X		
Methylamine	X	X		
Methyl amyl alcohol, see Methyl isobutyl carbinol				
Methyl n-amyl ketone (2-Heptanone)	X	X		
N-Methyl aniline		X		
2-Methylaziridine				X
Methylazoxymethanol and its acetate				X

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD
COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Methyl bromide	X	X		
Methyl n-butyl ketone (2-Hexanone)	X	X		
Methyl cellosolve (2-Methoxyethanol)	X			
Methyl cellosolve acetate	X			
Methyl chloride	X	X		
Methyl chloromethyl ether	X			
Methyl chloroform	X	X		
Methyl 2-cyanoacrylate		X		
Methylcyclohexane	X	X		
Methylcyclohexanol		X		
o-Methylcyclohexanone	X	X		
Methylcyclopentadienyl manganese tricarbonyl, as Mn		X		
Methyl demeton		X		
Methylene bisphenyl isocyanate (MDI) (Diphenyl methane diisocyanate)	X	X		
Methylene chloride (Dichloromethane)	X	X		
4,4'-Methylene bis (2-chloroaniline) (MOCA)		X	X	X
Methylene bis (4-cyclohexylisocyanate)		X		
4,4'-Methylene bis (N,N-dimethyl) benzenamine			X	
4,4'-Methylene bis (2-methylaniline)				X
4,4-Methylene dianiline		X		
Methyl ethyl ketone (MEK) (2-Butanone)	X	X		
Methyl ethyl ketone peroxide		X		
Methyl formate	X	X		
5-Methyl-3-heptanone, see Ethyl amyl ketone				
Methyl hydrazine		X		
Methyl iodide	X	X		X
Methyl isoamyl ketone		X		
Methyl isobutyl carbinol (Methyl amyl alcohol)	X	X		
Methyl isobutyl ketone (MIBK) (Hexone)	X	X		
Methyl isocyanate	X	X		
Methyl isopropyl ketone		X		
Methyl mercaptan (Methanethiol)	X	X		
Methyl methacrylate	X	X		
Methyl methanesulfonate				X
2-Methyl-1-nitroanthraquinone (of uncertain purity)				X
N-Methyl-N'-nitro-N-nitrosoguanidine				X
Methyl parathion		X		
Methyl propyl ketone, see 2-Pentanone				
Methyl silicate		X		
a-Methyl styrene	X	X		
Methylthiouracil				X
Metronidazole				X
Mevinphos		X		

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SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Michler's ketone			X	
Mirex			X	X
Mitomycin C				X
Molybdenum, as Mo Soluble compounds	X	X		
Insoluble compounds	X	X		
Monocrotaline				X
Monocrotophos		X		
Monomethyl aniline	X			
Monomethyl hydrazine	X			
Morpholine	X	X		
5-(Morpholinomethyl)-3[(5-nitrofurfurylidene)amino]-2-oxazolidinone				X
Mustard gas, see Nitrogen mustard				
Nafenopin				X
Naled (Dimethyl-1,2-dibromo-2-dichloroethyl phosphate)		X		
Naphtha (coal tar)	X			
Naphthalene	X	X		
alpha-Naphthylamine	X			X
B-Naphthylamine	X	X		X
Neon		X		
Nickel				
Metal	X	X	X	
Soluble compounds, as Ni	X	X	X	
Nickel carbonyl, as Ni	X	X		
Nickel subsulfide				X
Nickel sulfide roasting, fume & dust, as Ni		X		
Nicotine	X	X		
Niridazole				X
Nitrapyrin (2-Chloro-6-(trichloromethyl)pyridine)		X		
Nitric acid	X	X		
Nitric oxide	X	X		
Nitrilotriacetic acid			X	
5-Nitroacenaphthene				X
p-Nitroaniline	X	X		
5-Nitro-o-anisidine			X	
Nitrobenzene	X	X		
4-Nitrobiphenyl	X			
p-Nitrochlorobenzene	X	X		
4-Nitrodiphenyl		X		
Nitroethane	X	X		
Nitrofen			X	
1-[(5-Nitrofurfurylidene)amino]-2-imidazolidinone				X
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide				X
Nitrogen dioxide	X	X		

