Dear Senators VANORDEN, Wintrow, and Representatives BARBIERI, Furniss, Necochea:

The Legislative Services Office, Research and Legislation, has received the enclosed rules of the Department of Environmental Quality:

IDAPA 58.01.01 - Rules for the Control of Air Pollution in Idaho - Proposed Rule (Docket No. 58-0101-2401).

Pursuant to Section 67-454, Idaho Code, a meeting on the enclosed rules may be called by the cochairmen or by two (2) or more members of the subcommittee giving oral or written notice to Research and Legislation no later than fourteen (14) days after receipt of the rules' analysis from Legislative Services. The final date to call a meeting on the enclosed rules is no later than 09/30/2024. If a meeting is called, the subcommittee must hold the meeting within forty-two (42) days of receipt of the rules' analysis from Legislative Services. The final date to hold a meeting on the enclosed rules is 10/28/2024.

The germane joint subcommittee may request a statement of economic impact with respect to a proposed rule by notifying Research and Legislation. There is no time limit on requesting this statement, and it may be requested whether or not a meeting on the proposed rule is called or after a meeting has been held.

To notify Research and Legislation, call 334-4854, or send a written request to the address on the memorandum attached below



# Legislative Services Office Idaho State Legislature

Serving Idaho's Citizen Legislature

# **MEMORANDUM**

TO: Rules Review Subcommittee of the Senate Health & Welfare Committee and the House

Environment, Energy & Technology Committee

Deputy Division Manager - Katharine Gerrity FROM:

DATE: September 11, 2024

**SUBJECT:** Department of Environmental Quality

IDAPA 58.01.01 - Rules for the Control of Air Pollution in Idaho - Proposed Rule (Docket No. 58-0101-2401)

# Summary and Stated Reasons for the Rule

The Department of Environmental Quality submits notice of proposed rule at IDAPA 58.01.01 - Rules for the Control of Air Pollution in Idaho. According to the department, the rules are updated annually to maintain consistency with federal regulations implementing the Clean Air Act. The department states that the rulemaking also adds four clarifying definitions. Those definitions are for "Toxic Air Pollutant Non-carcinogenic Increments," "Toxic Air Pollutant Carcinogenic Increments," "CAS," and "Open Burning." These definitions were inadvertently overlooked in an earlier rulemaking where some sections were moved. The department notes that they are now being added as originally intended. The department adds that the rulemaking is necessary for EPA approval of Idaho's Title V Operating Permit Program and state primacy of Clean Air Act programs. The department also states that the proposed rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

# **Negotiated Rulemaking / Fiscal Impact**

The department indicates that negotiated rulemaking was not conducted due to the simple nature of the rulemaking and because DEQ has no discretion with respect to adopting federal regulations that are necessary for EPA approval of Idaho's Title V Operating Permit Program and state primacy of Clean Air Act programs. The department states that there is no fiscal impact as a result of the rulemaking.

# **Statutory Authority**

The rulemaking appears to be authorized pursuant to Sections 39-105 and 39-107, Idaho Code.

cc: Department of Environmental Quality Janeena White

\*\*\* PLEASE NOTE \*\*\*

Paul Headlee, Deputy Director Matt Drake, Manager **Legislative Services Office** 

Keith Bybee, Manager April Renfro, Manager Research & Legislation Budget & Policy Analysis

**Legislative Audits** 

Norma Clark, Manager **Information Technology** 

Statehouse, P.O. Box 83720 Boise, Idaho 83720-0054

Tel: 208-334-2475 legislature.idaho.gov Per the Idaho Constitution, all administrative rules may be reviewed by the Legislature during the next legislative session. The Legislature has 3 options with this rulemaking docket: 1) Approve the docket in its entirety; 2) Reject the docket in its entirety; or 3) Reject the docket in part.

