

**APPENDIX A-2**

**"HOT SPOTS" PROGRAM**

**LIST OF SUBSTANCES**

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The California State ARB "Hot Spots" Emission Inventory Guidelines contain instructions for the preparation of toxic air contaminant emission inventories. Appendix A of those guidelines establishes a list of the substances which must be included in the inventories. The following is a list of those substances.

**Substances For Which Emissions Must Be Quantified**

| Chemical<br>Abstract<br>Number(CAS) | Add Date <sup>a</sup> | Substance Name  |
|-------------------------------------|-----------------------|---|
| 75-07-0                             |                       | Acetaldehyde  |
| 60-35-5                             |                       | Acetamide   |
| 75-05-8                             | 06/91                 | Acetonitrile  |
| 98-86-2                             | 06/91                 | Acetophenone  |
| 53-96-3                             |                       | 2-Acetylaminofluorene [PAH-Derivative, POM]                       |
| 107-02-8                            |                       | Acrolein  |
| 79-06-1                             |                       | Acrylamide  |
| 79-10-7                             | 06/91                 | Acrylic acid  |
| 107-13-1                            |                       | Acrylonitrile   |
| 107-05-1                            |                       | Allyl chloride  |
| 7429-90-5                           | 06/91                 | Aluminum  |
| 1344-28-1                           | 06/91                 | Aluminum oxide (fibrous forms)                                    |
| 117-79-3                            |                       | 2-Aminoanthraquinone [PAH-Derivative, POM]                        |
| 92-67-1                             |                       | 4-Aminobiphenyl [POM]   |
| 61-82-5                             |                       | Amitrole  |
| 7664-41-7                           |                       | Ammonia   |
| 6484-52-2                           | 06/91                 | Ammonium nitrate  |
| 7783-20-2                           | 06/91                 | Ammonium sulfate  |
| 62-53-3                             | 09/90                 | Aniline   |
| 90-04-0                             |                       | o-Anisidine   |
| -                                   |                       | Anthracene [PAH, POM], (see PAH)                                  |
| 7440-36-0                           | 06/91                 | Antimony  |
| *                                   | 06/91                 | Antimony compounds **<br>including but not limited to:            |
| 1327-33-9                           | 09/90                 | Antimony trioxide   |
| 7440-38-2                           |                       | Arsenic   |
| *                                   | 06/91                 | Arsenic compounds (other than inorganic) **                       |
| *                                   |                       | Arsenic compounds (inorganic) **<br>including but not limited to: |
| 7784-42-1                           |                       | Arsine  |
| 1332-21-4                           |                       | Asbestos (see mineral fibers)                                     |
| 7440-39-3                           | 06/91                 | Barium  |
| *                                   | 06/91                 | Barium compounds **   |
| -                                   |                       | Benz[a]anthracene [PAH, POM], (see PAH)                           |
| 71-43-2                             |                       | Benzene   |
| 92-87-5                             |                       | Benzidine (and its salts) [POM]                                   |
| *                                   |                       | Benzidine-based dyes [POM]<br>including but not limited to:       |
| 1937-37-7                           |                       | Direct Black 38 [PAH-Derivative, POM]                             |
| 2602-46-2                           |                       | Direct Blue 6 [PAH-Derivative, POM]                               |
| 16071-86-6                          | 09/89                 | Direct Brown 95 (technical grade) [POM]                           |
| -                                   |                       | Benzo[a]pyrene [PAH, POM], (see PAH)                              |
| -                                   |                       | Benzo[b]fluoranthene [PAH, POM], (see PAH)                        |
| 271-89-6                            | 06/91                 | Benzo[ghi]perylene [PAH, POM], (see PAH)                          |
| 98-07-7                             |                       | Benzo[ghi]perylene [PAH, POM], (see PAH)                          |
| -                                   |                       | Benzo[k]fluoranthene [PAH, POM], (see PAH)                        |
| -                                   |                       | Benzo[k]fluoranthene [PAH, POM], (see PAH)                        |
| 98-88-4                             | 06/91                 | Benzoyl chloride  |
| 94-36-0                             | 06/91                 | Benzoyl peroxide  |
| 100-44-7                            |                       | Benzyl chloride   |
| 7440-41-7                           |                       | Beryllium   |