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SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Nitrogen trifluoride	X	X		
Nitrogen mustard and Nitrogen mustard N-oxide				X
Nitroglycerin (NG)	X	X		
Nitromethane	X	X		
1-Nitropropane	X	X		
2-Nitropropane	X	X		X
N-Nitrosodi-n-butylamine			X	X
N-Nitrosodiethanolamine			X	X
N-Nitrosodiethylamine			X	X
N-Nitrosodimethylamine (dimethylnitrosoamine)	X	X	X	X
p-Nitrosodiphenylamine			X	
N-Nitrosodi-n-propylamine			X	X
N-Nitroso-N-ethylurea			X	X
N-Nitrosomethylethylamine				X
N-Nitroso-N-methylurea			X	X
N-Nitroso-N-methylurethane				X
N-Nitrosomethylvinylamine			X	X
N-Nitrosomorpholine			X	X
N-Nitrosornicotine			X	X
N-Nitrosopiperidine			X	X
N-Nitrosopyrrolidine			X	X
N-Nitrososarcosine			X	X
Nitrotoluene	X	X		
Nitrotrichloromethane, see Chloropicrin				
Nonane		X		
Norethisterone				X
Octachloronaphthalene	X	X		
Octane	X	X		X
Oestradiol-17B				X
Oestrone				X
Oil mist, mineral	X	X		
Oil orange SS				X
Osmium tetroxide, as Os	X	X		
Oxalic acid	X	X		
Oxygen difluoride	X	X		
Oxymetholone			X	
Ozone	X	X		
Panfuran S (Pihydroxymethylfuratrizine)				X
Paraffin wax fume		X		
Paraquate, respirable sizes	X	X		
Parathion	X	X		
Particulate polycyclic aromatic hydrocarbons (PPAH), see Coal tar pitch volatiles				

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Pentaborane	X	X		
Pentachloronaphthalene	X	X		
Pentachlorophenol	X	X		
Pentaerythritol		X		
Pentane	X	X		
2-Pentanone (Methyl propyl ketone)	X	X		
Perchloroethylene		X		
Perchloromethyl mercaptan	X	X		
Perchloryl fluoride	X	X		
Petroleum distillates (naphtha)	X			
Phenacetin			X	X
Phenazopyradine and its hydrochloride			X	X
Phenol	X	X		
Phenothiazine		X		
Phenoxybenzamine and its hydrochloride				X
N-Phenyl-beta-naphthylamine		X		
p-Phenylenediamine	X	X		
Phenyl ether, vapor	X	X		
Phenyl ether-biphenyl mixture, vapor	X			
Phenylethylene, see Styrene, monomer				
Phenyl glycidyl ether (PGE)	X	X		
Phenylhydrazine	X	X		
Phenyl mercaptan		X		
Phenylphosphine		X		
Phenytoin and its sodium salt			X	
Phorate		X		
Phosdrin, see Mevinphos®				
Phosgene (carbonyl chloride)	X	X		
Phosphine	X	X		
Phosphoric acid	X	X		
Phosphorus (yellow)	X	X		
Phosphorus oxychloride		X		
Phosphorus pentachloride	X	X		
Phosphorus pentasulfide	X	X		
Phosphorus trichloride	X	X		
Phthalic anhydride	X	X		
m-Phthalodinitrile		X		
Picloram		X		
Picric acid	X	X		
Pindone		X		
Piperazine dihydrochloride		X		
2-Pivalyl-1, 3-indandione, see Pindone (Pival®)				
Plaster of Paris		X		
Platinum		X		
Metal		X		
Soluble salts, as Pt	X	X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Polybrominated biphenyls (PBB's)			X	
Polychlorinated biphenyls (PCB's)	X	X	X	X
Polytetrafluoroethylene decomposition products		X		
Ponceau MX				X
Ponceau 3R				X
Potassium hydroxide		X		
Procarbazine and its hydrochloride			X	X
Progesterone				X
Propane	X	X		
1,3-Propane sultone		X		X
Propargyl alcohol		X		
B-Propiolactone	X	X	X	X
Propionic acid		X		
Propoxur		X		
n-Propyl acetate	X	X		
Propyl alcohol	X	X		
n-Propyl nitrate	X	X		
Propylene		X		
Propylene dichloride (1,2 Dichloropropane)	X	X		
Propylene glycol dinitrate		X		
Propylene glycol monomethyl ether		X		
Propyleneimine	X	X		
Propylene oxide (1,2 Epoxypropane)	X	X		
Propylthiouracil				X
Propyne, see Methyl acetylene				
Pyrethrum	X	X		
Pyridine	X	X		
Quinone (p-Benzoquinone)	X	X		
RDX, see Cyclonite				
Reserpine			X	
Resorcinol		X		
Rhodium				
Metal, fume and dusts, as Rh	X	X		
Soluble salts, as Rh	X	X		
Ronnel	X	X		
Rosin core solder pyrolysis products, as formaldehyde		X		
Rotenone (commercial)	X	X		
Rouge		X		
Rubber solvent (Naphtha)		X		
Saccharin, see Sodium saccharin				
Safrole			X	X

