

CITY OF PHILADELPHIA  
DEPARTMENT OF PUBLIC HEALTH  
AIR POLLUTION CONTROL BOARD

AMENDMENTS TO  
AIR MANAGEMENT REGULATION VI  
CONTROL OF EMISSIONS OF TOXIC AIR CONTAMINANTS

~~Approved:~~ Originally Approved By:

Air Pollution Control Board .....	June 9, 1981
Board of Health .....	July 1, 1981
Department of Law .....	July 2, 1981
Department of Records .....	August 7, 1981

Air Management Regulations Regulation VI (“Control of Emissions of Toxic Air Contaminants”) of the Department of Public Health Air Pollution Control Board are hereby amended as follows:

Deletions in ~~Strikethrough~~  
Additions in **Bold Underline**

**PREAMBLE TO  
AIR MANAGEMENT REGULATION VI  
Control of Emissions of Toxic Air Contaminants**

A. This Regulation is adopted pursuant to Title 3, Air Management Code, of the Philadelphia Code which reads in part as follows:

“SECTION 3-201. GENERAL PROVISIONS

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\* \* \*

1.

(+) **(3) (a)** No person shall emit any toxic air contaminant ~~unless~~ **unless**, within six months of the adoption of regulations by the Air Pollution Control Board listing toxic air contaminants, he provides notice to the Department including a Material Safety Data Sheet as described in Section 3-301(24) in accordance with the requirements and procedures established in regulations promulgated by the Air Pollution Control Board pursuant to this subsection.

If a person discharges a toxic air contaminant on the list established by the Air Pollution Control Board for the first time, that person shall provide the Department with proper notice no more than thirty days after its emission into the atmosphere.

The person responsible for any source of air contaminants affected by any subsequent additions to the list of toxic substances established in the regulations of the Air Pollution Control Board shall similarly file notice with the Department within ~~90~~ **ninety** days of the effective date of any revision to such list.

- (2) **(b)** The Department shall maintain a file of all notices relating to toxic air contaminants and shall make the file available for public inspection and reproduction during normal business hours.
- (3) **(c)** Within six months of the adoption of this subsection by the City Council, the Air Pollution Control Board shall promulgate regulations establishing a list of toxic air contaminants to which the provisions of this subsection shall be applicable, the form of the notice and request to be provided to the Department by any affected source of air contaminant emissions, and the reporting requirements and procedures related thereto.

The following factors may be considered by the Board in establishing the list of toxic air contaminants:

- (a)**(.1)** risk of immediate acute or substance harm to human health, at concentrations likely to be encountered in the community;
- (b)**(.2)** proven carcinogenicity through epidemiological studies in both human and animal populations;
- (c)**(.3)** suspected carcinogenicity as shown in human epidemiological studies or in laboratory studies of animals and other experimental media;
- (d)**(.4)** mutagenicity and teratogenicity as proven through human, animal, and experimental media;
- (e)**(.5)** bioaccumulative effects in humans and the environment;
- (f)**(.6)** findings of the Environmental Protection Agency, the Occupational Safety and Health Administration or other such agencies regarding toxicity;
- (g)**(.7)** extent to which the substance is likely to be found in Philadelphia industries;
- (h)**(.8)** other such factors necessary for the proper regulation of toxic air contaminants.

The Air Pollution Control Board shall, as appropriate, update and revise the list of toxic air contaminants subject to the provisions of this subsection on the basis of the latest available relevant scientific information.”

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“SECTION 3-301. POWERS AND DUTIES OF THE DEPARTMENT OF PUBLIC HEALTH.

The Department of Public Health shall have the following powers and duties:

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\* \* \*

- (24) The Department shall obtain a Material Safety Data Sheet (MSDS) for each toxic air contaminant subject to the notice requirement. Such MSDS shall be provided to the Department by the person responsible for the affected source of emission as part of the notice requirements in ~~Section 3-201(e)(3)~~. **subsection 3-201(3)(c)**. The Department shall include these MSDS in the file of notices regarding the emission of toxic air contaminants and shall make this file available to the public for inspection and reproduction during normal business hours. The MSDS shall conform to the format and contain the type of information required by the U.S. Department of Labor form OSHA 20, Material Safety Data Sheet (latest edition).
- (25) The Department shall have the authority to require persons subject to Section 3-201(c)(1) to take all necessary measure to bring their emission of toxic air contaminants into compliance with the Code and regulations promulgated thereunder.”

“SECTION 3-302. POWERS AND DUTIES OF THE AIR POLLUTION CONTROL BOARD.

The Air Pollution Control Board shall have the following powers and duties:

- (1) To promulgate regulations, implementing this Title, preventing degradation of air quality, preventing ~~air pollution~~, ~~eliminating~~ air pollution nuisances and, limiting, controlling, or prohibiting the emission of air contaminants to the atmosphere from any sources. Such regulations may include, but are not limited to, the following:
- (a) ~~The~~ **the** concentration, volume, weight, and other characteristics of emissions of air contaminants to the atmosphere, the circumstances

under which such emissions are permitted, and the degree of control of emissions of air contaminants required;

(b) the emissions of air contaminants to the atmosphere and related actions which are prohibited;

(c) the types and kinds of control measures and actions, equipment, storage and handling facilities, processes and systems, including specifications and/or performance requirements which may be required to control or eliminate emissions of air contaminants to the atmosphere;

\* \* \*

\* \* \*

(i) the substances to be considered toxic air contaminants under this Title and regulations for reporting the emission of these toxic air contaminants to the Department.”

B. Pursuant to the above citations, this Regulation establishes a list of toxic air contaminants to which this Regulation is applicable; prescribes notice requirements for emitters of listed toxic air contaminants; provides for public access to information concerning the emission of toxic air contaminants; and limits, controls or prohibits the emission of toxic air contaminants.