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|-------------------------------------|-----------------------|--|
| *                                   | 09/89                 | Beryllium compounds **   |
| 92-52-4                             | 06/91                 | Biphenyl [POM]   |
| 111-44-4                            | 09/89                 | Bis(2-chloroethyl)ether {DCEE}   |
| 542-88-1                            |                       | Bis(chloromethyl)ether   |
| 103-23-1                            | 06/91                 | Bis(2-ethylhexyl) adipate  |
| 7726-95-6                           |                       | Bromine  |
| *                                   |                       | Bromine compounds (inorganic) **<br>including but not limited to:                          |
| 7758-01-2                           |                       | Potassium bromate  |
| 75-25-2                             | 06/91                 | Bromoform  |
| 106-99-0                            |                       | 1,3-Butadiene  |
| 141-32-2                            | 06/91                 | Butyl acrylate   |
| 71-36-3                             | 06/91                 | n-Butyl alcohol  |
| 78-92-2                             | 06/91                 | sec-Butyl alcohol  |
| 75-65-0                             | 06/91                 | tert-Butyl alcohol   |
| 85-68-7                             | 06/91                 | Butyl benzyl phthalate   |
| 7440-43-9                           |                       | Cadmium  |
| *                                   |                       | Cadmium compounds **   |
| 156-62-7                            | 06/91                 | Calcium cyanamide  |
| 105-60-2                            | 06/91                 | Caprolactam  |
| 2425-06-1                           | 09/89                 | Captafol   |
| 133-06-2                            | 09/90                 | Captan   |
| 63-25-2                             | 06/91                 | Carbaryl [PAH-Derivative, POM]   |
| *                                   |                       | Carbon black extracts  |
| 75-15-0                             | 09/89                 | Carbon disulfide   |
| 56-23-5                             |                       | Carbon tetrachloride   |
| 463-58-1                            | 06/91                 | Carbonyl sulfide   |
| *                                   |                       | Carrageenan (degraded)   |
| 120-80-9                            | 06/91                 | Catechol   |
| 133-90-4                            | 06/91                 | Chloramben   |
| 57-74-9                             | 09/89                 | Chlordane  |
| 108171-26-2                         | 09/89                 | Chlorinated paraffins (average chain length, C12;<br>approximately 60% chlorine by weight) |
| 7782-50-5                           |                       | Chlorine   |
| 10049-04-4                          | 06/91                 | Chlorine dioxide   |
| 79-11-8                             | 06/91                 | Chloroacetic acid  |
| 532-27-4                            | 06/91                 | 2-Chloroacetophenone   |
| 106-47-8                            | 07/96                 | p-Chloroaniline  |
| *                                   | 06/91                 | Chlorobenzenes<br>including but not limited to:  |
| 108-90-7                            |                       | Chlorobenzene  |
| 25321-22-6                          | 06/91                 | Dichlorobenzenes (mixed isomers)<br>including:   |
| 95-50-1                             | 06/91                 | 1,2-Dichlorobenzene  |
| 541-73-1                            | 06/91                 | 1,3-Dichlorobenzene  |
| 106-46-7                            |                       | p-Dichlorobenzene {1,4-Dichlorobenzene}  |
| 120-82-1                            | 06/91                 | 1,2,4-Trichlorobenzene   |
| 510-15-6                            | 09/90                 | Chlorobenzilate {Ethyl-4,4'-dichlorobenzilate} [POM]                                       |
| 67-66-3                             |                       | Chloroform   |
| 107-30-2                            |                       | Chloromethyl methyl ether (technical grade)  |
| *                                   |                       | Chlorophenols<br>including but not limited to:   |
| 120-83-2                            | 06/91                 | 2,4-Dichlorophenol   |
| 87-86-5                             | 09/90                 | Pentachlorophenol  |
| 58-90-2                             | 07/96                 | 2,3,4,6-Tetrachlorophenol  |
| 95-95-4                             | 06/91                 | 2,4,5-Trichlorophenol  |
| 88-06-2                             |                       | 2,4,6-Trichlorophenol  |
| 95-83-0                             |                       | 4-Chloro-o-phenylenediamine  |

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|-------------------------------------|-----------------------|--|
| 76-06-2                             |                       | Chloropicrin   |
| 126-99-8                            |                       | Chloroprene  |
| 95-69-2                             |                       | p-Chloro-o-toluidine   |
| 7440-47-3                           | 06/91                 | Chromium   |
| *                                   | 06/91                 | Chromium compounds (other than hexavalent) **                            |
| 18540-29-9                          |                       | Chromium, hexavalent (and compounds) **<br>including but not limited to: |
| 10294-40-3                          | 06/91                 | Barium chromate  |
| 13765-19-0                          | 06/91                 | Calcium chromate   |
| 1333-82-0                           | 06/91                 | Chromium trioxide  |
| 7758-97-6                           | 06/91                 | Lead chromate  |
| 10588-01-9                          | 06/91                 | Sodium dichromate  |
| 7789-06-2                           | 06/91                 | Strontium chromate   |
| -                                   |                       | Chrysene [PAH, POM], (see PAH)   |
| 7440-48-4                           | 06/91                 | Cobalt   |
| *                                   | 06/91                 | Cobalt compounds **  |
| *                                   |                       | Coke oven emissions  |
| 7440-50-8                           |                       | Copper   |
| *                                   | 09/89                 | Copper compounds **  |
| *                                   |                       | Creosotes  |
| 120-71-8                            |                       | p-Cresidine  |
| 1319-77-3                           |                       | Cresols (mixtures of) {Cresylic acid}<br>including:                      |
| 108-39-4                            | 06/91                 | m-Cresol   |
| 95-48-7                             | 06/91                 | o-Cresol   |
| 106-44-5                            | 06/91                 | p-Cresol   |
| 4170-30-3                           | 07/96                 | Crotonaldehyde   |
| 98-82-8                             | 06/91                 | Cumene   |
| 80-15-9                             | 06/91                 | Cumene hydroperoxide   |
| 135-20-6                            |                       | Cupferron  |
| *                                   | 06/91                 | Cyanide compounds **<br>including but not limited to:                    |
| 74-90-8                             |                       | Hydrocyanic acid   |
| 110-82-7                            | 06/91                 | Cyclohexane  |
| 108-93-0                            | 07/96                 | Cyclohexanol   |
| 66-81-9                             |                       | Cycloheximide  |
| 1163-19-5                           | 06/91                 | Decabromodiphenyl oxide [POM]  |
| *                                   |                       | Dialkylnitrosamines<br>including but not limited to:                     |
| 924-16-3                            |                       | N-Nitrosodi-n-butylamine   |
| 1116-54-7                           |                       | N-Nitrosodiethanolamine  |
| 55-18-5                             |                       | N-Nitrosodiethylamine  |
| 62-75-9                             |                       | N-Nitrosodimethylamine   |
| 1621-64-7                           |                       | N-Nitrosodi-n-propylamine  |
| 10595-95-6                          |                       | N-Nitrosomethylethylamine  |
| 615-05-4                            |                       | 2,4-Diaminoanisole   |
| *                                   | 09/90                 | Diaminotoluenes (mixed isomers)<br>including but not limited to:         |
| 95-80-7                             |                       | 2,4-Diaminotoluene {2,4-Toluenediamine}                                  |
| 334-88-3                            | 06/91                 | Diazomethane   |
| 226-36-8                            |                       | Dibenz[a,h]acridine [POM]  |
| 224-42-0                            |                       | Dibenz[a,i]acridine [POM]  |
| -                                   |                       | Dibenz[a,h]anthracene [PAH, POM], (see PAH)                              |
| 194-59-2                            |                       | 7H-Dibenzo[c,g]carbazole [POM]   |
| 132-64-9                            | 06/91                 | Dibenzofuran [POM]   |
| -                                   |                       | Dibenzofurans (chlorinated)<br>(see Polychlorinated dibenzofurans) [POM] |
| -                                   |                       | Dibenzo[a,e]pyrene [PAH, POM], (see PAH)                                 |