#### **IDAPA 58 – DEPARTMENT OF ENVIRONMENTAL QUALITY**

# 58.01.01 – RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO DOCKET NO. 58-0101-2401

## **NOTICE OF RULEMAKING - PROPOSED RULE**

**AUTHORITY:** In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking. The action is authorized by Sections 39-105 and 39-107, Idaho Code. This rulemaking updates federal regulations incorporated by reference as mandated by the U.S. Environmental Protection Agency (EPA) for approval of Idaho's Title V Operating Permit Program pursuant to 40 CFR Part 70 and fulfilling the requirements of Idaho's delegation agreement with EPA under Section 112(l) of the Clean Air Act. It also updates citations to other federal regulations necessary to retain state primacy of Clean Air Act (CAA) programs.

**PUBLIC HEARING SCHEDULE:** Pursuant to Section 67-5222(2), Idaho Code, a public hearing has been scheduled and will be held as follows:

# Tuesday, October 8, 2024, 4:00 p.m. MT

#### ATTEND IN PERSON OR VIA MICROSOFT TEAMS

DEQ State Office Conference Center 1410 N. Hilton Boise, ID 83706

The Teams meeting link is available at:

https://www.deq.idaho.gov/air-quality-docket-no-58-0101-2401/

The meeting location will be accessible to persons with disabilities, and language translators will be made available upon request. Requests must be made no later than five (5) business days prior to the meeting date. For arrangements, contact the undersigned.

**DESCRIPTIVE SUMMARY:** The purpose of this rulemaking is to ensure that the state rules remain consistent with federal regulations. The Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01, are updated annually to maintain consistency with federal regulations implementing the CAA. This proposed rule updates federal regulations incorporated by reference with the July 1, 2024 Code of Federal Regulations (CFR) effective date. The July 1, 2024 CFR is a codification of federal regulations published in the Federal Register as of July 1, 2024.

This rulemaking removes the Section 332 provisions for "Emergency as an Affirmative Defense Regarding Excess Emissions." On July 12, 2023, the EPA removed the emergency affirmative defense provisions from the CAA operating permit program regulations. DEQ is removing this section from our rules to comply with this action.

This rulemaking also adds the four following clarifying definitions: "Toxic Air Pollutant Non-carcinogenic Increments" added to Section 585, "Toxic Air Pollutant Carcinogenic Increments" added to Section 586, "CAS" added to Sections 585 and 586 Notes, and "Open Burning" added to Section 600. During negotiated rulemaking for Docket No. 58-0101-2101, these definitions were struck from Section 006 with the intention of moving them to Sections 585, 586, and 600. While the other definitions were moved to their respective sections, these definitions were inadvertently overlooked. DEQ is now adding these definitions as originally intended.

The proposed rule text is in legislative format. Language the agency proposes to add is underlined. Language the agency proposes to delete is struck out. It is these additions and deletions to which public comment should be addressed. If adopted by the Idaho Board of Environmental Quality and approved by concurrent resolution of the

#### DEPARTMENT OF ENVIRONMENTAL QUALITY Rules for the Control of Air Pollution in Idaho

Docket No. 58-0101-2401 Proposed Rulemaking

2025 Idaho State Legislature, the rule will become effective on July 1, 2025, unless otherwise specified in the concurrent resolution. DEQ will submit the final rule to EPA.

**INCORPORATION BY REFERENCE:** Pursuant to Section 67-5229(2)(a), Idaho Code, the following is a brief synopsis of why the incorporation by reference is necessary:

Adoption of federal regulations is necessary for EPA approval of Idaho's Title V Operating Permit Program and state primacy of Clean Air Act programs. Incorporation by reference allows DEQ to keep its rules up to date with federal regulation changes and simplifies compliance for the regulated community. Information for obtaining a copy of the federal regulations is included in the rule.

In compliance with Idaho Code 67-5223(4), DEQ prepared a brief synopsis detailing the substantive differences between the previously incorporated material and the latest revised edition or version of the incorporated material being proposed for incorporation by reference. The Overview of Incorporations by Reference can be obtained at <a href="https://www.deq.idaho.gov/air-quality-docket-no-58-0101-2401/">https://www.deq.idaho.gov/air-quality-docket-no-58-0101-2401/</a>.