**AIR MANAGEMENT REGULATION VI  
CONTROL OF EMISSIONS OF TOXIC AIR CONTAMINANTS**

**SECTION I. DEFINITIONS**

The following definitions are in the Air Management Code, Title 3 of the Philadelphia Code, and apply to this Regulation:

1. *Air Contaminant* – Any smoke, soot, flyash, ~~dust~~ **dust**, cinders, dirt, noxious or obnoxious acids, fumes, oxides, ~~gases~~ **gases**, mists, aerosols, vapors, odors, toxic or radioactive substances, ~~waste~~, **water**, particulate, solid, liquid or gaseous matter, or any other materials in the outdoor atmosphere.
2. *Board* – Means the Air Pollution Control Board.
3. *Department* – The Department of Public Health, Health Commissioner or any authorized representative thereof.
4. *Facility* – The area, buildings, and equipment used by any person at a single location in the conduct of business.
5. *Person* – Any individual, natural person, syndicate, association, partnership, firm, corporation, institution, agency, authority, department, bureau, or instrumentality of federal, state or local government or other entity recognized by law as a subject of rights and duties.
6. *Toxic Air Contaminant* – A chemical substance or material the discharge of which into the atmosphere, based upon relevant available scientific evidence establishing the toxic, mutagenic and/or carcinogenic effects of such substance or material, may pose a potential hazard to the community in terms of a significant increase in risk of acute or long-term health effects. As used in this Regulation, toxic air contaminant shall mean any substance or material listed in the appendix to this Regulation.

**SECTION II. NOTICE REQUIREMENTS**

A. Notice of Emission

No person shall cause, suffer, allow or permit to escape or to be discharged into the atmosphere, from any ~~facility~~, **facility for which a permit or license is required by the Air Management Code or any regulation promulgated thereto** any toxic air contaminant ~~listed in the appendix to this Regulation~~ except where written notice has been filed with the ~~Department~~ **Department**. ~~Notice in accordance with the following:~~ **this Section shall be filed at the time a permit or license, required by Air Management Code or any regulation promulgated thereto, is sought.**

- ~~(1) For any facility emitting a listed toxic air contaminant as of the effective date of this Regulation, notice shall be filed within six months from the effective date.~~
- ~~(2) For any facility emitting a listed toxic air contaminant for the first time after the effective date of this Regulation, notice in accordance with this Section shall be filed within 30 days from the date on which the emission first commenced. The new emission of a toxic air contaminant shall not commence without prior approval from the Department.~~
- ~~(3) For any facility affected by any subsequent addition to the list of toxic air contaminants, notice shall be filed within 90 days from the effective date of any revision to the list of toxic air contaminants.~~
- ~~(4)~~**(1)** Notice shall include a list identifying **be made on a form as prescribed by the Department, and may require applicants to identify** the toxic air contaminants emitted; the associated areas or operations within the facility from which the toxic air contaminants are emitted; **and provide** estimates of the maximum hourly, daily and annual emission rates for each toxic air contaminant emitted from the specified areas or operations within the facility; ~~and the date when the emission of each toxic air contaminant began or is expected to begin.~~ **facility.**
- ~~(5) Included with the notice shall be a Material Safety Data Sheet (MSDS) for each toxic air contaminant listed in the notice. The MSDS shall conform to the format and contain the type of information required by the U.S. Department of Labor form OSHA 20, Material Safety Data Sheet, latest edition.~~

## B. Public Access

The Department shall establish and maintain, for a minimum of 30 years, a file of notices concerning the emission of toxic air contaminants and shall make the file available to the

public subject to Section IV(B)(2) for inspection and reproduction during normal business hours. The Department may charge a reasonable fee for the cost of reproduction.

### C. Exemptions

~~The requirements of this Section shall not apply to toxic air contaminants emitted from the following:~~

- ~~(1) Combustion process using only commercial fuel, including internal combustion engines;~~
- ~~(2) Retail dry cleaning operations;~~
- ~~(3) Retail and non-commercial storage and handling of motor fuels;~~
- ~~(4) Incineration of waste materials other than liquid, semi-liquid or solid by product industrial wastes; and~~
- ~~(5) Incidental or minor sources including laboratory scale operations, fireplaces and household appliances, cooking appliances, general comfort ventilation of occupied spaces, housecleaning operations, residential scale solvent use and pesticide application, and such other sources or categories of sources which are determined by the Department to be of minor significance for the purposes of this Regulation, or which the Department determines to be more appropriately evaluated by special survey methods.~~

**Facilities seeking permits or licenses for the following sources or activities, as required by Air Management Code or any regulation promulgated thereto, are exempted from the notice requirements set forth in this Section.**

- (1) Any demolition, implosion, earthworks, or other activity for which a Dust Control Permit is required pursuant to Air Management Regulation II. § IX.B.**
- (2) Any construction or modification of a parking facility or other Complex Source for which a Complex Source Permit is required pursuant to Air Management Regulation X. Section II.**
- (3) Any construction, modification, or operation of an automotive facility for which an installation permit or license is required pursuant to Air Management Regulation XII. Section II.**



- (4) Operation of a facility pursuant to a permit for non-Title V sources issued by the Department pursuant to 25 Pennsylvania Code Chapter 127, Subchapter F as adopted by reference in Air Management Regulation XIII.**
- (5) Operation of sources at a facility pursuant to an annual or indefinite license issued pursuant to the Air Management Code.**

### SECTION III. REGISTRATION, REVIEW AND APPROVAL REQUIREMENTS

#### A. Permits and Licenses

- (1) The person responsible for any facility affected by this Regulation shall comply with all applicable ~~installation~~ permit and ~~operating~~ license requirements as specified by the Air Management Code and the Air Management ~~Regulation I.~~ **Regulations promulgated thereunder.**
- (2) The Department shall require the applicant for, or holder of, any permit or license, or the person responsible, for any facility affected by this Regulation to take all necessary measures to prevent, control or limit the discharge or escape of toxic air contaminants so that the emissions do not pose a health hazard.
- (3) ~~The~~ **For facilities subject to the notice of emission requirements of Section II of this Regulation, the** Department shall grant or deny ~~an installation~~ **any** permit or ~~operating~~ license for any facility subject to this Regulation **sought pursuant to the Air Management Code and the Air Management Regulations promulgated thereunder** in accordance with the conditions set forth in (C) below.
- ~~(4) Operating licenses for affected facilities shall be renewed annually.~~