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|-------------------------------------|-----------------------|---|
| -                                   |                       | Dibenzo[a,h]pyrene [PAH, POM], (see PAH)  |
| -                                   |                       | Dibenzo[a,i]pyrene [PAH, POM], (see PAH)  |
| -                                   |                       | Dibenzo[a,l]pyrene [PAH, POM], (see PAH)  |
| 96-12-8                             |                       | 1,2-Dibromo-3-chloropropane {DBCP}  |
| 96-13-9                             | 07/96                 | 2,3-Dibromo-1-propanol  |
| 84-74-2                             | 06/91                 | Dibutyl phthalate   |
| -                                   |                       | p-Dichlorobenzene {1,4-Dichlorobenzene}<br>(see Chlorobenzenes)                       |
| 91-94-1                             |                       | 3,3'-Dichlorobenzidine [POM]  |
| 72-55-9                             | 09/89                 | Dichlorodiphenyldichloroethylene [DDE] [POM]  |
| 75-34-3                             | 09/90                 | 1,1-Dichloroethane {Ethylidene dichloride}  |
| 94-75-7                             | 06/91                 | 2,4-Dichlorophenoxyacetic acid {2,4-D}<br>salts and esters                            |
| 78-87-5                             | 09/90                 | 1,2-Dichloropropane {Propylene dichloride}  |
| 542-75-6                            |                       | 1,3-Dichloropropene   |
| 62-73-7                             | 09/89                 | Dichlorovos {DDVP}  |
| 115-32-2                            | 06/91                 | Dicofol [POM]   |
| *                                   | 09/90                 | Diesel engine exhaust   |
| *                                   | 06/91                 | Diesel fuel (marine)  |
| 111-42-2                            | 06/91                 | Diethanolamine  |
| 117-81-7                            |                       | Di(2-ethylhexyl) phthalate {DEHP}   |
| 64-67-5                             |                       | Diethyl sulfate   |
| 119-90-4                            |                       | 3,3'-Dimethoxybenzidine [POM]   |
| 60-11-7                             |                       | p-Dimethylaminoazobenzene {Methyl yellow} [POM]                                       |
| 121-69-7                            | 06/91                 | N,N-Dimethylaniline   |
| 57-97-6                             | 09/90                 | 7,12-Dimethylbenz[a]anthracene [PAH]-Derivative, POM                                  |
| 119-93-7                            |                       | 3,3'-Dimethylbenzidine {o-Tolidine} [POM]   |
| 79-44-7                             |                       | Dimethyl carbamoyl chloride   |
| 68-12-2                             | 09/90                 | Dimethyl formamide  |
| 57-14-7                             |                       | 1,1-Dimethylhydrazine   |
| 131-11-3                            | 06/91                 | Dimethyl phthalate  |
| 77-78-1                             |                       | Dimethyl sulfate  |
| 534-52-1                            | 06/91                 | 4,6-Dinitro-o-cresol and salts  |
| 51-28-5                             | 06/91                 | 2,4-Dinitrophenol   |
| 42397-64-8                          | 06/91                 | 1,6-Dinitropyrene [PAH-Derivative, POM]   |
| 423976-65-9                         | 06/91                 | 1,8-Dinitropyrene [PAH-Derivative, POM]   |
| 25321-14-6                          | 06/91                 | Dinitrotoluenes (mixed isomers)<br>including but not limited to:                      |
| 121-14-2                            | 09/89                 | 2,4-Dinitrotoluene  |
| 606-20-2                            | 06/91                 | 2,6-Dinitrotoluene  |
| 123-91-1                            |                       | 1,4-Dioxane   |
| -                                   |                       | Dioxins (Chlorinated dibenzodioxins)<br>(see Polychlorinated dibenzo-p-dioxins) [POM] |
| 630-93-3                            |                       | Diphenylhydantoin [POM]   |
| 122-66-7                            |                       | 1,2-Diphenylhydrazine {hydrazobenzene} [POM]  |
| *                                   |                       | Environmental tobacco smoke   |
| 106-89-8                            |                       | Epichlorohydrin   |
| 106-88-7                            | 06/91                 | 1,2-Epoxybutane   |
| *                                   | 09/89                 | Epoxy resins  |
| 140-88-5                            |                       | Ethyl acrylate  |
| 100-41-4                            | 06/91                 | Ethyl benzene   |
| 75-00-3                             |                       | Ethyl chloride {Chloroethane}   |
| -                                   |                       | Ethyl-4,4'-dichlorobenzilate (see Chlorobenzilate)                                    |
| 74-85-1                             | 06/91                 | Ethylene  |
| 106-93-4                            |                       | Ethylene dibromide {1,2-Dibromoethane}  |
| 107-06-2                            |                       | Ethylene dichloride {1,2-Dichloroethane}  |
| 107-21-1                            | 06/91                 | Ethylene glycol   |
| 151-56-4                            | 06/91                 | Ethyleneimine {Aziridine}   |

