



## ADMINISTRATIVE RULES OF MONTANA

### 17.50.1307 ASSESSMENT MONITORING PROGRAM

- (1) An owner or operator of a Class II or Class IV landfill unit shall conduct assessment monitoring at that unit as required in ARM 17.50.1306 and this rule.
- (2) Within 90 days after being required by ARM 17.50.1306 to establish an assessment monitoring program, and annually thereafter, the owner or operator shall sample and analyze the ground water for all constituents identified in Appendix II to 40 CFR Part 258 (July 1, 2008), set forth below. A minimum of one sample from each downgradient well must be collected and analyzed during each sampling event. For any constituent detected in the downgradient wells as a result of monitoring of all constituents in Appendix II to 40 CFR Part 258 (July 1, 2008), a minimum of four independent samples from each background and downgradient well must be collected and analyzed to establish background for the constituent. The owner or operator shall conduct assessment monitoring for constituents in Appendix II to 40 CFR Part 258 (July 1, 2008) for any subset of wells specified by the department. The department may exempt an owner or operator of a Class II or Class IV landfill unit from monitoring a constituent in Appendix II to 40 CFR Part 258 (July 1, 2008) if the owner or operator makes a written demonstration, approved by the department, that the exempted constituent is not reasonably expected to be in, or derived from, the waste contained in the unit.
- (3) The department may specify, and an owner or operator shall comply with, an appropriate alternate frequency for repeated sampling and analysis of the constituents in Appendix II to 40 CFR Part 258 (July 1, 2008) required by (2), during the active life and closure and post-closure care periods of the unit, considering the following factors:
  - (a) lithology of the aquifer and unsaturated zone;
  - (b) hydraulic conductivity of the aquifer and unsaturated zone;
  - (c) ground water flow rates;
  - (d) minimum distance between upgradient edge of the Class II or Class IV landfill unit and downgradient monitoring well screen (minimum distance of travel);
  - (e) resource value of the aquifer; and
  - (f) nature (fate and transport) of any constituents detected by monitoring required by this rule.
- (4) After obtaining the results from the initial or subsequent sampling events required in (2), the owner or operator shall:
  - (a) within 14 days, place a notice in the operating record identifying the constituents in Appendix II to 40 CFR Part 258 (July 1, 2008) that have been detected and notify the department that this notice has been placed in the operating record;

- (b) within 90 days, and on at least a semiannual basis thereafter, resample all wells described in ARM 17.50.1304(1), conduct analyses for all constituents in Appendix I to 40 CFR Part 258 (July 1, 2008) or in the alternative list of parameters established in accordance with ARM 17.50.1306(3), and for those constituents in Appendix II to 40 CFR Part 258 (July 1, 2008) that are detected by monitoring required by (2), and record their concentrations in the facility operating record. At least one sample from each background and downgradient well must be collected and analyzed during these sampling events. If specified by the department, the owner or operator shall conduct sampling and analyses under this subsection at an alternative frequency during the active life and closure and the post-closure care periods of the unit. The alternative frequency may be no less frequent than annual during the active life of the unit, including closure. The alternative frequency must be based on consideration of the factors specified in (3);
  - (c) establish the background concentration for each constituent or parameter detected pursuant to (2) or (4)(b); and
  - (d) establish the ground water protection standard for each constituent or parameter detected pursuant to (2) or (4)(b). The ground water protection standard must be established in accordance with (8).
- (5) If the owner or operator determines that concentrations of all constituents in Appendix II to 40 CFR Part 258 (July 1, 2008) are at or below background values, using the statistical procedures described in ARM 17.50.1305(8), for two consecutive sampling events, the owner or operator shall submit this determination to the department for approval and may, if approved, return to detection monitoring.
- (6) If the owner or operator determines, using the statistical procedures in ARM 17.50.1305(8), that the concentration of a constituent in Appendix II to 40 CFR part 258 (July 1, 2008) is above background, but that all concentrations are below the ground water protection standard established under (8), the owner or operator shall submit this determination to the department for approval and shall continue assessment monitoring in accordance with this rule, unless notified otherwise by the department.
- (7) If the owner, operator, or department determines, using the same statistical procedures as required in ARM 17.50.1305(8), that, in any sampling event required in this rule, there has been a statistically significant increase above the ground water protection standard established under (8) in the concentration of a constituent in Appendix II to 40 CFR part 258 (July 1, 2008), the owner or operator shall, within 14 days, place a notice in the operating record identifying each constituent in Appendix II to 40 CFR part 258 (July 1, 2008) that has exceeded the ground water protection standard and notify the department and all appropriate local government officials that the notice has been placed in the operating record. The owner or operator shall either:
- (a) comply with (7)(a)(i) through (iv), as follows:
    - (i) characterize the nature and extent of the release by installing additional monitoring wells as necessary;
    - (ii) install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with (4)(b);
    - (iii) notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination, if contaminants have migrated off-site if indicated by sampling of wells in accordance with (7)(a); and