#### B. Review of Toxic Air Contaminant Emissions

- (1) The Department shall establish or approve procedures, guidelines and methods to be used in the review and evaluation of toxic air contaminant emissions. The Board hereby approves **the reporting thresholds for toxic air contaminants as set forth in the Technical Guidelines for Air Management Regulation VI attached as Exhibit A to this Regulation and the procedures for conducting health risk assessments for said toxic air contaminants as set forth in the Health Risk Assessment Technical Support Document for Air Management Regulation VI Amendment attached as Exhibit B.** The Department is hereby

**authorized to update the documents as necessary, provided that substantial changes are submitted to the Board for approval.**

- (2) The Department shall verify all notices of emission filed pursuant to Section II of this Regulation, **Regulation** and may require from the person responsible for any source of toxic air contaminant emissions such additional information as may be necessary to perform the evaluation required in (C) below.

C. Conditions of Approval

- (1) Approval of ~~an installation~~ **any** permit or operating license for any facility to emit or discharge into the atmosphere any toxic air contaminant listed in the appendix **pursuant** to this Regulation shall be granted only upon **Section is contingent on** a determination by the Department that such emission or discharge will not pose a **an undue** health hazard.
- (2) **The Department shall require the applicant for any permit or license for any source of toxic air contaminants affected by this Regulation to submit an assessment of health risk or hazard if the source has the potential to emit at least one toxic air contaminant in an amount above reporting thresholds established in the Department's guidelines. Assessments of health risk or hazard shall be compiled using the Risk Screening Workbook attached as Exhibit C. Exhibit C may be updated at the discretion of the Department.**
- ~~(2)~~**(3)** The Department's determination shall be based upon an evaluation of the quantity, concentration and duration of the emission relative to the latest available information regarding health effects, guidelines or standards associated with the toxic air contaminant, or upon such other information the Department considers relevant to the evaluation.

Based on this evaluation, the Department shall:

- (a) Approve a permit or license application, or license renewal, as submitted; **renew said permit or license, subject to adoption of work practices, emission controls, emission limits, process changes, and other conditions necessary to address the health hazard posed by the toxic air contaminants; or**
- (b) ~~conditionally approve a permit or license application, or license renewal, subject to an immediate emission reduction to a predetermined level; or~~

~~(c) conditionally approve a license renewal subject to compliance with an approved improvement plan and schedule to effect a predetermined emission reduction within a period not to exceed two (2) years; or~~

~~(d) **(b)** disapprove a permit or license application, or license renewal of said permit or license.~~

~~(3) In approving an installation permit or operating license for any facility to emit or discharge a toxic air contaminant, the Department shall specify the maximum allowable emission rates and the other conditions under which approval is granted. Any increase in emissions over the approved maximum allowable emission rates, without first obtaining approval from the Department is prohibited.~~

## SECTION IV. ADDITIONAL REPORTING REQUIREMENTS

### A. Information Reporting

(1) In addition to the Notice ~~Requirements~~ **requirements** of Section II, the person responsible for any source of emission of a listed toxic air contaminant shall, upon notification from the Department, provide such information as will disclose the quantity, concentration and duration of such emissions, which are or may be discharged, or any other technical data as may be required by the Department to determine compliance with applicable emission guidelines, standards, limitations or control measures established by the Department.

(2) The required information shall be submitted by the responsible person on reporting forms supplied by the Department and shall be complete. The required information shall be submitted to the Department within 30 days from the receipt of the notice and form, unless a written request for an extension has been made and granted by the Department.

(3) Information recorded on or copies of reporting forms submitted to the Department shall be retained by the responsible person for two years after the date on which the pertinent report was submitted.

### B. Availability of Information

- (1) Information obtained from reporting forms submitted to and verified by the Department shall be correlated with applicable emission guidelines, standards, limitations or control measures established by the Department. All such emissions data shall be available for public inspection at the Department during normal business hours.
- (2) Any records, reports, information, or particular part thereof, other than emissions data, relating to secret processes, methods of manufacture or production, or otherwise entitled to protection as trade secrets, provided to, required or obtained by the Department shall be kept confidential.

#### **SECTION V. APPLICABILITY**

- A. The provisions of this Regulation shall be applicable in addition to any other provisions set forth elsewhere in the Regulations of the Air Pollution Control Board, unless an exemption has been provided herein.
- B. Nothing contained in this Regulation shall be taken to excuse or relieve any person from complying with other applicable provisions of the Philadelphia Code and regulations adopted pursuant thereto, or with applicable laws of Pennsylvania or the United States.

#### **SECTION VI. SEVERABILITY**

The provisions of this Regulation are severable. If any provision or part thereof is held to be unenforceable, the remaining provisions or parts thereof shall remain in effect. It is hereby declared to be the intent of the Board that this Regulation would have been adopted if the ~~unforeseeable~~ **unenforceable** provision or part had not been included.

#### **SECTION VII. EFFECTIVE DATE**

This Regulation shall become effective upon adoption.

## APPENDIX TO AIR MANAGEMENT REGULATION VI

### Control of Emissions of Toxic Air Contaminants

The following substances and materials shall be considered toxic air contaminants for the purpose of this Regulation and shall be subject to the provisions and requirements set forth therein.