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|-------------------------------------|-----------------------|---|
| 75-21-8                             |                       | Ethylene oxide  |
| 96-45-7                             |                       | Ethylene thiourea   |
| *                                   | 09/89                 | Fluorides and compounds<br>including but not limited to:          |
| 7664-39-3                           |                       | Hydrogen fluoride   |
| *                                   |                       | Fluorocarbons (brominated)  |
| *                                   |                       | Fluorocarbons (chlorinated)<br>including but not limited to:      |
| 76-13-1                             |                       | Chlorinated fluorocarbon {CFC 113}                                |
| 75-45-6                             | 07/96                 | Chlorodifluoromethane {HCFC 22} {Freon 22}                        |
| 75-43-4                             | 07/96                 | Dichlorofluoromethane {CFC 21} {Freon 21}                         |
| 75-69-4                             | 07/96                 | Trichlorofluoromethane {CFC 11} {Freon 11}                        |
| 50-00-0                             |                       | Formaldehyde  |
| 110-00-9                            | 07/96                 | Furan   |
| *                                   | 09/90                 | Gasoline engine exhaust<br>including but not limited to:          |
| *                                   | 06/91                 | Gasoline engine exhaust (condensates and extracts)                |
| *                                   |                       | Gasoline vapors   |
| 111-30-8                            |                       | Glutaraldehyde  |
| *                                   |                       | Glycol ethers and their acetates<br>including but not limited to: |
| 111-46-6                            | 09/90                 | Diethylene glycol   |
| 111-96-6                            | 09/90                 | Diethylene glycol dimethyl ether                                  |
| 112-34-5                            | 09/90                 | Diethylene glycol monobutyl ether                                 |
| 111-90-0                            | 09/90                 | Diethylene glycol monoethyl ether                                 |
| 111-77-3                            | 09/90                 | Diethylene glycol monomethyl ether                                |
| 25265-71-8                          | 09/90                 | Dipropylene glycol  |
| 34590-94-8                          | 09/90                 | Dipropylene glycol monomethyl ether                               |
| 629-14-1                            | 09/90                 | Ethylene glycol diethyl ether                                     |
| 110-71-4                            | 09/90                 | Ethylene glycol dimethyl ether                                    |
| 111-76-2                            | 09/90                 | Ethylene glycol monobutyl ether                                   |
| 110-80-5                            | 09/89                 | Ethylene glycol monoethyl ether                                   |
| 111-15-9                            | 09/90                 | Ethylene glycol monoethyl ether acetate                           |
| 109-86-4                            | 09/89                 | Ethylene glycol monomethyl ether                                  |
| 110-49-6                            | 09/90                 | Ethylene glycol monomethyl ether acetate                          |
| 2807-30-9                           | 09/90                 | Ethylene glycol monopropyl ether                                  |
| 107-98-2                            | 09/90                 | Propylene glycol monomethyl ether                                 |
| 108-65-6                            | 09/90                 | Propylene glycol monomethyl ether acetate                         |
| 112-49-2                            | 09/90                 | Triethylene glycol dimethyl ether                                 |
| 76-44-8                             | 09/89                 | Heptachlor  |
| 118-74-1                            |                       | Hexachlorobenzene   |
| 87-68-3                             | 06/91                 | Hexachlorobutadiene   |
| *                                   |                       | Hexachlorocyclohexanes<br>including but not limited to:           |
| 58-89-9                             | 09/90                 | Lindane   |
| 77-47-4                             |                       | Hexachlorocyclopentadiene   |
| 67-72-1                             | 09/90                 | Hexachloroethane  |
| 680-31-9                            |                       | Hexamethylphosphoramide   |
| 110-54-3                            | 06/91                 | Hexane  |
| 302-01-2                            |                       | Hydrazine   |
| 7647-01-0                           |                       | Hydrochloric acid   |
| -                                   |                       | Hydrocyanic acid (see Cyanide compounds **)                       |
| 7783-06-4                           |                       | Hydrogen sulfide  |
| 123-31-9                            | 06/91                 | Hydroquinone  |
| -                                   |                       | Indeno[1,2,3,-cd]pyrene [PAH, POM] (see PAH)                      |
| 13463-40-6                          | 07/96                 | Iron pentacarbonyl  |
| *                                   |                       | Isocyanates<br>including but not limited to:                      |