**NEGOTIATED RULEMAKING:** Negotiated rulemaking was not conducted. DEQ determined that negotiated rulemaking is not feasible due to the simple nature of this rulemaking and because DEQ has no discretion with respect to adopting federal regulations that are necessary for EPA approval of Idaho's Title V Operating Permit Program and state primacy of Clean Air Act programs. Whenever possible, DEQ incorporates federal regulations by reference to ensure that the state rules are consistent with federal regulations.

**IDAHO CODE SECTION 39-107D STATEMENT:** This proposed rule does not regulate an activity not regulated by the federal government, nor is it broader in scope or more stringent than federal regulations.

**FISCAL IMPACT STATEMENT:** The following is a specific description, if applicable, of any negative fiscal impact on the state General Fund greater than ten thousand dollars (\$10,000) during the fiscal year: Not applicable.

ASSISTANCE ON TECHNICAL QUESTIONS AND SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning this rulemaking, contact Aislinn Johns at Aislinn.johns@deq.idaho.gov or (208) 373-0185.

**SUBMISSION OF WRITTEN COMMENTS:** Anyone may submit written comments regarding this proposed rule. The Department will consider all written comments received on or before October 8, 2024. Submit comments to:

Aislinn Johns Department of Environmental Quality 1410 N. Hilton Street Boise, Idaho 83706 Aislinn.johns@deq.idaho.gov

Dated this 4th day of September, 2024.

Janeena White Senior Operations Analyst Department of Environmental Quality 1410 N. Hilton Street Boise, Idaho 83706 Phone: (208)373-0502 janeena.white@deq.idaho.gov

# THE FOLLOWING IS THE PROPOSED TEXT OF DOCKET NO. 58-0101-2401 (Only Those Sections With Amendments Are Shown.)

#### 58.01.01 - RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO

#### 107. INCORPORATIONS BY REFERENCE.

- **O1.** Requirements for Preparation, Adoption, and Submittal of Implementation Plans. 40 CFR Part 51 revised as of July 1, 20232024. All sections included in 40 CFR Part 51, Subpart P, Protection of Visibility, are excluded from incorporation except 51.301, 51.304(a), 51.307, and 51.308 are incorporated by reference into these rules.
- **02.** National Primary and Secondary Ambient Air Quality Standards. 40 CFR Part 50, revised as of July 1, 20232024.
- **O3.** Approval and Promulgation of Implementation Plans. 40 CFR Part 52, Subparts A and N and Appendices D and E, revised as of July 1, 20232024. (7-1-24)(\_\_\_\_\_)
- **04.** Ambient Air Monitoring Reference and Equivalent Methods. 40 CFR Part 53, revised as of July 1, 20232024.
  - **O5.** Ambient Air Quality Surveillance. 40 CFR Part 58, revised as of July 1, 2023 2024.
- **O6.** Standards of Performance for New Stationary Sources. 40 CFR Part 60, revised as of July 1, (7-1-24)(\_\_\_\_\_)
- **National Emission Standards for Hazardous Air Pollutants**. 40 CFR Part 61, revised as of July 1, 2023 2024.
- 08. Federal Plan Requirements for Hospital/Medical/Infectious Waste Incinerators Constructed on or Before December 1, 2008. 40 CFR Part 62, Subpart HHH, revised as of July 1, 2023 2024. (7-1-24)(\_\_\_\_\_)
- 09. Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014. 40 CFR Part 62, Subpart OOO, revised as of July 1, 20232024. (7-1-24)(\_\_\_\_\_\_)
- 10. National Emission Standards for Hazardous Air Pollutants for Source Categories. 40 CFR Part 63, revised as of July 1, 20232024.
  - 11. Compliance Assurance Monitoring. 40 CFR Part 64, revised as of July 1, 20232024.
  - 12. State Operating Permit Programs. 40 CFR Part 70, revised as of July 1, 2023 2024.
  - 13. Permits. 40 CFR Part 72, revised as of July 1, 20232024. (7-1-24)(
  - 14. Sulfur Dioxide Allowance System. 40 CFR Part 73, revised as of July 1, 20232024.
  - **15. Protection of Stratospheric Ozone**. 40 CFR Part 82, revised as of July 1, 20232024.