#### Schedule A (See Note)

1. ~~Acrylonitrile (Ala. 3): Propenenitrile; Vinyl Cyanide~~
2. ~~Aldrin (5.6)~~
3. ~~4-Aminodiphenyl (Alb): 4-Aminobiphenyl; P-Biphenylamine~~
4. ~~3-Amino-1,2,4-Triazole (A2): 5-(4-Acetaminodphenyl)-3-Amino-5-Triazole Hydrate~~
5. ~~Antimony and Compounds (A2)~~
6. ~~Arsenic and Compounds (A2, 3)~~
7. ~~Asbestos (Ala, 2, 3)~~
8. ~~Benzene (A2, 3)~~
9. ~~Benzidine (Alb, 3): 4,4'-Biphenyldiamine; 4,4'-Diphenylenediamine~~
10. ~~Benzo (a) Pyrene (A2, 3): 3, 4-Benzophrene; BAP~~
11. ~~Beryllium and Compounds (A2, 2, 3)~~
12. ~~BHC (6): 1, 2, 3, 4, 5, 6-Hexachlorocyclohexane~~
13. ~~Lindane & Isomers (6)~~
14. ~~Bis (2-Chloroethyl) Ether (3.5)~~
15. ~~Bis (Chloromethyl) (Ether (Ala. 3): Chloro (Chloroethoxy) Methane: BCME~~
16. ~~Bis (2-Hydroxyethyl) Dithiocarbamic Acid, Potassium salt (5)~~
17. ~~Cadmium and Compounds (3)~~
18. ~~Captan (5.6)~~
19. ~~Carbaryl (6)~~
20. ~~Carbon Tetrachloride (A2, 3, 5): Tetrachloromethane~~
21. ~~Chloramben (5, 6)~~
22. ~~Chlordane (3, 4, 5, 6)~~
23. ~~Chlorobenzilate (3, 5, 6)~~
24. ~~Chloroform (A2, 3, 4, 5): Trichloromethane~~
25. ~~Chloromethyl Methyl Ether (A2, 3): CMME~~
26. ~~Chromium and Compounds (Hexavalent)(A2, 3)~~
27. ~~DDT/DDD (3, 5, 6)~~
28. ~~1,2-Dibromo-3-Chloropropane (3, 5, 6)~~
29. ~~3,3'-Dichlorobenzidine (A2,3): 3,3'Dichlorobiphenyl 4,4'-Diamine~~

30. ~~2,4-Dichlorophenoxy Acetic Acid (6): 2,4-D~~
31. ~~Dieldrin (5,6)~~
32. ~~Di (2-Ethyl Hexyl Phthalate) (7)~~
33. ~~Dimethylcarbonyl Chloride (A2, 3): Dimethylcarbamic Acid Chloride~~
34. ~~1,1-Dimethyl Hydrazine (A2, 3): Asymmetric Dimethyl Hydrazine~~
35. ~~Dimethyl Sulfate (A2, 3)~~
36. ~~Dioxane (3): 1,4-Diethylene Dioxide: Gylcole Ethylene Ether~~
37. ~~Enfosulfan (6)~~
38. ~~Endrin (6)~~
39. ~~Ethylenebisdithiocarbamic Acid Salts (5)~~
40. ~~Ethylene Dibromide (A2,3,5): 1,2-Dibromoethane~~
41. ~~Ethylene Dichloride (3): 1,2-Dichloroethane~~
42. ~~Ethylene Oxide (3): 1,2-Epoxyethane~~
43. ~~Ethylene Thiourea (3): 2-Imidazolidinethione; 1,3-Ethylene-2-Thiourea; ETU~~
44. ~~Epichlorohydrin (3): 1-chloro-2,3-Epoxypropane~~
45. ~~Formaldehyde (3)~~
46. ~~Heptachlor (4,5,6)~~
47. ~~Hexachlorobenzene (3,4)~~
48. ~~Hexachlorobutadiene (A2,3,4): Hexachloro-1,3-Butadiene~~
49. ~~Hexamethyl Phosphoramide (A2); Tris (Dimethylamino) Phosphine Oxide~~
50. ~~Hydrazine (A2,3): Diamine~~
51. ~~Kelthane (6)~~
52. ~~Kepone (5,6)~~
53. ~~Lead and Compounds (7)~~
54. ~~Manganese and Compounds (7)~~
55. ~~Mereury and Compounds (2)~~
56. ~~Methoxychlor (6)~~
57. ~~Methyl Bromide (7)~~
58. ~~Methyl Chloride (7)~~
59. ~~4,4'-Methylene Bis(2-Chloroaniline)(A2,3): 3,3'-Dichloro-4,4'-Diaminodiphenyl-methane~~
60. ~~Methylene Chloride (7): Dichloromethane~~
61. ~~Methyl Iodide (A2,3)~~
62. ~~Mirex (5,6)~~
63. ~~Monomethyl Hydrazine (A2)~~
64. ~~B-Naphthylamine (Alb, 3): 2-Aminonaphthalene~~
65. ~~Nickel and Compounds (Ala, 3)~~
66. ~~4-Nitrodiphenyl (Alb)~~
67. ~~Nitrofen (5)~~
68. ~~2-Nitropropane (A2,3)~~

