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ENCLOSURE 3

**Proposed
Toxic Air Contaminant Identification List
September 1997**

I. Substances, known to be emitted in California, identified as Toxic Air Contaminants, with health values reviewed by the Scientific Review Panel.

Acetaldehyde	5-methylchrysene	Ethylene dibromide (1,2-dibromoethane)
Arsenic and compounds (inorganic including arsine)	6-nitrocrysene	Ethylene dichloride (1,2-dichloroethane)
Asbestos	2-nitrofluorene	Ethylene oxide (1,2-epoxyethane)
Benzene (including benzene from gasoline)	1-nitropyrene	Formaldehyde
Benzo[a]pyrene ¹	4-nitropyrene	Inorganic Lead (includes elemental lead)
Potency Equivalency Factors for PAHs	dibenz[a,h]anthracene	Methylene chloride (dichloromethane)
benzo[a]anthracene	3-methylcholanthrene	Nickel and compounds
benzo[b]fluoranthene	5-nitroacenaphthene	Tetrachloroethylene (perchloroethylene)
benzo[j]fluoranthene	7,12-dimethylbenzanthracene	Trichloroethylene
benzo[k]fluoranthene	1,3-Butadiene	Vinyl chloride (chloroethylene)
chrysene	Cadmium and compounds (metallic cadmium and cadmium compounds)	
dibenz[a,j]acridine	Carbon tetrachloride (tetrachloromethane)	
dibenz[a,h]acridine	Chloroform	
7H-dibenzo[c,g]carbazole	Chromium (VI)	
dibenzo[a,e]pyrene	Chlorinated dibenzo-p-dioxins and Dibenzofurans (chlorinated in the 2,3,7 and 8 positions and containing 4,5,6, or 7 chlorine atoms)	
dibenzo[a,h]pyrene		
dibenzo[a,i]pyrene		
dibenzo[a,l]pyrene		
1,6-dinitropyrene		
1,8-dinitropyrene		
indeno[1,2,3-cd]pyrene		

II. Substances, known to be emitted in California, identified as Toxic Air Contaminants, which have health values developed by U.S. Environmental Protection Agency, or California Environmental Protection Agency, or have health values under review or nominated for development.

- a. Substances which have health values or have health values in the review process for development under SB 1731 Risk Assessment Guidelines. This may not include a full set of health values (ie. acute non-cancer, chronic non-cancer, cancer potency).

Acetamide	Acrylonitrile
Acrolein	Allyl chloride
Acrylamide	
Acrylic acid	

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Aniline	Ethyl chloride (Chloroethane)	N-Nitrosodimethylamine
‡o-Anisidine	Ethylene glycol	N-Nitrosomorpholine
*Antimony and compounds	Ethylene thiourea	Napthalene
Benzyl chloride	Ethylidene dichloride (1,1-Dichloroethane)	Nitrobenzene
Beryllium and compounds	*‡Fine mineral fibers	*2-Nitropropane
Bis(2-ethylhexyl)phthalate (DEHP)	Glycol ethers ²	Pentachlorophenol
Carbon disulfide	Hexachlorobenzene	Polychlorinated biphenyls (Aroclors)
Chlorine	Hexachloroethane	Phenol
Chlorobenzene	Hexamethylene-1,6-diisocyanate	Phosgene
‡Chloroprene	Hexane	Phosphine
Chromium and compounds	Hydrazine	Phosphorus
Cobalt and compounds	Hydrochloric acid	Phthalic anhydride
Cresols/Cresylic Acid (isomers and mixture)	*Hydrogen fluoride (Hydrofluoric acid)	Polycyclic Organic Matter ⁵
‡Cyanide and compounds ⁴	Isophorone	1,3-Propane sultone
1,4-Dichlorobenzene (p)	Lead compounds (organic lead and compounds)	‡Propylene dichloride (1,2-Dichloropropane)
3,3-Dichlorobenzidene	Maleic anhydride	Propylene oxide
1,3-Dichloropropene	Manganese and compounds	Selenium and compounds
Diethanolamine	Mercury and compounds	*Styrene
*Dimethyl formamide	Methanol	Toluene
*‡1,1-Dimethyl hydrazine	Methyl bromide (Bromomethane)	Toluene-2,4-diisocyanate
Dimethyl phthalate	Methyl chloroform (1,1,1-Trichloroethane)	1,1,2-Trichloroethane
‡Dimethyl sulfate	Methyl ethyl ketone (2-Butanone)	2,4,6-Trichlorophenol
1,4-Dioxane (1,4-Diethyleneoxide)	Methyl methacrylate	Vinyl acetate
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	*Methyl tert butyl ether	Vinylidene chloride (1,1-Dichloroethylene)
*‡Ethyl acrylate	4,4-Methylene bis(2-chloroaniline)	Xylenes (isomers and mixture)
Ethyl benzene	‡Methylene diphenyl diisocyanate	o-Xylenes
Ethyl carbamate (Urethane)	4,4-Methylenedianiline	m-Xylenes
		p-Xylenes