- (iv) initiate an assessment of corrective measures as required by ARM 17.50.1308, within 90 days; or
  - (b) demonstrate that a source other than a Class II or Class IV landfill unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or from natural variation in ground water quality. A report documenting this demonstration must be certified by a qualified ground water scientist and submitted to the department for approval and placed in the operating record. If the demonstration is approved, the owner or operator shall continue monitoring in accordance with the assessment monitoring program required by this rule, and may return to detection monitoring if the concentrations of all of the constituents in Appendix II to 40 CFR Part 258 (July 1, 2008) are at or below background levels as specified in (5). Until the department approves a demonstration, the owner or operator shall comply with (7), including initiating an assessment of corrective measures.
- (8) The owner or operator shall establish a ground water protection standard for each constituent in Appendix II to 40 CFR Part 258 (July 1, 2008) and parameter in the alternative list in ARM 17.50.1306(3) detected in the ground water. The ground water protection standard must be:
- (a) for a constituent for which a maximum contaminant level (MCL) has been promulgated under Montana ground water quality standards, the MCL for that constituent;
  - (b) for a constituent for which an MCL has not been promulgated, the background concentration for the constituent established from wells in accordance with ARM 17.50.1304(1)(a);
  - (c) for a constituent for which the background level is higher than the MCL identified under (8)(a) or health based levels identified under (9)(a), the background concentration; or
  - (d) for a constituent or parameter in the alternative list in ARM 17.50.1306(3) for which a ground water quality standard has been established pursuant to (9), that ground water quality standard.
- (9) If the department believes a standard is needed for a constituent or parameter in the alternative list in ARM 17.50.1306(3) for which an MCL or ground water quality standard has not been established by Montana law or rule, the department shall propose the adoption of a ground water quality standard for that constituent or parameter. The ground water quality standard proposed must be health-based and set at an appropriate level that satisfies the following criteria:
- (a) the level is derived in a manner consistent with EPA guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, Sept. 24, 1986);
  - (b) the level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR Part 792) or equivalent requirements;
  - (c) for carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level, due to continuous lifetime exposure, within the  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$  range; and
  - (d) for systemic toxicants, the level represents a concentration to which the human population, including sensitive subgroups, could be exposed to on a daily basis that is likely to be without

appreciable risk of deleterious effects during a lifetime. For purposes of this subchapter, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.

- (10) In proposing a ground water quality standard under (9), the department shall consider the following:
- (a) multiple contaminants in the ground water;
  - (b) exposure threats to sensitive environmental receptors; and
  - (c) other site-specific exposure or potential exposure to ground water.

Appendix II to 40 CFR Part 258 (July 1, 2008)  
List of Hazardous Inorganic and Organic Constituents

| Common name <sup>1</sup>              | CAS RN <sup>2</sup> | Chemical abstracts service index name <sup>3</sup>                                              |
|---------------------------------------|---------------------|-------------------------------------------------------------------------------------------------|
| Acenaphthene                          | 83-32-9             | Acenaphthylene, 1,2-dihydro-                                                                    |
| Acenaphthylene                        | 208-96-8            | Acenaphthylene                                                                                  |
| Acetone                               | 67-64-1             | 2-Propanone                                                                                     |
| Acetonitrile; Methyl cyanide          | 75-05-8             | Acetonitrile                                                                                    |
| Acetophenone                          | 98-86-2             | Ethanone, 1-phenyl-                                                                             |
| 2-Acetylaminofluorene; 2-AAF          | 53-96-3             | Acetamide, N-9H-fluoren-2-yl-                                                                   |
| Acrolein                              | 107-02-8            | 2-Propenal                                                                                      |
| Acrylonitrile                         | 107-13-1            | 2-Propenenitrile                                                                                |
| Aldrin                                | 309-00-2            | 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1,4,4a,5,8,8a)- |
| Allyl chloride                        | 107-05-1            | 1-Propene, 3-chloro-                                                                            |
| 4-Aminobiphenyl                       | 92-67-1             | [1,1'-Biphenyl]-4-amine                                                                         |
| Anthracene                            | 120-12-7            | Anthracene                                                                                      |
| Antimony                              |                     | Antimony                                                                                        |
| Arsenic                               |                     | Arsenic                                                                                         |
| Barium                                |                     | Barium                                                                                          |
| Benzene                               | 71-43-2             | Benzene                                                                                         |
| Benzo[a]anthracene;<br>Benzanthracene | 56-55-3             | Benz[a]anthracene                                                                               |
| Benzo[b]fluoranthene                  | 205-99-2            | Benz[e]acephenanthrylene                                                                        |
| Benzo[k]fluoranthene                  | 207-08-9            | Benzo[k]fluoranthene                                                                            |
| Benzo[ghi]perylene                    | 191-24-2            | Benzo[ghi]perylene                                                                              |