69. ~~n-Nitrosodimethylamine (A2,3)~~
70. ~~Parathion (6)~~
71. ~~Particulate Polycyclic Aromatic Hydrocarbons (A1a, 3): PPAH~~
72. ~~Pentachlorophenol (4,6)~~
73. ~~Perchloroethylene (5): Tetrachloroethylene~~
74. ~~Phenol (7)~~
75. ~~n-Phenyl-BNaphthylamine (A2): n-Phenyl-2-Naphthylamine~~
76. ~~Polybrominated Biphenyls (7): PBB~~
77. ~~Polychlorinated Biphenyls (3,4): PCB~~
78. ~~Propane Sulfone (A2, 3): 3-Hydroxy-1-Propanesulfonic Acid Sulfone~~
79. ~~B-Propiolactone (A2): 3-Hydroxypropionic Acid Lactone~~
80. ~~Propylene Imine (A2): 2-Methylaziridine~~
81. ~~Propylene Oxide (7): 1,2-Epoxypropane~~
82. ~~Quintozene (6): Pentachloronitrobenzene; PCNB~~
83. ~~Strobane (6): Terpene Polychlorinates~~
84. ~~2-(p-Tert-butylphenoxy)-Isopropyl-2-Chloroethyl Sulfite (5)~~
85. ~~Tetrachlorinated Dibenzo-P-Dioxins (4): TCDD, Dioxin~~
86. ~~Tetrachloroethane (3, 5): 1, 1, 2, 2-Tetrachloroethane~~
87. ~~Tetrachlorvinphos (5)~~
88. ~~Thallium and Compounds (7)~~
89. ~~O-Tolidine (A2,3): 3,3'-Dimethylbenzidine; Diaminoditolyl~~
90. ~~Trichloroethylene (3,5): TCE~~
91. ~~Trichlorophenol Isomers (3)~~
92. ~~2,4,5-Trichlorophenoxy Acetic Acid (6): 2,4,5-T~~
93. ~~Trifluralin (5)~~
94. ~~Toxaphene (4,6)~~
95. ~~Vinyl Bromide (A2): Bromoethylene~~
96. ~~Vinyl Chloride (A1a,3): Chloroethylene~~
97. ~~Vinyl Cyclohexene Dioxide (A2): 1,2-Epoxy-4-(Epoxy ethyl) Cyclohexane~~
98. ~~Vinylidene Chloride (3,4): 1,1-Dichloroethylene~~
99. ~~Vinyl Trichloride (7): 1,1,2-Trichloroethane~~

Note: ~~>Reference Sources= in parentheses, followed by chemical synonyms.~~

~~The substances listed in Schedule B are criteria pollutants as defined by the Environmental Protection Agency. These are toxic air contaminants for which national ambient air quality standards are established by Federal law. The Air Management Code and Regulations adequately address reporting and control of these substances. Therefore, the pollutants listed in Schedule B are excluded from the reporting provisions of Air Management Regulation VI.~~

## **Schedule B**

Carbon Monoxide  
 Sulfur Dioxide  
 Ozone  
 Nitrogen Dioxide  
 Total Suspended Particulates.

**Schedule A Reference Sources**

1. ~~American Conference of Governmental Industrial Hygienists; Handbook Lists:~~
  - A(1) (a). ~~Human Carcinogens — recognized carcinogenic or cocarcinogenic potential with assigned Threshold Limit Value (TLV).~~
  - A(1) (b). ~~Human Carcinogens — recognized carcinogenic potential without an assigned TLV.~~
  - A(2) ~~Industrial Substances Suspect of Carcinogenic Potential in Man — suspect of inducing cancer based on either (1) limited epidemiologic evidence, exclusive of clinical reports of single cases, or (2) demonstration of carcinogenesis in one or more animal species by appropriate methods.~~
2. ~~National Emission Standards for Hazardous Air Pollutants (NESHAPS) — U.S. EPA.~~
3. ~~TSCA Cancer Hazard Warning Label List — Toxic Substances Control Act — U.S. EPA.~~
4. ~~List of Organic Chemicals of Widespread Concern — U.S. EPA.~~
5. ~~Criteria for A Recommended Standard...Occupational Exposure During the Manufacture and Formulation of Pesticides — NIOSH.~~
6. ~~Selected Substances Table I (Pesticides) — N.J. Department of Environmental Protection.~~
7. ~~Special additions relative to local emission rates or concern.~~

<u>No.</u>	<u>CAS Number</u>	<u>Toxic Air Contaminant / Hazardous Air Pollutant</u>
<u>1</u>	<u>75070</u>	<u>Acetaldehyde</u>
<u>2</u>	<u>60355</u>	<u>Acetamide</u>
<u>3</u>	<u>75058</u>	<u>Acetonitrile</u>
<u>4</u>	<u>98862</u>	<u>Acetophenone</u>
<u>5</u>	<u>53963</u>	<u>2-Acetylaminofluorene</u>
<u>6</u>	<u>107028</u>	<u>Acrolein</u>
<u>7</u>	<u>79061</u>	<u>Acrylamide</u>
<u>8</u>	<u>79107</u>	<u>Acrylic acid</u>
<u>9</u>	<u>107131</u>	<u>Acrylonitrile</u>



<u>10</u>	<u>107051</u>	<u>Allyl chloride</u>
<u>11</u>	<u>92671</u>	<u>4-Aminobiphenyl</u>
<u>12</u>	<u>62533</u>	<u>Aniline</u>
<u>13</u>	<u>90040</u>	<u>o-Anisidine</u>
<u>14</u>	<u>140578</u>	<u>Aramite</u>
<u>15</u>	<u>1332214</u>	<u>Asbestos (1)</u>
<u>16</u>	<u>71432</u>	<u>Benzene</u>
<u>17</u>	<u>92875</u>	<u>Benzidine (4,4'-Biphenyldiamine)</u>
<u>18</u>	<u>98077</u>	<u>Benzotrichloride</u>
<u>19</u>	<u>100447</u>	<u>Benzyl chloride (Chloromethylbenzene)</u>
<u>20</u>	<u>92524</u>	<u>Biphenyl</u>
<u>21</u>	<u>117817</u>	<u>Bis(2-ethylhexyl) phthalate (DEHP)</u>
<u>22</u>	<u>542881</u>	<u>Bis(chloromethyl)ether</u>
<u>23</u>	<u>75252</u>	<u>Bromoform</u>
<u>24</u>	<u>106945</u>	<u>1-Bromopropane (n-Propyl Bromide)</u>
<u>25</u>	<u>106990</u>	<u>1,3-Butadiene</u>
<u>26</u>	<u>156627</u>	<u>Calcium cyanamide</u>
<u>27</u>	<u>133062</u>	<u>Captan</u>
<u>28</u>	<u>63252</u>	<u>Carbaryl</u>
<u>29</u>	<u>75150</u>	<u>Carbon disulfide</u>
<u>30</u>	<u>56235</u>	<u>Carbon tetrachloride (Tetrachloromethane)</u>
<u>31</u>	<u>463581</u>	<u>Carbonyl sulfide</u>
<u>32</u>	<u>120809</u>	<u>Catechol</u>
<u>33</u>	<u>133904</u>	<u>Chloramben</u>
<u>34</u>	<u>57749</u>	<u>Chlordane</u>
<u>35</u>	<u>7782505</u>	<u>Chlorine</u>
<u>36</u>	<u>79118</u>	<u>Chloroacetic acid</u>
<u>37</u>	<u>532274</u>	<u>2-Chloroacetophenone</u>
<u>38</u>	<u>108907</u>	<u>Chlorobenzene</u>