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Selenium compounds, as Se	X	X		
Selenium hexafluoride, as Se	X	X		
Selenium Sulfide			X	
Sesone (Sodium 2,4-dichloro-phenoxyethyl sulfate)		X		
Silane, see Silicon tetrahydride				
Silica, Silicates - See MINERAL DUSTS, page 22				
Silicon		X		
Silicon carbide		X		
Silicon tetrahydride (Silane)		X		
Silver,				
as Ag Metal	X	X		
Soluble compounds	X	X		
Sintered calcium chromate				X
Sintered chromium trioxide				X
Sodium azide		X		
Sodium bisulfite		X		
Sodium 2, 4-dichloro-phenoxyethyl sulfate, see Sesone				
Sodium fluoroacetate (1080)	X	X		
Sodium hydroxide	X	X		
Sodium metabisulfite		X		
Sodium saccharin			X	X
Soots, tars and mineral oils				X
Starch		X		
Stibine	X	X		
Sterigmatocystin				X
Stoddard solvent	X	X		
Stroptozotocin			X	X
Strontium chromate				X
Strychnine	X	X		
Styrene, monomer	X	X		
Subtilisins (Proteolytic enzymes as 100% pure crystalline enzyme)		X		
Sucrose		X		
Sulfallate			X	
Sulfotep		X		
Sulfur dioxide	X	X		
Sulfur hexafluoride	X	X		
Sulfuric acid	X	X		
Sulfur monochloride	X	X		
Sulfur pentafluoride	X	X		
Sulfur tetrafluoride		X		
Sulfuryl fluoride	X	X		
Systox, see Demeton®				

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
2, 4, 5-T	X	X		
Tantalum	X	X		
TEDP, see Sulfotep				
Tellurium & compounds, as Te	X	X		
Tellurium hexafluoride, as Te	X	X		
Temephos		X		
TEPP	X	X		
Terphenyls	X	X		
Testosterone and its esters				X
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)			X	X
1,1,1,2-Tetrachloro-2, 2-difluoroethane	X	X		
1,1,2,2-Tetrachloro-1, 2-difluoroethane	X	X		
1,1,2,2-Tetrachloroethane	X	X		
Tetrachloroethylene, see Perchloroethylene				
Tetrachloromethane, see Carbon tetrachloride				
Tetrachloronaphthalene	X	X		
Tetraethyl lead, as Pb	X	X		
Tetrahydrofuran	X	X		
Tetramethyl lead, as Pb	X	X		
Tetramethyl succinonitrile	X	X		
Tetranitromethane	X	X		
Tetrasodium pyrophosphate		X		
Tetryl (2,4,6-trinitrophenyl-methylnitramine)	X	X		
Thallium Soluble compounds, as Tl	X	X		
Thioacetamide			X	X
4,4'-Thiobis (6-tert. butyl-m-cresol)		X		
4,4'-Thiodianiline				X
Thioglycolic acid		X		
Thiourea			X	X
Thiram	X	X		
Tin				
Metal		X		
Oxide & inorganic compounds, except SnO ₄ , as Sn		X		
Inorganic compounds, except oxides	X			
Organic compounds, as Sn	X	X		
Titanium dioxide, as Ti	X	X		
o-Tolidine		X		
Toluene (toluol)	X	X		
Toluene-2, 4-diisocyanate (TDI)	X	X		
o-Toluidine	X	X	X	X
o-Toluidine hydrochloride			X	
Toxaphene, see Chlorinated camphene				
Tributyl phosphate	X	X		
Trichloroacetic acid		X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
1,2,4-Trichlorobenzene		X		
1,1,1-Trichloroethane, see Methyl chloroform				
1,1,2-Trichloroethane	X	X		
Trichloroethylene	X	X		
Trichlorofluoromethane (fluorotrichloromethane)		X		
Trichloromethane, see Chloroform				
2,4,6-Trichlorophenol				X
Trichloronaphthalene	X	X		
Trichloronitromethane, see Chloropicrin				
2,4,6-Trichlorophenol			X	
1,2,3-Trichloropropane	X	X		
1,1,2-Trichloro-1,2,2-trifluoroethane	X	X		
Tricyclohexyltin hydroxide, see Cyhexatin				
Triethylamine	X	X		
Trifluorobromomethane		X		
Trifluoromonobromomethane	X			
Trimellitic anhydride		X		
Trimethylamine		X		
Trimethyl benzene		X		
Trimethyl phosphite		X		
2,4,6-Trinitrophenol, see Picric acid				
2,4,6-Trinitrophenyl-methylnitramine, see Tetryl				
2,4,6-Trinitrotoluene (TNT)	X	X		
Triorthocresyl phosphate	X	X		
Triphenyl amine		X		
Triphenyl phosphate	X	X		
Tris (1-aziridinyl) phosphine sulfate (Thiotepa)				X
Tris (1-aziridinyl) phosphine sulfide			X	
Tris (2,3-dibromopropyl) phosphate			X	
Trypan Blue (commercial grade)				X
Tungsten, as W				X
Insoluble compounds		X		
Soluble compounds		X		
Turpentine	X	X		
Uracil Mustard				X
Uranium (natural), Soluble	X	X		
& Insoluble compounds, as U	X	X		
Urethane			X	X
Valeraldehyde		X		
Vanadium, as V2 O5, respirable dust & fume	X	X		
Vegetable oil mists		X		
Vinyl acetate		X		
Vinyl benzene, see Styrene				
Vinyl bromide		X		SWRf/Asbestos 6732

HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD
COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
Vinyl chloride (Chloroethylene)	X	X		X
Vinyl cyanide, see Acrylonitrile				
Vinyl cyclohexene dioxide		X		
Vinylidene chloride (1,1 Dichloroethylene)		X		
Vinyl toluene	X	X		
VM & P Naphtha		X		
Warfarin	X	X		
Welding fumes		X		
Wood dust (certain hard woods as beech & oak)		X		
Soft wood		X		
Xylene (o-, m-, p-isomers)(xylol)(Dimethyl benzene)	X	X		
m-Xylene a, a'-diamine		X		
Xylidine (Dimethylaminobenzene)	X	X		
Yttrium	X	X		
Zinc beryllium silicate				X
Zinc chloride fume	X	X		
Zinc chromate, as Cr		X		X
Zinc oxide				
Fume	X	X		
Dust		X		
Zinc stearate		X		
Zirconium compounds, as Zr	X	X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE (FOR USE IN COMPLYING WITH OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200)

SUBSTANCE/PROCESS	SOURCE*			
	OSHA	ACGIH	NTP	IARC
<u>MINERAL DUSTS</u>				
<u>Silica, SiO₂</u>	X	X		
<u>Crystalline</u>				
Quartz	X	X		
Cristobalite	X	X		
Tridymite	X	X		
Silica, fused		X		
Tripoli		X		
Amorphous, including natural	X	X		
diatomaceous earth				
<u>Silicates (1% quartz)</u>	X	X		
Asbestos	X	X	X	X
Graphite	X	X		
Mica	X	X		
Mineral Wool Fiber		X		
Perlite		X		
Portland Cement	X	X		
Soapstone	X	X		
Talc (non-asbestos)	X	X		
Talc (fibrous)	X	X		
Tremolite (talc, fibrous)	X			
<u>Coal Dust</u>	X	X		
<u>Inert (Nuisance) Dust</u>	X	X		

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HAZARDOUS CHEMICAL CLASSIFICATION GUIDE

*Sources used in compiling this listing are as follows:

OSHA: 29 CFR Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration

ACGIH: Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment, 1983-1984 edition, American Conference of Governmental Industrial Hygienists

NTP: Annual Report on Carcinogens, third edition, National Toxicology Program, Public Health Service, U. S. Department of Health and Human Services

IARC: Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Humans, 1982, International Agency for Research on Cancer, World Health Organization.

The OSHA Hazard Communication Standard, 29 CFR 1910.1200 (d)(3), states: "The chemical manufacturer, importer or employer (emphasis added) shall treat the (above) sources as establishing that the chemicals listed in them are hazardous."

This listing is considered a "baseline" for identification of chemicals designated as a "health hazard," and should not be considered all-inclusive. In addition to "health hazards," the OSHA definition of a "hazardous chemical" includes those representing "physical hazards" as well. A "physical hazard" is defined as any substance which is combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable or water-reactive. Any such substance must also be treated as a "hazardous chemical" for purposes of complying with the standard, regardless of whether it is included in this listing.

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