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| Benzo[a]pyrene                                                                                | 50-32-8           | Benzo[a]pyrene                                                                                                    |
| Benzyl alcohol                                                                                | 100-51-6          | Benzenemethanol                                                                                                   |
| Beryllium                                                                                     |                   | Beryllium                                                                                                         |
| alpha-BHC                                                                                     | 319-84-6          | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1 $\alpha$ ,2 $\alpha$ ,3 $\beta$ ,4 $\alpha$ ,5 $\beta$ ,6 $\beta$ )-     |
| beta-BHC                                                                                      | 319-85-7          | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1 $\alpha$ ,2 $\beta$ ,3 $\alpha$ ,4 $\beta$ ,5 $\alpha$ ,6 $\beta$ )-     |
| delta-BHC                                                                                     | 319-86-8          | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1 $\alpha$ ,2 $\alpha$ ,3 $\alpha$ ,4 $\beta$ ,5 $\alpha$ ,6 $\beta$ )-    |
| gamma-BHC; Lindane                                                                            | 58-89-9           | Cyclohexane, 1,2,3,4,5,6- hexachloro-, (1 $\alpha$ ,2 $\alpha$ , 3 $\beta$ , 4 $\alpha$ ,5 $\alpha$ ,6 $\beta$ )- |
| Bis(2-chloroethoxy)methane                                                                    | 111-91-1          | Ethane, 1,1'-[methylenebis (oxy)]bis [2-chloro-                                                                   |
| Bis(2-chloroethyl)ether;<br>Dichloroethyl ether                                               | 111-44-4          | Ethane, 1,1'-oxybis[2-chloro-                                                                                     |
| Bis(2-chloro-1-methylethyl) ether;<br>2,2'-Dichlorodiisopropyl ether; DCIP,<br>See footnote 4 | 108-60-1          | Propane, 2,2'-oxybis[1-chloro-                                                                                    |
| Bis(2-ethylhexyl) phthalate                                                                   | 117-81-7          | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester                                                              |
| Bromochloromethane;<br>Chlorobromomethane                                                     | 74-97-5           | Methane, bromochloro-                                                                                             |
| Bromodichloromethane;<br>Dibromochloromethane                                                 | 75-27-4           | Methane, bromodichloro-                                                                                           |
| Bromoform; Tribromomethane                                                                    | 75-25-2           | Methane, tribromo-                                                                                                |
| 4-Bromophenyl phenyl ether                                                                    | 101-55-3          | Benzene, 1-bromo-4-phenoxy-                                                                                       |
| Butyl benzyl phthalate; Benzyl butyl<br>phthalate                                             | 85-68-7           | 1,2-Benzenedicarboxylic acid, butyl phenylmethyl<br>ester                                                         |
| Cadmium                                                                                       |                   | Cadmium                                                                                                           |
| Carbon disulfide                                                                              | 75-15-0           | Carbon disulfide                                                                                                  |
| Carbon tetrachloride                                                                          | 56-23-5           | Methane, tetrachloro-                                                                                             |
| Chlordane                                                                                     | See footnote<br>5 | 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-<br>2,3,3a,4,7,7a-hexahydro-                                    |
| p-Chloroaniline                                                                               | 106-47-8          | Benzenamine, 4-chloro-                                                                                            |
| Chlorobenzene                                                                                 | 108-90-7          | Benzene, chloro-                                                                                                  |
| Chlorobenzilate                                                                               | 510-15-6          | Benzeneacetic acid, 4-chloro-<br>-(4-chlorophenyl)-<br>-hydroxy-, ethyl ester.                                    |
| p-Chloro-m-cresol; 4-Chloro-3-<br>methylphenol                                                | 59-50-7           | Phenol, 4-chloro-3-methyl-                                                                                        |
| Chloroethane; Ethyl chloride                                                                  | 75-00-3           | Ethane, chloro-                                                                                                   |