<u>39</u>	<u>510156</u>	<u>Chlorobenzilate (Ethyl-4,4'-dichlorobenzilate)</u>
<u>40</u>	<u>67663</u>	<u>Chloroform (Trichloromethane)</u>
<u>41</u>	<u>107302</u>	<u>Chloromethyl methyl ether (CMME)</u>
<u>42</u>	<u>126998</u>	<u>Chloroprene (2-Chloro-1,3-butadiene)</u>
<u>43</u>		<u>Cresols (Cresylic acid, Cresol mixers)</u>
<u>44</u>	<u>95487</u>	<u>o-Cresol</u>
<u>45</u>	<u>108394</u>	<u>m-Cresol</u>
<u>46</u>	<u>106445</u>	<u>p-Cresol</u>
<u>47</u>	<u>98828</u>	<u>Cumene</u>
<u>48</u>	<u>72559</u>	<u>DDE (Dichlorodiphenyldichloroethylene)</u>
<u>49</u>	<u>50293</u>	<u>DDT/DDD</u>
<u>50</u>	<u>334883</u>	<u>Diazomethane</u>
<u>51</u>	<u>132649</u>	<u>Dibenzofurans</u>
<u>52</u>	<u>96128</u>	<u>1,2-Dibromo-3-chloropropane</u>
<u>53</u>	<u>84742</u>	<u>Dibutylphthalate</u>
<u>54</u>	<u>106467</u>	<u>1,4-Dichlorobenzene</u>
<u>55</u>	<u>91941</u>	<u>3,3-Dichlorobenzidine</u>
<u>56</u>	<u>111444</u>	<u>Dichloroethyl ether (Bis(2-chloroethyl) ether)</u>
<u>57</u>	<u>542756</u>	<u>1,3-Dichloropropene</u>
<u>58</u>	<u>62737</u>	<u>Dichlorvos</u>
<u>59</u>	<u>60571</u>	<u>Dieldrin</u>
<u>60</u>	<u>111422</u>	<u>Diethanolamine</u>
<u>61</u>	<u>121697</u>	<u>N,N-Dimethylaniline</u>
<u>62</u>	<u>64675</u>	<u>Diethyl sulfate</u>
<u>63</u>	<u>119904</u>	<u>3,3-Dimethoxybenzidine</u>
<u>64</u>	<u>60117</u>	<u>4-Dimethyl aminoazobenzene</u>
<u>65</u>	<u>119937</u>	<u>3,3'-Dimethyl benzidine (o-Tolidine)</u>
<u>66</u>	<u>79447</u>	<u>Dimethyl carbamoyl chloride</u>
<u>67</u>	<u>68122</u>	<u>Dimethyl formamide</u>

<u>68</u>	<u>57147</u>	<u>1,1-Dimethyl hydrazine</u> <u>(Asymmetric dimethyl hydrazine)</u>
<u>69</u>	<u>131113</u>	<u>Dimethyl phthalate</u>
<u>70</u>	<u>77781</u>	<u>Dimethyl sulfate</u>
<u>71</u>	<u>534521</u>	<u>4,6-Dinitro-o-cresol</u>
<u>72</u>	<u>51285</u>	<u>2,4-Dinitrophenol</u>
<u>73</u>	<u>121142</u>	<u>2,4-Dinitrotoluene</u>
<u>74</u>	<u>123911</u>	<u>1,4-Dioxane (1,4-Diethyleneoxide)</u>
<u>75</u>	<u>122667</u>	<u>1,2-Diphenylhydrazine</u>
<u>76</u>	<u>106898</u>	<u>Epichlorohydrin (1-Chloro-2,3-epoxypropane)</u>
<u>77</u>	<u>106887</u>	<u>1,2-Epoxybutane</u>
<u>78</u>	<u>140885</u>	<u>Ethyl acrylate</u>
<u>79</u>	<u>100414</u>	<u>Ethyl benzene</u>
<u>80</u>	<u>51796</u>	<u>Ethyl carbamate (Urethane)</u>
<u>81</u>	<u>75003</u>	<u>Ethyl chloride (Chloroethane)</u>
<u>82</u>	<u>106934</u>	<u>Ethylene dibromide (1,2-Dibromoethane)</u>
<u>83</u>	<u>107062</u>	<u>Ethylene dichloride (1,2-Dichloroethane)</u>
<u>84</u>	<u>107211</u>	<u>Ethylene glycol</u>
<u>85</u>	<u>151564</u>	<u>Ethylene imine (Aziridine)</u>
<u>86</u>	<u>75218</u>	<u>Ethylene oxide</u>
<u>87</u>	<u>96457</u>	<u>Ethylene thiourea (1,3-Ethylene-2-thiourea)</u>
<u>88</u>	<u>75343</u>	<u>Ethylidene dichloride (1,1-Dichloroethane)</u>
<u>89</u>	<u>50000</u>	<u>Formaldehyde</u>
<u>90</u>	<u>76448</u>	<u>Heptachlor</u>
<u>91</u>	<u>118741</u>	<u>Hexachlorobenzene</u>
<u>92</u>	<u>87683</u>	<u>Hexachlorobutadiene</u> <u>(Hexachloro-1,3-butadiene)</u>
<u>93</u>	<u>608731</u>	<u>Hexachlorocyclohexane [technical grade]</u>
<u>94</u>	<u>58899</u>	<u>gamma-Hexachlorocyclohexane (Lindane)</u>