<del>(7-1-24)</del>(\_\_\_\_\_

**16.** Clean Air Act. 42 U.S.C. Sections 7401 through 7671g (1997).

(7-1-24)

# (BREAK IN CONTINUITY OF SECTIONS)

#### 332. EMERGENCY AS AN AFFIRMATIVE DEFENSE REGARDING EXCESS EMISSIONS.

- **91. General.** An emergency, defined as any situation arising from sudden and reasonably unforesceable events beyond the control of the owner or operator, including acts of God, which situation requires immediate corrective action to restore normal operation and that causes the Tier I source to exceed a technology-based emission limitation under the Tier I operating permit due to unavoidable increases in emissions attributable to the emergency, constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitation if the conditions of Subsection 332.02 are met. An emergency will not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

  (3-28-23)
- **92.** Demonstration of Emergency. The affirmative defense of emergency must be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that: (3-28-23)
  - An emergency occurred and that the permittee can identify the cause(s) of the emergency;

(3-28-23)

**b.** The permitted facility was at the time being properly operated;

(3.28.23)

- e. During the period of the emergency, the permittee took all reasonable steps, as determined by the Department, to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and (3-28-23)
- the permittee submitted written notice of the emergency to the Department within two (2) working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. Compliance with this section satisfies the written reporting requirements under Section 135 and Subsection 322.15.q. (3-28-23)
- **83. Burden of Proof.** In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. (3 28 23)
- **Q4.** Applicability. Section 332 is in addition to any emergency or upset provision contained in any applicable requirement. (3 28 23)

**Break** 

33**32**. -- 334. (RESERVED)

#### (BREAK IN CONTINUITY OF SECTIONS)

#### 585. TOXIC AIR POLLUTANTS NON-CARCINOGENIC INCREMENTS.

- <u>O1.</u> <u>Toxic Air Pollutant Non-carcinogenic Increments.</u> Those ambient air quality increments based on occupational exposure limits for airborne toxic chemicals expressed in terms of a screening emission level or an acceptable ambient concentration for a non-carcinogenic toxic air pollutant.
  - 02. Non-carcinogens Table. The screening emissions levels (EL) and acceptable ambient

concentrations (AAC) for non-carcinogens are as provided in the following table. The AAC in this section are twenty-four (24) hour averages.