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| Chloroform; Trichloromethane                  | 67-66-3   | Methane, trichloro-                                                          |
| 2-Chloronaphthalene                           | 91-58-7   | Naphthalene, 2-chloro-                                                       |
| 2-Chlorophenol                                | 95-57-8   | Phenol, 2-chloro-                                                            |
| 4-Chlorophenyl phenyl ether                   | 7005-72-3 | Benzene, 1-chloro-4-phenoxy-                                                 |
| Chloroprene                                   | 126-99-8  | 1,3-Butadiene, 2-chloro-                                                     |
| Chromium                                      |           | Chromium                                                                     |
| Chrysene                                      | 218-01-9  | Chrysene                                                                     |
| Cobalt                                        |           | Cobalt                                                                       |
| Copper                                        |           | Copper                                                                       |
| m-Cresol; 3-Methylphenol                      | 108-39-4  | Phenol, 3-methyl-                                                            |
| o-Cresol; 2-Methylphenol                      | 95-48-7   | Phenol, 2-methyl-                                                            |
| p-Cresol; 4-Methylphenol                      | 106-44-5  | Phenol, 4-methyl-                                                            |
| Cyanide                                       | 57-12-5   | Cyanide                                                                      |
| 2,4-D; 2,4-Dichlorophenoxyacetic acid         | 94-75-7   | Acetic acid, (2,4-dichlorophenoxy)-                                          |
| 4,4'-DDD                                      | 72-54-8   | Benzene 1,1'-(2,2-dichloroethylidene) bis[4-chloro-                          |
| 4,4'-DDE                                      | 72-55-9   | Benzene, 1,1'-(dichloroethenylidene) bis[4-chloro-                           |
| 4,4'-DDT                                      | 50-29-3   | Benzene, 1,1'-(2,2,2-trichloroethylidene) bis[4-chloro-                      |
| Diallate                                      | 2303-16-4 | Carbamothioic acid, bis(1-methylethyl)-, S- (2,3-dichloro-2-propenyl) ester. |
| Dibenz[a,h]anthracene                         | 53-70-3   | Dibenz[a,h]anthracene                                                        |
| Dibenzofuran                                  | 132-64-9  | Dibenzofuran                                                                 |
| Dibromochloromethane;<br>Chlorodibromomethane | 124-48-1  | Methane, dibromochloro-                                                      |
| 1,2-Dibromo-3-chloropropane; DBCP             | 96-12-8   | Propane, 1,2-dibromo-3-chloro-                                               |
| 1,2-Dibromoethane; Ethylene<br>dibromide; EDB | 106-93-4  | Ethane, 1,2-dibromo-                                                         |
| Di-n-butyl phthalate                          | 84-74-2   | 1,2-Benzenedicarboxylic acid, dibutyl ester                                  |
| o-Dichlorobenzene; 1,2-<br>Dichlorobenzene    | 95-50-1   | Benzene, 1,2-dichloro-                                                       |
| m-Dichlorobenzene; 1,3-<br>Dichlorobenzene    | 541-73-1  | Benzene, 1,3-dichloro-                                                       |
| p-Dichlorobenzene; 1,4-<br>Dichlorobenzene    | 106-46-7  | Benzene, 1,4-dichloro-                                                       |
| 3,3'-Dichlorobenzidine                        | 91-94-1   | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-                                 |
| trans-1,4-Dichloro-2-butene                   | 110-57-6  | 2-Butene, 1,4-dichloro-, (E)-                                                |
| Dichlorodifluoromethane; CFC 12               | 75-71-8   | Methane, dichlorodifluoro-                                                   |
| 1,1-Dichloroethane; Ethyldidene<br>chloride   | 75-34-3   | Ethane, 1,1-dichloro-                                                        |
| 1,2-Dichloroethane; Ethylene<br>dichloride    | 107-06-2  | Ethane, 1,2-dichloro-                                                        |