<u>95</u>	<u>77474</u>	<u>Hexachlorocyclopentadiene</u>
<u>96</u>	<u>67721</u>	<u>Hexachloroethane</u>
<u>97</u>	<u>822060</u>	<u>Hexamethylene-1,6-diisocyanate</u>
<u>98</u>	<u>680319</u>	<u>Hexamethylphosphoramide</u>
<u>99</u>	<u>110543</u>	<u>Hexane</u>
<u>100</u>	<u>302012</u>	<u>Hydrazine (Diamine)</u>
<u>101</u>	<u>7647010</u>	<u>Hydrogen chloride (Hydrochloric acid)</u>
<u>102</u>	<u>7664393</u>	<u>Hydrogen fluoride (Hydrofluoric acid)</u>
<u>103</u>	<u>123319</u>	<u>Hydroquinone</u>
<u>104</u>	<u>78591</u>	<u>Isophorone</u>
<u>105</u>	<u>108316</u>	<u>Maleic anhydride</u>
<u>106</u>	<u>67561</u>	<u>Methanol</u>
<u>107</u>	<u>72435</u>	<u>Methoxychlor</u>
<u>108</u>	<u>74839</u>	<u>Methyl bromide (Bromomethane)</u>
<u>109</u>	<u>74873</u>	<u>Methyl chloride (Chloromethane)</u>
<u>110</u>	<u>71556</u>	<u>Methyl chloroform (1,1,1-Trichloroethane)</u>
<u>111</u>	<u>60344</u>	<u>Methyl hydrazine</u>
<u>112</u>	<u>74884</u>	<u>Methyl iodide (Iodomethane)</u>
<u>113</u>	<u>108101</u>	<u>Methyl isobutyl ketone (MIBK; Hexone)</u>
<u>114</u>	<u>624839</u>	<u>Methyl isocyanate</u>
<u>115</u>	<u>80626</u>	<u>Methyl methacrylate</u>
<u>116</u>	<u>1634044</u>	<u>Methyl tert butyl ether (MTBE)</u>
<u>117</u>	<u>101144</u>	<u>4,4-Methylene bis(2-chloraniline)</u>
<u>118</u>	<u>75092</u>	<u>Methylene chloride (Dichloromethane)</u>
<u>119</u>	<u>101779</u>	<u>4,4'-Methylene dianiline</u>
<u>120</u>	<u>101688</u>	<u>4,4-Methylene diphenyl diisocyanate (MDI)</u>
<u>121</u>	<u>91203</u>	<u>Naphthalene</u>
<u>122</u>	<u>98953</u>	<u>Nitrobenzene</u>
<u>123</u>	<u>92933</u>	<u>4-Nitrobiphenyl</u>

<u>124</u>	<u>100027</u>	<u>4-Nitrophenol</u>
<u>125</u>	<u>79469</u>	<u>2-Nitropropane</u>
<u>126</u>	<u>55185</u>	<u>N-Nitrosodiethylamine</u>
<u>127</u>	<u>62759</u>	<u>N-Nitrosodimethylamine</u>
<u>128</u>	<u>59892</u>	<u>N-Nitrosomorpholine</u>
<u>129</u>	<u>684935</u>	<u>N-Nitroso-N-methylurea</u>
<u>130</u>	<u>56382</u>	<u>Parathion</u>
<u>131</u>	<u>82688</u>	<u>Pentachloronitrobenzene (Quintobenzene)</u>
<u>132</u>	<u>87865</u>	<u>Pentachlorophenol</u>
<u>133</u>	<u>108952</u>	<u>Phenol</u>
<u>134</u>	<u>106503</u>	<u>p-Phenylenediamine</u>
<u>135</u>	<u>75445</u>	<u>Phosgene</u>
<u>136</u>	<u>7803512</u>	<u>Phosphine</u>
<u>137</u>	<u>7723140</u>	<u>Phosphorus</u>
<u>138</u>	<u>85449</u>	<u>Phthalic anhydride</u>
<u>139</u>	<u>1336363</u>	<u>Polychlorinated biphenyls (PCBs; Aroclors)</u>
<u>140</u>	<u>1120714</u>	<u>1,3-Propane sultone</u> <u>(3-Hydroxyl-1-propane sulfonic acid sulfone)</u>
<u>141</u>	<u>57578</u>	<u>beta-Propiolactone</u> <u>(3-Hydroxypropanoic acid lactone)</u>
<u>142</u>	<u>123386</u>	<u>Propionaldehyde</u>
<u>143</u>	<u>114261</u>	<u>Propoxur (Baygon)</u>
<u>144</u>	<u>78875</u>	<u>Propylene dichloride (1,2-Dichloropropane)</u>
<u>145</u>	<u>75569</u>	<u>Propylene oxide (1,2-Epoxypropane)</u>
<u>146</u>	<u>75558</u>	<u>1,2-Propylenimine (2-Methyl aziridine)</u>
<u>147</u>	<u>91225</u>	<u>Quinoline</u>
<u>148</u>	<u>106514</u>	<u>Quinone</u>
<u>149</u>	<u>100425</u>	<u>Styrene</u>
<u>150</u>	<u>96093</u>	<u>Styrene oxide</u>