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|-------------------------------------|-----------------------|---|
| 82-26-0                             | 06/91                 | Hexamethylene-1,6-diisocyanate  |
| 101-68-8                            | 06/91                 | Methylene diphenyl diisocyanate {MDI} [POM]   |
| 624-83-9                            |                       | Methyl isocyanate   |
| -                                   |                       | Toluene-2,4- diisocyanate (see Toluene diisocyanates)   |
| -                                   |                       | Toluene-2,6-diisocyanate (see Toluene diisocyanates)  |
| 78-59-1                             | 06/91                 | Isophorone  |
| 78-79-5                             | 07/96                 | Isoprene (except from vegetative sources)   |
| 67-63-0                             | 06/91                 | Isopropyl alcohol   |
| 80-05-7                             | 06/91                 | 4,4'-Isopropylidenediphenol [POM]   |
| 7439-92-1                           |                       | Lead  |
| *                                   |                       | Lead compounds (inorganic) **<br>including but not limited to:  |
| 7446-27-7                           |                       | Lead phosphate  |
| *                                   | 06/91                 | Lead compounds (other than inorganic) **<br>including but not limited to:   |
| 301-04-2                            |                       | Lead acetate  |
| 1335-32-6                           | 09/90                 | Lead subacetate   |
| 108-31-6                            |                       | Maleic anhydride  |
| 7439-96-5                           |                       | Manganese   |
| *                                   | 09/89                 | Manganese compounds **  |
| 7439-97-6                           |                       | Mercury   |
| *                                   | 09/89                 | Mercury compounds **<br>including but not limited to:   |
| 7487-94-7                           |                       | Mercuric chloride   |
| 593-74-8                            |                       | Methyl mercury {Dimethylmercury}  |
| 67-56-1                             |                       | Methanol  |
| 72-43-5                             | 06/91                 | Methoxychlor [POM]  |
| 75-55-8                             |                       | 2-Methylaziridine {1,2-Propyleneimine}  |
| 74-83-9                             |                       | Methyl bromide {Bromomethane}   |
| 74-87-3                             | 06/91                 | Methyl chloride {Chloromethane}   |
| 71-55-6                             |                       | Methyl chloroform {1,1,1-Trichloroethane}   |
| 56-49-5                             | 09/90                 | 3-Methylcholanthrene [PAH-Derivative, POM]  |
| 3697-24-3                           |                       | 5-Methylchrysene [PAH-Derivative, POM]  |
| 101-14-4                            |                       | 4,4'-Methylene bis(2-chloroaniline) {MOCA} [POM]  |
| 75-09-2                             |                       | Methylene chloride {Dichloromethane}  |
| 101-77-9                            |                       | 4,4'-Methylenedianiline (and its dichloride) [POM]  |
| 78-93-3                             | 06/91                 | Methyl ethyl ketone {2-Butanone}  |
| 60-34-4                             | 06/91                 | Methyl hydrazine  |
| 74-88-4                             |                       | Methyl iodide {Iodomethane}   |
| 108-10-1                            | 06/91                 | Methyl isobutyl ketone {Hexone}   |
| 75-86-5                             | 07/96                 | 2-Methylacetonitrile {Acetone cyanohydrin}  |
| 80-62-6                             |                       | Methyl methacrylate   |
| 109-06-8                            | 07/96                 | 2-Methylpyridine  |
| 1634-04-4                           | 06/91                 | Methyl tert-butyl ether   |
| 90-94-8                             |                       | Michler's ketone [POM]  |
| *                                   | 06/91                 | Mineral fibers (fine, manmade)<br>(fine mineral fibers which are manmade and are airborne<br>particles of a respirable size greater than 5 microns in<br>length, less than or equal to 3.5 microns in diameter, with<br>a length to diameter ratio of 3:1)<br>including but not limited to: |
| *                                   | 09/89                 | Ceramic fibers  |
| *                                   | 09/89                 | Glasswool fibers  |
| *                                   | 09/89                 | Rockwool fibers   |
| *                                   | 09/89                 | Slagwool fibers   |