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| 1,1-Dichloroethylene; 1,1-Dichloroethene;                            | 75-35-4    | Ethene, 1,1-dichloro-                                                                                                                                                                             |
| Vinylidene chloride cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene | 156-59-2   | Ethene, 1,2-dichloro-(Z)-                                                                                                                                                                         |
| trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene                 | 156-60-5   | Ethene, 1,2-dichloro-, (E)-                                                                                                                                                                       |
| 2,4-Dichlorophenol                                                   | 120-83-2   | Phenol, 2,4-dichloro-                                                                                                                                                                             |
| 2,6-Dichlorophenol                                                   | 87-65-0    | Phenol, 2,6-dichloro-                                                                                                                                                                             |
| 1,2-Dichloropropane                                                  | 78-87-5    | Propane, 1,2-dichloro-                                                                                                                                                                            |
| 1,3-Dichloropropane; Trimethylene dichloride                         | 142-28-9   | Propane, 1,3-dichloro-                                                                                                                                                                            |
| 2,2-Dichloropropane; Isopropylidene chloride                         | 594-20-7   | Propane, 2,2-dichloro-                                                                                                                                                                            |
| 1,1-Dichloropropene                                                  | 563-58-6   | 1-Propene, 1,1-dichloro-                                                                                                                                                                          |
| cis-1,3-Dichloropropene                                              | 10061-01-5 | 1-Propene, 1,3-dichloro-, (Z)-                                                                                                                                                                    |
| trans-1,3-Dichloropropene                                            | 10061-02-6 | 1-Propene, 1,3-dichloro-, (E)-                                                                                                                                                                    |
| Dieldrin                                                             | 60-57-1    | 2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1a $\alpha$ ,2 $\beta$ ,2a $\alpha$ ,3 $\beta$ ,6 $\beta$ ,6a $\alpha$ ,7 $\beta$ ,7a $\alpha$ )- |
| Diethyl phthalate                                                    | 84-66-2    | 1,2-Benzenedicarboxylic acid, diethyl ester                                                                                                                                                       |
| O,O-Diethyl O-2-pyrazinyl phosphorothioate; Thionazin                | 297-97-2   | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester.                                                                                                                                              |
| Dimethoate                                                           | 60-51-5    | Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester                                                                                                                         |
| p-(Dimethylamino)azobenzene                                          | 60-11-7    | Benzenamine, N,N-dimethyl-4-(phenylazo)-                                                                                                                                                          |
| 7,12-Dimethylbenz[a]anthracene                                       | 57-97-6    | Benz[a]anthracene, 7,12-dimethyl-                                                                                                                                                                 |
| 3,3'-Dimethylbenzidine                                               | 119-93-7   | [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-                                                                                                                                                      |
| alpha, alpha-Dimethylphenethylamine                                  | 122-09-8   | Benzeneethanamine, $\alpha,\alpha$ -dimethyl-                                                                                                                                                     |
| 2,4-Dimethylphenol; m-Xylenol                                        | 105-67-9   | Phenol, 2,4-dimethyl-                                                                                                                                                                             |
| Dimethyl phthalate                                                   | 131-11-3   | 1,2-Benzenedicarboxylic acid, dimethyl ester                                                                                                                                                      |
| m-Dinitrobenzene                                                     | 99-65-0    | Benzene, 1,3-dinitro-                                                                                                                                                                             |
| 4,6-Dinitro-o-cresol; 4,6-Dinitro-2-methylphenol                     | 534-52-1   | Phenol, 2-methyl-4,6-dinitro-                                                                                                                                                                     |
| 2,4-Dinitrophenol                                                    | 51-28-5    | Phenol, 2,4-dinitro-                                                                                                                                                                              |
| 2,4-Dinitrotoluene                                                   | 121-14-2   | Benzene, 1-methyl-2,4-dinitro-                                                                                                                                                                    |
| 2,6-Dinitrotoluene                                                   | 606-20-2   | Benzene, 2-methyl-1,3-dinitro-                                                                                                                                                                    |
| Dinoseb; DNBP; 2-sec-Butyl-4,6-                                      | 88-85-7    | Phenol, 2-(1-methylpropyl)-4,6-dinitro-                                                                                                                                                           |