<u>151</u>	<u>2699798</u>	<u>Sulfuryl fluoride</u>
<u>152</u>	<u>1746016</u>	<u>2,3,7,8-Tetrachlorodibenzo(p)dioxin</u> <u>(2,3,7,8-TCDD; Dioxin)</u>
<u>153</u>	<u>79345</u>	<u>1,1,2,2-Tetrachloroethane</u>
<u>154</u>	<u>127184</u>	<u>Tetrachloroethylene (Perchloroethylene)</u>
<u>155</u>	<u>7550450</u>	<u>Titanium tetrachloride</u>
<u>156</u>	<u>108883</u>	<u>Toluene</u>
<u>157</u>	<u>95807</u>	<u>2,4-Toluene diamine (2,4-Diaminotoluene)</u>
<u>158</u>	<u>584849</u>	<u>2,4-Toluene diisocyanate</u>
<u>159</u>	<u>95534</u>	<u>o-Toluidine</u>
<u>160</u>	<u>8001352</u>	<u>Toxaphene</u>
<u>161</u>	<u>120821</u>	<u>1,2,4-Trichlorobenzene</u>
<u>162</u>	<u>79005</u>	<u>1,1,2-Trichloroethane</u>
<u>163</u>	<u>79016</u>	<u>Trichloroethylene</u>
<u>164</u>	<u>95954</u>	<u>2,4,5-Trichlorophenol</u>
<u>165</u>	<u>88062</u>	<u>2,4,6-Trichlorophenol</u>
<u>166</u>	<u>121448</u>	<u>Triethylamine</u>
<u>167</u>	<u>1582098</u>	<u>Trifluralin</u>
<u>168</u>	<u>540841</u>	<u>2,2,4-Trimethylpentane</u>
<u>169</u>	<u>108054</u>	<u>Vinyl acetate</u>
<u>170</u>	<u>593602</u>	<u>Vinyl bromide (Bromoethene)</u>
<u>171</u>	<u>75014</u>	<u>Vinyl chloride</u>
<u>172</u>	<u>75354</u>	<u>Vinylidene chloride (1,1-Dichloroethylene)</u>
<u>173</u>		<u>Xylenes (mixed isomers)</u>
<u>174</u>	<u>95476</u>	<u>o-Xylenes</u>
<u>175</u>	<u>108380</u>	<u>m-Xylenes</u>
<u>176</u>	<u>106423</u>	<u>p-Xylenes</u>
<u>177</u>		<u>Antimony compounds (2)</u>
<u>178</u>	<u>7783702</u>	<u>Antimony pentafluoride</u>

<u>179</u>	<u>1309644</u>	<u>Antimony trioxide</u>
<u>180</u>	<u>1345046</u>	<u>Antimony trisulfide</u>
<u>181</u>		<u>Arsenic compounds (2)</u>
<u>182</u>	<u>7784421</u>	<u>Arsine</u>
<u>183</u>		<u>Beryllium compounds (2)</u>
<u>184</u>		<u>Cadmium compounds (2)</u>
<u>185</u>	<u>130618</u>	<u>Cadmium oxide</u>
<u>186</u>		<u>Chromium VI (Total) (2)</u>
<u>187</u>	<u>744084</u>	<u>Cobalt metal and compounds (2)</u>
<u>188</u>	<u>10210681</u>	<u>Cobalt carbonyl</u>
<u>189</u>	<u>62207765</u>	<u>Fluomine</u>
<u>190</u>		<u>Coke oven emissions (2)</u>
<u>191</u>		<u>Cyanide compounds</u> <u>(including Hydrogen cyanide) (2)</u>
<u>192</u>	<u>94757</u>	<u>2,4-D, salts and esters (2)</u>
<u>193</u>		<u>Glycol ethers (2)</u>
<u>194</u>	<u>111762</u>	<u>Ethylene glycol monobutyl ether</u> <u>(2-Butoxyethanol; EGBE)</u>
<u>195</u>	<u>110805</u>	<u>Ethylene glycol monoethyl ether</u> <u>(2-Ethoxy ethanol)</u>
<u>196</u>	<u>111159</u>	<u>Ethylene glycol monoethyl ether acetate</u>
<u>197</u>	<u>109864</u>	<u>Ethylene glycol monomethyl ether</u> <u>(2-Methoxy ethanol)</u>
<u>198</u>		<u>Lead and compounds (2)</u>
<u>199</u>	<u>78002</u>	<u>Tetraethyl lead</u>
<u>200</u>	<u>7439965</u>	<u>Manganese and compounds (2)</u>
<u>201</u>	<u>12108133</u>	<u>Methylcyclopentadienyl manganese</u>
<u>202</u>		<u>Mercury compounds (2)</u>
<u>203</u>	<u>7439976</u>	<u>Mercury (inorganic)</u>

<u>204</u>		<u>Nickel compounds (2)</u>
<u>205</u>	<u>13463393</u>	<u>Nickel carbonyl</u>
<u>206</u>	<u>1313991</u>	<u>Nickel oxide</u>
<u>207</u>		<u>Polycyclic organic matter (POM) &amp; Polycyclic aromatic hydrocarbons (PAHs) (2)</u>
<u>208</u>	<u>56553</u>	<u>Benz(a)anthracene</u>
<u>209</u>	<u>225514</u>	<u>Benz(c)acridine</u>
<u>210</u>	<u>50328</u>	<u>Benzo(a)pyrene (3,4-benzopyrene)</u>
<u>211</u>	<u>205992</u>	<u>Benzo(b)fluoranthene</u>
<u>212</u>		<u>Selenium compounds (2)</u>
<u>213</u>	<u>7783075</u>	<u>Hydrogen selenide</u>
<u>214</u>	<u>7488564</u>	<u>Selenium sulfide (mono- and di-)</u>
<u>215</u>	<u>13410010</u>	<u>Sodium selenate</u>
<u>216</u>	<u>10102188</u>	<u>Sodium selenite</u>
<u>217</u>		<u>Total dioxin and furans (3)</u>

- (1) Also see Philadelphia Department of Public Health Asbestos Control Regulation.
- (2) Indicating a chemical compound group; some compounds or subgroups included in this group may also be individually named in this table.
- (3) As defined in Interim Procedures for Estimating Risks Associated with Exposure to Mixtures of Chlorinated-p- Dioxins and Dibenzofurans (CDDs and CDFs) and 1989 Update by U.S. Environmental Protection Agency.