b. Substances nominated for review for development of health values.

Antimony and compounds	Ethyl acrylate	Methyl chloride (Chloromethane)
Dimethyl formamide	Fine mineral fibers ³	Methyl tert butyl ether
1,1-Dimethyl hydrazine	Hydrogen fluoride	2-Nitropropane
		Styrene

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III. Substances known to be emitted in California, identified as Toxic Air Contaminants, without health values.

Acetonitrile	Dibutylphthalate	Propionaldehyde
Acetophenone	1,2-Epoxybutane	(2-Methyl aziridine)
Carbonyl sulfide	Hydroquinone	1,2-Propylenimine
Catechol	Methyl isobutyl ketone (Hexone)	(2-Methyl aziridine)
Chloroacetic acid	Pentachloronitrobenzene	Radionuclides ⁶
Chlorobenzilate	(Quintobenzene)	Titanium tetrachloride
Cumene	Polycyclic Organic Matter ⁵	1,2,4-Trichlorobenzene
Dibenzofurans	including but not limited to:	
	Anthracene	

IV. Substances currently under review or nominated for review for identification as Toxic Air Contaminants.

a. Substances in review process for identification.

Diesel Exhaust

b. Substances nominated for review.

Carbon Black Extracts
Chlorophenols

Crystalline silica
Gasoline Vapors

V. Substances which have not been identified as Toxic Air Contaminants and are being evaluated for entry into Category IV.

Aluminum and compounds	Chloropicrin	Michler's ketone
2-Aminoanthraquinone	Copper and compounds	Molybdenum trioxide
Ammonia	Creosotes	Nitric acid
Ammonium nitrate	Cumene hydroperoxide	Nitrilotriacetic acid
Barium and compounds	Cyclohexane	2-Phenylphenol
Benzidine-based dyes	Decabromodiphenyl oxide	Phosphoric acid
Bis(2-ethylhexyl)adipate	Dialkylnitrosamines	Potassium bromate
Bromine and compounds (inorganic)	1,2-Dichlorobenzene	Propene
Butyl acrylate	Diaminotoluene (mixed isomers)	Silver and compounds
n-Butyl alcohol	Ethylene	Sodium hydroxide
sec-Butyl alcohol	Glutaraldehyde	Sulfuric acid
tert-Butyl alcohol	Hexachlorocyclohexanes	Thiourea
Butyl benzyl phthalate	Hydrogen sulfide	1,2,4-Trimethylbenzene
Chlorine dioxide	Isopropyl alcohol	Zinc and compounds
Chlorinated fluorocarbons	4,4'-Isopropylidenediphenol	

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VI. Identified substances not known to be emitted in California based on information from the Air Toxic “Hot Spots” Program and the California Toxic Release Inventory. Some may be active ingredients in pesticides in California⁷.