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| dinitrophenol                   |            |                                                                                                                                                                                                   |
| Di-n-octyl phthalate            | 117-84-0   | 1,2-Benzenedicarboxylic acid, dioctyl ester                                                                                                                                                       |
| Diphenylamine                   | 122-39-4   | Benzenamine, N-phenyl-                                                                                                                                                                            |
| Disulfoton                      | 298-04-4   | Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester                                                                                                                                  |
| Endosulfan I                    | 959-98-8   | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide,                                                                                                  |
| Endosulfan II                   | 33213-65-9 | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3 $\alpha$ ,5 $\alpha$ ,6 $\beta$ ,9 $\beta$ , 9 $\alpha$ )-                                   |
| Endosulfan sulfate              | 1031-07-8  | 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide                                                                                               |
| Endrin                          | 72-20-8    | 2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1 $\alpha$ , 2 $\beta$ ,2a $\beta$ , 3 $\alpha$ ,6 $\alpha$ ,6a $\beta$ ,7 $\beta$ ,7a $\alpha$ )- |
| Endrin aldehyde                 | 7421-93-4  | 1,2,4-Methenocyclo-penta[cd]pentalene-5-carboxaldehyde,2,2a,3,3,4,7-hexachlorodecahydro-(1 $\alpha$ ,2 $\beta$ ,2a $\beta$ ,4 $\beta$ ,4a $\beta$ ,5 $\beta$ ,6a $\beta$ ,6b $\beta$ ,7R*)-       |
| Ethylbenzene                    | 100-41-4   | Benzene, ethyl-                                                                                                                                                                                   |
| Ethyl methacrylate              | 97-63-2    | 2-Propenoic acid, 2-methyl-, ethyl ester                                                                                                                                                          |
| Ethyl methanesulfonate          | 62-50-0    | Methanesulfonic acid, ethyl ester                                                                                                                                                                 |
| Famphur                         | 52-85-7    | Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester                                                                                                                    |
| Fluoranthene                    | 206-44-0   | Fluoranthene                                                                                                                                                                                      |
| Fluorene                        | 86-73-7    | 9H-Fluorene                                                                                                                                                                                       |
| Heptachlor                      | 76-44-8    | 4,7-Methano-1H-indene,1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-                                                                                                                             |
| Heptachlor epoxide              | 1024-57-3  | 2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro-,(1 $\alpha$ ,1b $\beta$ ,2 $\alpha$ ,5 $\alpha$ ,5a $\beta$ ,6 $\beta$ ,6a $\alpha$ )                  |
| Hexachlorobenzene               | 118-74-1   | Benzene, hexachloro-                                                                                                                                                                              |
| Hexachlorobutadiene             | 87-68-3    | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-                                                                                                                                                            |
| Hexachlorocyclopentadiene       | 77-47-4    | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-                                                                                                                                                      |
| Hexachloroethane                | 67-72-1    | Ethane, hexachloro-                                                                                                                                                                               |
| Hexachloropropene               | 1888-71-7  | 1-Propene, 1,1,2,3,3,3-hexachloro-                                                                                                                                                                |
| 2-Hexanone; Methyl butyl ketone | 591-78-6   | 2-Hexanone                                                                                                                                                                                        |
| Indeno(1,2,3-cd)pyrene          | 193-39-5   | Indeno[1,2,3-cd]pyrene                                                                                                                                                                            |
| Isobutyl alcohol                | 78-83-1    | 1-Propanol, 2-methyl-                                                                                                                                                                             |
| Isodrin                         | 465-73-6   | 1,4,5,8-Dimethanonaphthalene,1,2,3,4,1 0,10-                                                                                                                                                      |