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| Chemical<br>Abstract<br>Number(CAS) | Add Date <sup>a</sup> | Substance Name  |
|-------------------------------------|-----------------------|---|
| *                                   |                       | Mineral fibers (other than manmade)<br>including but not limited to :                                   |
| 1332-21-4                           |                       | Asbestos  |
| 12510-42-8                          | 06/91                 | Erionite  |
| *                                   |                       | Talc containing asbestiform fibers  |
| 1313-27-5                           | 06/91                 | Molybdenum trioxide   |
| -                                   |                       | Napthalene [PAH, POM] (see PAH)   |
| 7440-02-0                           |                       | Nickel  |
| *                                   |                       | Nickel compounds **<br>including but not limited to:  |
| 373-02-4                            | 06/91                 | Nickel acetate  |
| 3333-39-3                           | 06/91                 | Nickel carbonate  |
| 13463-39-3                          |                       | Nickel carbonyl   |
| 12054-48-7                          | 06/91                 | Nickel hydroxide  |
| 1271-28-9                           | 06/91                 | Nickelocene   |
| 1313-99-1                           | 06/91                 | Nickel oxide  |
| 12035-72-2                          |                       | Nickel subsulfide   |
| *                                   | 09/89                 | Nickel refinery dust from the pyrometallurgical process   |
| 7697-37-2                           | 06/91                 | Nitric acid   |
| 139-13-9                            |                       | Nitrilotriacetic acid   |
| 98-95-3                             |                       | Nitrobenzene  |
| 92-93-3                             | 09/89                 | 4-Nitrobiphenyl [POM]   |
| 7496-02-8                           | 06/91                 | 6-Nitrochrysene [PAH-Derivative, POM]   |
| 607-57-8                            | 06/91                 | 2-Nitrofluorene [PAH-Derivative, POM]   |
| 302-70-5                            |                       | Nitrogen mustard N-oxide  |
| 100-02-7                            | 06/91                 | 4-Nitrophenol   |
| 79-46-9                             |                       | 2-Nitropropane  |
| 5522-43-0                           | 06/91                 | 1-Nitropyrene [PAH-Derivative, POM]   |
| 156-10-5                            |                       | p-Nitrosodiphenylamine [POM]  |
| 59-89-2                             |                       | N-Nitrosomorpholine   |
| 684-93-5                            |                       | N-Nitroso-N-methylurea  |
| 100-75-4                            |                       | N-Nitrosopiperidine   |
| 930-55-2                            |                       | N-Nitrosopyrrolidine  |
| *                                   |                       | PAHs <sup>b</sup> (Polycyclic Aromatic Hydrocarbons) [POM]<br>including but not limited to: (see NOTES) |
| 83-32-9                             | 07/96                 | Acenaphthene  |
| 208-96-8                            | 07/96                 | Acenaphthylene  |
| 120-12-7                            | 06/91                 | Anthracene  |
| 56-55-3                             |                       | Benz[a]anthracene   |
| 205-99-2                            |                       | Benzo[b]fluoranthene  |
| 205-82-3                            |                       | Benzo[j]fluoranthene  |
| 207-08-9                            |                       | Benzo[k]fluoranthene  |
| 50-32-8                             |                       | Benzo[a]pyrene  |
| 192-97-2                            | 07/96                 | Benzo[e]pyrene  |
| 191-24-2                            | 07/96                 | Benzo[g,h,i]pyrene  |
| 218-01-9                            | 09/90                 | Chrysene  |
| 53-70-3                             |                       | Dibenz[a,h]anthracene   |
| 192-65-4                            |                       | Dibenzo[a,e]pyrene  |
| 189-64-0                            |                       | Dibenzo[a,h]pyrene  |
| 189-55-9                            |                       | Dibenzo[a,i]pyrene  |
| 191-30-0                            |                       | Dibenzo[a,l]pyrene  |
| 206-44-0                            | 07/96                 | Fluoranthene  |
| 86-73-7                             | 07/96                 | Fluorene  |
| 193-39-5                            |                       | Indeno[1,2,3,-cd]pyrene   |
| 91-57-6                             | 07/96                 | 2-Methyl naphthalene  |
| 91-20-3                             |                       | Naphtalene  |
| 198-55-0                            | 07/96                 | Perylene  |
| 85-01-8                             | 07/96                 | Phenanthrene  |