2-Acetylaminofluorene	Diazomethane	Methyl hydrazine
4-Aminobiphenyl	1,2-Dibromo-3-chloropropane	Methyl iodide (Iodomethane)
Benzidine	Dichloroethyl ether	Methyl isocyanate
Benzotrichloride	(Bis(2-chloroethyl)ether)	N-Nitroso-N-methylurea
Biphenyl	Dichlorvos	4-Nitrobiphenyl
Bis(chloromethyl)ether	N,N-Diethyl aniline	4-Nitrophenol
Bromoform	(N,N-Dimethyl aniline)	Parathion
Calcium cyanamide	Diethyl sulfate	p-Phenylenediamine
Caprolactam	3,3-Dimethoxybenzidine	beta-Propiolactone
Captan	4-Dimethyl aminoazobenzene	Propoxur (Baygon)
Carbaryl	3,3-Dimethyl benzidine	Quinoline
Chloramben	Dimethyl carbamoyl chloride	Quinone
Chlordane	4,6-Dinitro-o-cresol, and salts	Styrene oxide
2-Chloroacetophenone	2,4-Dinitrophenol	1,1,2,2-Tetrachloroethane
Chloromethyl methyl ether	2,4-Dinitrotoluene	2,4-Toluene diamine
Coke oven emissions	1,2-Diphenylhydrazine	o-Toluidine
m-Cresol	Ethylene imine (Aziridine)	Toxaphene
o-Cresol	Heptachlor	(Chlorinated camphene)
p-Cresol	Hexachlorobutadiene	2,4,5-Trichlorophenol
2,4-D, salts and esters	Hexachlorocyclopentadiene	Triethylamine
(2,4-Dichlorophenoxyacetic acid)	Hexamethylphosphoramide	Trifluralin
DDE	Lindane (all isomers)	2,2,4-Trimethylpentane
(p,p-Dichlorodiphenyldichloroethylene)	Methoxychlor	Vinyl bromide

Note: The following are being proposed for removal from the list because they are from the original Category III on the June 1996 TAC List, there are no known emissions in California, and were not identified as Toxic Air Contaminants.

Ammonium sulfate
Benzoyl chloride

Dicofol
Peracetic acid
Terephthalic acid

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Note: Environmental Tobacco Smoke is proposed for removal since the risk assessment was approved by the Scientific Review Panel on June 19, 1997.

Note: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e, antimony, arsenic, etc.) as part of that chemical's infrastructure.

* Indicates compound is nominated for the development of a cancer potency, chronic noncancer, or acute noncancer health value (applies to sections IIb and IVb).

‡ These substances have health values developed for use in other California Environmental Protection Agency programs and have not been reviewed by the Scientific Review Panel.

¹ Potency Equivalency Factors (PEF) have been developed for the polycyclic aromatic hydrocarbons (PAHs) listed under benzo[a]pyrene. Using benzo[a]pyrene as a reference compound, a weighting scheme for PAHs was developed in the 1994 Air Resources Board document entitled, Health Effects of Benzo[a]pyrene. When a specific potency value is developed for a chemical, it should be used in place of the PEF.

² Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol $(R(OCH_2CH_2)_n -OR')$ where
n = 1,2 or 3
R = alkyl or aryl groups
R = R,H, or groups which, when removed, yield glycol ethers with the structure;
 $R(OCH_2CH_2)_n-OH$. Polymers are excluded from the glycol category.

³ Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

⁴ X'CN where X=H' or any other group where a formal dissociation may occur. For example, KCN or $Ca(CN)_2$

⁵ Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 °C.

⁶ A type of atom which spontaneously undergoes radioactive decay.

⁷ The licensing and regulation of pesticides for sale and use in California are the responsibility of the Department of Pesticide Regulation.

ARB/SSD/SES
September 9, 1997