|                                              |          |                                                                                                               |
|----------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------|
|                                              |          | hexachloro-1,4,4a,5,8,8a hexahydro-(1 $\alpha$ , 4 $\alpha$ , 4a $\beta$ ,5 $\beta$ ,8 $\beta$ ,8a $\beta$ )- |
| Isophorone                                   | 78-59-1  | 2-Cyclohexen-1-one, 3,5,5-trimethyl-                                                                          |
| Isosafrole                                   | 120-58-1 | 1,3-Benzodioxole, 5-(1-propenyl)-                                                                             |
| Kepone                                       | 143-50-0 | 1,3,4-Metheno-2H-cyclobuta-[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-                   |
| Lead                                         |          | Lead                                                                                                          |
| Mercury                                      |          | Mercury                                                                                                       |
| Methacrylonitrile                            | 126-98-7 | 2-Propenenitrile, 2-methyl-                                                                                   |
| Methapyrilene                                | 91-80-5  | 1,2,Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-                                          |
| Methoxychlor                                 | 72-43-5  | Benzene, 1,1'-(2,2,2,trichloroethylidene)bis [4-methoxy-                                                      |
| Methyl bromide; Bromomethane                 | 74-83-9  | Methane, bromo-                                                                                               |
| Methyl chloride; Chloromethane               | 74-87-3  | Methane, chloro-                                                                                              |
| 3-Methylcholanthrene                         | 56-49-5  | Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-                                                                   |
| Methyl ethyl ketone; MEK; 2-Butanone         | 78-93-3  | 2-Butanone                                                                                                    |
| Methyl iodide; Iodomethane                   | 74-88-4  | Methane, iodo-                                                                                                |
| Methyl methacrylate                          | 80-62-6  | 2-Propenoic acid, 2-methyl-, methyl ester                                                                     |
| Methyl methanesulfonate                      | 66-27-3  | Methanesulfonic acid, methyl ester                                                                            |
| 2-Methylnaphthalene                          | 91-57-6  | Naphthalene, 2-methyl-                                                                                        |
| Methyl parathion; Parathion methyl           | 298-00-0 | Phosphorothioic acid, O,O-dimethyl                                                                            |
| 4-Methyl-2-pentanone; Methyl isobutyl ketone | 108-10-1 | 2-Pentanone, 4-methyl-                                                                                        |
| Methylene bromide; Dibromomethane            | 74-95-3  | Methane, dibromo-                                                                                             |
| Methylene chloride; Dichloromethane          | 75-09-2  | Methane, dichloro-                                                                                            |
| Naphthalene                                  | 91-20-3  | Naphthalene                                                                                                   |
| 1,4-Naphthoquinone                           | 130-15-4 | 1,4-Naphthalenedione                                                                                          |
| 1-Naphthylamine                              | 134-32-7 | 1-Naphthalenamine                                                                                             |
| 2-Naphthylamine                              | 91-59-8  | 2-Naphthalenamine                                                                                             |
| Nickel                                       |          | Nickel                                                                                                        |
| o-Nitroaniline; 2-Nitroaniline               | 88-74-4  | Benzenamine, 2-nitro-                                                                                         |
| m-Nitroaniline; 3-Nitroaniline               | 99-09-2  | Benzenamine, 3-nitro-                                                                                         |

|                                                                           |                |                                                                 |
|---------------------------------------------------------------------------|----------------|-----------------------------------------------------------------|
| p-Nitroaniline; 4-Nitroaniline                                            | 100-01-6       | Benzenamine, 4-nitro-                                           |
| Nitrobenzene                                                              | 98-95-3        | Benzene, nitro-                                                 |
| o-Nitrophenol; 2-Nitrophenol                                              | 88-75-5        | Phenol, 2-nitro-                                                |
| p-Nitrophenol; 4-Nitrophenol                                              | 100-02-7       | Phenol, 4-nitro-                                                |
| N-Nitrosodi-n-butylamine                                                  | 924-16-3       | 1-Butanamine, N-butyl-N-nitroso-                                |
| N-Nitrosodiethylamine                                                     | 55-18-5        | Ethanamine, N-ethyl-N-nitroso-                                  |
| N-Nitrosodimethylamine                                                    | 62-75-9        | Methanamine, N-methyl-N-nitroso-                                |
| N-Nitrosodiphenylamine                                                    | 86-30-6        | Benzenamine, N-nitroso-N-phenyl-                                |
| N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine | 621-64-7       | 1-Propanamine, N-nitroso-N-propyl-                              |
| N-Nitrosomethylethalamine                                                 | 10595-95-6     | Ethanamine, N-methyl-N-nitroso-                                 |
| N-Nitrosopiperidine                                                       | 100-75-4       | Piperidine, 1-nitroso-                                          |
| N-Nitrosopyrrolidine                                                      | 930-55-2       | Pyrrolidine, 1-nitroso-                                         |
| 5-Nitro-o-toluidine                                                       | 99-55-8        | Benzenamine, 2-methyl-5-nitro-                                  |
| Parathion                                                                 | 56-38-2        | Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester       |
| Pentachlorobenzene                                                        | 608-93-5       | Benzene, pentachloro-                                           |
| Pentachloronitrobenzene                                                   | 82-68-8        | Benzene, pentachloronitro-                                      |
| Pentachlorophenol                                                         | 87-86-5        | Phenol, pentachloro-                                            |
| Phenacetin                                                                | 62-44-2        | Acetamide, N-(4-ethoxyphenyl)                                   |
| Phenanthrene                                                              | 85-01-8        | Phenanthrene                                                    |
| Phenol                                                                    | 108-95-2       | Phenol                                                          |
| p-Phenylenediamine                                                        | 106-50-3       | 1,4-Benzenediamine                                              |
| Phorate                                                                   | 298-02-2       | Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester |
| Polychlorinated biphenyls; PCBs                                           | See footnote 6 | 1,1'-Biphenyl, chloro derivatives                               |
| Pronamide                                                                 | 23950-58-5     | Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-            |
| Propionitrile; Ethyl cyanide                                              | 107-12-0       | Propanenitrile                                                  |
| Pyrene                                                                    | 129-00-0       | Pyrene                                                          |
| Safrole                                                                   | 94-59-7        | 1,3-Benzodioxole, 5-(2-propenyl)-                               |
| Selenium                                                                  |                | Selenium                                                        |
| Silver                                                                    |                | Silver                                                          |
| Silvex; 2,4,5-TP                                                          | 93-72-1        | Propanoic acid, 2-(2,4,5-trichlorophenoxy)-                     |
| Styrene                                                                   | 100-42-5       | Benzene, ethenyl-                                               |
| Sulfide                                                                   | 18496-25-8     | Sulfide                                                         |