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| Chemical<br>Abstract<br>Number(CAS) | Add Date <sup>a</sup> | Substance Name  |
|-------------------------------------|-----------------------|---|
| 129-00-0<br>*                       | 07/96<br>06/91        | Pyrene<br>PAH-Derivatives <sup>c</sup> (Polycyclic Aromatic Hydrocarbon derivatives) [POM] (including but not limited to those substances listed in Appendix A-2 with the bracketed designation [PAH-Derivative, POM] (see NOTES) |
| 56-38-2                             | 06/91                 | Parathion   |
| 1336-36-3                           |                       | PCBs (Polychlorinated biphenyls) [POM]  |
| 82-68-8                             | 06/91                 | Pentachloronitrobenzene {Quintobenzene}   |
| 79-21-0                             | 06/91                 | Peracetic acid  |
| 127-18-4                            |                       | Perchloroethylene {Tetrachloroethene}   |
| 108-95-2                            |                       | Phenol  |
| 106-50-3                            | 06/91                 | p-Phenylenediamine  |
| 90-43-7                             | 06/91                 | 2-Phenylphenol [POM]  |
| 75-44-5                             |                       | Phosgene  |
| 7723-14-0<br>*                      |                       | Phosphorus  |
|                                     | 09/89                 | Phosphorus compounds:   |
| 7803-51-2                           |                       | Phosphine   |
| 7664-38-2                           | 09/89                 | Phosphoric acid   |
| 10025-87-3                          | 09/89                 | Phosphorus oxychloride  |
| 10026-13-8                          | 09/89                 | Phosphorus pentachloride  |
| 1314-56-3                           | 09/89                 | Phosphorus pentoxide  |
| 7719-12-2                           | 09/89                 | Phosphorus trichloride  |
| 126-73-8                            | 09/89                 | Tributyl phosphate  |
| 78-40-0                             | 09/89                 | Triethyl phosphine  |
| 512-56-1                            | 09/89                 | Trimethyl phosphate   |
| 78-30-8                             | 09/89                 | Triorthocresyl phosphate [POM]  |
| 115-86-6                            | 09/89                 | Triphenyl phosphate [POM]   |
| 101-02-0                            | 09/89                 | Triphenyl phosphite [POM]   |
| 85-44-9<br>*                        | 09/89                 | Phthalic anhydride  |
|                                     |                       | Polychlorinated dibenzo-p-dioxins {PCDDs} [POM] including but not limited to:   |
| 1746-01-6                           |                       | 2,3,7,8-Tetrachlorodibenzo-p-dioxin {TCDD} [POM]  |
| 40321-76-4                          |                       | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin [POM]   |
| 39227-28-6                          |                       | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin [POM]  |
| 57653-85-7                          |                       | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin [POM]  |
| 19408-74-3                          |                       | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin [POM]  |
| 35822-46-9                          |                       | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin [POM]   |
| 3268-87-9                           | 07/96                 | 1,2,3,4,5,6,7,8-Octachlorodibenzo-p-dioxin [POM]  |
| 41903-57-5                          | 07/96                 | Total Tetrachlorodibenzo-p-dioxin [POM]   |
| 36088-22-9                          | 07/96                 | Total Pentachlorodibenzo-p-dioxin [POM]   |
| 34465-46-8                          | 07/96                 | Total Hexachlorodibenzo-p-dioxin [POM]  |
| 37871-00-4                          | 07/96                 | Total Heptachlorodibenzo-p-dioxin [POM]   |
|                                     |                       | Polychlorinated dibenzofurans {PCDFs} [POM] including but not limited to:   |
| 51207-31-9                          |                       | 2,3,7,8-Tetrachlorodibenzofuran [POM]   |
| 57117-41-6                          |                       | 1,2,3,7,8-Pentachlorodibenzofuran [POM]   |
| 57117-31-4                          |                       | 2,3,4,7,8-Pentachlorodibenzofuran [POM]   |
| 70648-26-9                          |                       | 1,2,3,4,7,8-Hexachlorodibenzofuran [POM]  |
| 57117-44-9                          |                       | 1,2,3,6,7,8-Hexachlorodibenzofuran [POM]  |
| 72918-21-9                          |                       | 1,2,3,7,8,9-Hexachlorodibenzofuran [POM]  |
| 60851-34-5                          |                       | 2,3,4,6,7,8-Hexachlorodibenzofuran [POM]  |
| 67562-39-4                          |                       | 1,2,3,4,6,7,8-Heptachlorodibenzofuran [POM]   |
| 55673-89-7                          |                       | 1,2,3,4,7,8,9-Heptachlorodibenzofuran [POM]   |
| 39001-02-0                          | 07/96                 | 1,2,3,4,5,6,7,8-Octachlorodibenzofuran [POM]  |
| 55722-27-5                          | 07/96                 | Total Tetrachlorodibenzofuran [POM]   |
| 30402-15-4                          | 07/96                 | Total Pentachlorodibenzofuran [POM]   |