|                                                                 |                |                                               |
|-----------------------------------------------------------------|----------------|-----------------------------------------------|
| 2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid                      | 93-76-5        | Acetic acid, (2,4,5- trichlorophenoxy)-       |
| 2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo- p-dioxin              | 1746-01-6      | Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro- |
| 1,2,4,5-Tetrachlorobenzene                                      | 95-94-3        | Benzene, 1,2,4,5-tetrachloro-                 |
| 1,1,1,2-Tetrachloroethane                                       | 630-20-6       | Ethane, 1,1,1,2-tetrachloro-                  |
| 1,1,2,2-Tetrachloroethane                                       | 79-34-5        | Ethane, 1,1,2,2-tetrachloro-                  |
| Tetrachloroethylene;<br>Tetrachloroethene;<br>Perchloroethylene | 127-18-4       | Ethene, tetrachloro-                          |
| 2,3,4,6-Tetrachlorophenol                                       | 58-90-2        | Phenol, 2,3,4,6-tetrachloro-                  |
| Thallium                                                        |                | Thallium                                      |
| Tin                                                             |                | Tin                                           |
| Toluene                                                         | 108-88-3       | Benzene, methyl-                              |
| o-Toluidine                                                     | 95-53-4        | Benzenamine, 2-methyl-                        |
| Toxaphene                                                       | See footnote 7 | Toxaphene                                     |
| 1,2,4-Trichlorobenzene                                          | 120-82-1       | Benzene, 1,2,4-trichloro-                     |
| 1,1,1-Trichloroethane;<br>Methylchloroform                      | 71-55-6        | Ethane, 1,1,1-trichloro-                      |
| 1,1,2-Trichloroethane                                           | 79-00-5        | Ethane, 1,1,2-trichloro-                      |
| Trichloroethylene; Trichloroethene                              | 79-01-6        | Ethene, trichloro-                            |
| Trichlorofluoromethane; CFC-11                                  | 75-69-4        | Methane, trichlorofluoro-                     |
| 2,4,5-Trichlorophenol                                           | 95-95-4        | Phenol, 2,4,5-trichloro-                      |
| 2,4,6-Trichlorophenol                                           | 88-06-2        | Phenol, 2,4,6-trichloro-                      |
| 1,2,3-Trichloropropane                                          | 96-18-4        | Propane, 1,2,3-trichloro-                     |
| O,O,O-Triethyl phosphorothioate                                 | 126-68-1       | Phosphorothioic acid, O,O,O-triethyl ester    |
| sym-Trinitrobenzene                                             | 99-35-4        | Benzene, 1,3,5-trinitro-                      |
| Vanadium                                                        |                | Vanadium                                      |
| Vinyl acetate                                                   | 108-05-4       | Acetic acid, ethenyl ester                    |
| Vinyl chloride; Chloroethene                                    | 75-01-4        | Ethene, chloro-                               |
| Xylene (total)                                                  | See footnote 8 | Benzene, dimethyl-                            |
| Zinc                                                            |                | Zinc                                          |

<sup>1</sup> Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

<sup>2</sup> Chemical Abstracts Service registry number.

<sup>3</sup> CAS index names are those used in the 9th Cumulative Index.

<sup>4</sup> This substance is often called bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, propane, 2,2"-oxybis[2-chloro-(CAS RN 39638-32-9).

<sup>5</sup> Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6).

<sup>6</sup> Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1), and Aroclor-1260 (CAS RN 11096-82-5).

<sup>7</sup> Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.

<sup>8</sup> Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).

**Authorizing statute(s):** 75-10-204, MCA

**Implementing statute(s):** 75-10-204, 75-10-207, MCA

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**History:** NEW, 2010 MAR p. 317, Eff. 2/12/10; AMD, 2024 MAR p. 253, Eff. 2/10/24.