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|-------------------------------------|-----------------------|---|
| 55684-94-1                          | 07/96                 | Total Hexachlorodibenzofuran [POM]  |
| 38998-75-3                          | 07/96                 | Total Heptachlorodibenzofuran [POM]   |
| *                                   | 09/89                 | POM <sup>d</sup> (Polycyclic Organic Matter)<br>(including but not limited to those substances listed in<br>Appendix A-2 with the bracketed designation of [POM],<br>[PAH, POM], or [PAH-Derivative, POM] (see NOTES) |
| 1120-71-4                           |                       | 1,3-Propane sultone   |
| 57-57-8                             |                       | beta-Propiolactone  |
| 123-38-6                            | 06/91                 | Propionaldehyde   |
| 114-26-1                            | 06/91                 | Propoxur {Baygon}   |
| 115-07-1                            |                       | Propylene   |
| -                                   |                       | 1,2-Propyleneimine (see 2-Methylaziridine)  |
| 75-56-9                             |                       | Propylene oxide   |
| 110-86-1                            | 06/91                 | Pyridine  |
| 91-22-5                             | 06/91                 | Quinoline   |
| 106-51-4                            | 06/91                 | Quinone   |
| *                                   |                       | Radionuclides<br>including but not limited to:  |
| 24267-56-9                          | 09/89                 | Iodine-131  |
| *                                   | 09/89                 | Radon and its decay products  |
| 50-55-5                             |                       | Reserpine [POM]   |
| *                                   | 06/91                 | Residual (heavy) fuel oils  |
| 7782-49-2                           |                       | Selenium  |
| *                                   |                       | Selenium compounds **<br>including but not limited to:  |
| 7446-34-6                           | 09/90                 | Selenium sulfide  |
| *                                   |                       | Silica, crystalline   |
| 7440-22-4                           | 06/91                 | Silver  |
| *                                   | 06/91                 | Silver compounds **   |
| 1310-73-2                           |                       | Sodium hydroxide  |
| 100-42-5                            |                       | Styrene   |
| 96-09-3                             |                       | Styrene oxide   |
| 7664-93-9                           | 06/91                 | Sulfuric acid   |
| 100-21-0                            | 06/91                 | Terephthalic acid   |
| 79-34-5                             | 09/90                 | 1,1,2,2-Tetrachloroethane   |
| 7440-28-0                           | 06/91                 | Thallium  |
| *                                   | 06/91                 | Thallium compounds **   |
| 62-55-5                             |                       | Thioacetamide   |
| 62-56-6                             |                       | Thiourea  |
| 7550-45-0                           | 06/91                 | Titanium tetrachloride  |
| 108-88-3                            |                       | Toluene   |
| -                                   |                       | 2,4-Toluenediamine (see 2,4-Diaminotoluene)   |
| *                                   | 06/91                 | Toluene diisocyanates<br>including but not limited to:  |
| 584-84-9                            |                       | Toluene-2,4-diisocyanate  |
| 91-08-7                             |                       | Toluene-2,6-diisocyanate  |
| 95-53-4                             |                       | o-Toluidine   |
| 8001-35-2                           |                       | Toxaphene {Polychlorinated camphenes}   |
| -                                   |                       | 1,1,1-Trichloroethane (see Methyl chloroform)   |
| 79-00-5                             | 06/91                 | 1,1,2-Trichloroethane {Vinyl trichloride}   |
| 79-01-6                             |                       | Trichloroethylene   |
| -                                   |                       | 2,4,6-Trichlorophenol (see Chlorophenols)   |
| 96-18-4                             | 07/96                 | 1,2,3-Trichloropropane  |
| 121-44-8                            | 06/91                 | Triethylamine   |
| 1582-09-8                           | 06/91                 | Trifluralin   |
| 95-63-6                             | 06/91                 | 1,2,4-Trimethylbenzene  |
| 540-84-1                            | 06/91                 | 2,2,4-Trimethylpentane  |
| 51-79-6                             |                       | Urethane {Ethyl carbamate}  |

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|-------------------------------------|-----------------------|--|
| *<br>108-05-4                       | 06/91                 | Vanadium (fume or dust)                              |
| 593-60-2                            | 06/91                 | Vinyl acetate  |
| 75-01-4                             |                       | Vinyl bromide  |
| 100-40-3                            | 07/96                 | Vinyl chloride                                       |
| 75-02-5                             | 07/96                 | 4-Vinylcyclohexene                                   |
| 75-35-4                             |                       | Vinyl fluoride                                       |
| *<br>*                              | 09/89                 | Vinylidene chloride                                  |
| 108-38-3                            | 06/91                 | Wood preservatives (containing arsenic and chromate) |
| 95-47-6                             | 06/91                 | Xylenes (mixed xylenes), including:                  |
| 106-42-3                            | 06/91                 | m-Xylene   |
| 7440-66-6                           | 06/91                 | o-Xylene   |
| *<br>*                              | 09/89                 | p-Xylene   |
| 1314-13-2                           |                       | Zinc   |
|                                     |                       | Zinc compounds **                                    |
|                                     |                       | including but not limited to:                        |
|                                     |                       | Zinc oxide   |

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**APPENDIX A-2 NOTES:**

- \* single CAS number not applicable
  - \*\* metal compounds are to be reported as the metal atom equivalent in the compound, unless specific compounds are listed.
  
  - <sup>a</sup> All listed substances except those with a (6/91) add date are required to be addressed in risk assessments prepared under the third phase of the program (i.e., those facilities that were required to submit an emission inventory plan or update plan to the District by August 1, 1991). The original list was approved by the ARB Board in July 1988.
  
  - <sup>b</sup> PAH: (Polycyclic Aromatic Hydrocarbon) - An organic compound consisting of a fused ring structure containing at least two (2) benzene rings and which may also contain additional fused rings not restricted exclusively to hexagonal rings. The structure does not include any heteroatoms or substituent groups. The structure includes only carbon and hydrogen. PAHs are a subgroup of POM and have a boiling point of greater than or equal to 100°C.
  
  - <sup>c</sup> PAH-Derivative: (Polycyclic Aromatic Hydrocarbon Derivative) - An organic compound consisting of a fused ring structure containing at least two (2) benzene rings, and which may also contain additional fused rings not restricted exclusively to hexagonal rings. The fused ring structure does not contain heteroatoms. The structure does contain one or more substituent groups. PAH-Derivatives are a subgroup of POM and have a boiling point of greater than or equal to 100°C.
  
  - <sup>d</sup> POM: (Polycyclic Organic Matter) - Includes organic compounds with more than one benzene ring, and which have a boiling point of greater than or equal to 100°C.
- { } This designation indicates a synonym for the substance listed.

This 1999 Annual Report Appendix A-2 contains all changes and updates included in the current "Inventory Guidelines" adopted by ARB in July 1996, and posted on ARB's web site.