| CAS<br>NUMBER | SUBSTANCE                                      | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|--|----------------|---------------|----------------|
| 60-35-5       | Acetamide (NY)                                 |                | 0.002         | 0.0003         |
| 64-19-7       | Acetic acid                                    | 25             | 1.67          | 1.25           |
| 108-24-7      | Acetic anhydride                               | 20             | 1.33          | 1              |
| 67-64-1       | Acetone  | 1780           | 119           | 89             |
| 75-05-8       | Acetonitrile                                   | 67             | 4.47          | 3.35           |
| 540-59-0      | Acetylene dichloride, See 1,2-Dichloroethylene |                |               |                |
| 79-27-6       | Acetylene tetrabromide                         | 15             | 1             | .75            |
| 107-02-8      | Acrolein                                       | 0.25           | 0.017         | 0.0125         |
| 79-10-7       | Acrylic acid                                   | 30             | 2             | 1.5            |
| 107-18-6      | Allyl alcohol                                  | 5              | 0.333         | .25            |
| 106-92-3      | Allyl glycidyl ether                           | 22             | 1.47          | 1.1            |
| 2179-59-1     | Allyl propyl disulfide                         | 12             | 0.8           | 0.6            |
| 7429-90-5     | Aluminum Including:                            |                |               |                |
| NA            | Metal & Oxide                                  | 10             | 0.667         | 0.5            |
| NA            | Pyro powders                                   | 5              | 0.333         | 0.25           |
| NA            | Soluble salts                                  | 2              | 0.133         | 0.10           |
| NA            | Alkyls not otherwise classified                | 2              | 0.133         | 0.10           |
| 141-43-5      | 2-Aminoethanol, See Ethanolamine               |                |               |                |
| 504-29-0      | 2-Aminopyridine                                | 2              | 0.133         | 0.10           |
| 7664-41-7     | Ammonia  | 18             | 1.2           | 0.9            |
| 12125-02-9    | Ammonium chloride fume                         | 10             | 0.667         | 0.5            |
| 3825-26-1     | Ammonium perfluo-octanoate                     | 0.1            | 0.007         | 0.05           |
| 7773-06-0     | Ammonium sulfamate                             | 10             | 0.667         | 0.5            |
| 628-63-7      | n-Amyl acetate                                 | 530            | 35.3          | 26.5           |
| 626-38-0      | Sec-Amyl acetate                               | 665            | 44.3          | 33.25          |
| 7440-36-0     | Antimony & compounds, as Sb (handling & use)   | 0.5            | 0.033         | 0.025          |
| 86-88-4       | ANTU   | 0.3            | 0.02          | 0.015          |
| 7784-42-1     | Arsine   | 0.2            | 0.013         | 0.01           |
| 86-50-0       | Azinphos-methyl                                | 0.2            | 0.013         | 0.01           |
| 7440-39-3     | Barium, soluble compounds, as Ba               | 0.5            | 0.033         | 0.025          |
| 17804-35-2    | Benomyl  | 10             | 0.67          | 0.5            |
| 7106-51-4     | p-Benzoquinone, See Quinone                    |                |               |                |

| CAS<br>NUMBER | SUBSTANCE                               | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---|----------------|---------------|----------------|
| 94-36-0       | Benzoyl peroxide                        | 5              | 0.333         | 0.25           |
| 92-52-4       | Biphenyl                                | 1.5            | 0.1           | 0.075          |
| 1304-82-1     | Bismuth telluride undoped               | 10             | 0.667         | 0.05           |
| NA            | Bismuth telluride if selenium doped     | 5              | 0.333         | 0.25           |
| 1303-96-4     | Borates, tetra odium salts - Including: |                |               |                |
| NA            | Anhydrous                               | 1              | 0.067         | 0.05           |
| NA            | Decahydrate                             | 5              | 0.333         | 0.25           |
| NA            | Pentahydrate                            | 1              | 0.067         | 0.05           |
| 1303-86-2     | Boron oxide                             | 10             | 0.667         | 0.5            |
| 10294-33-4    | Boron tribromide                        | 10             | 0.667         | 0.5            |
| 7637-07-2     | Boron trifluoride                       | 3              | 0.2           | 0.25           |
| 314-40-9      | Bromacil                                | 10             | 0.667         | 0.5            |
| 7726-95-6     | Bromine                                 | 0.7            | 0.047         | 0.035          |
| 7789-30-2     | Bromine penta-fluoride                  | 0.7            | 0.047         | 0.035          |
| 75-25-2       | Bromoform                               | 5              | 0.333         | 0.25           |
| 109-79-5      | Butanethiol, see Butyl mercaptan        |                |               |                |
| 78-93-3       | 2-Butanone, see Methyl ethyl ketone     |                |               |                |
| 112-07-2      | 2-butoxyethyl acetate                   |                | 8.33          | 1.25           |
| 111-76-2      | 2-Butoxyethanol (EGBG)                  | 120            | 8             | 6              |
| 123-86-4      | n-Butyl acetate                         | 710            | 47.3          | 35.5           |
| 105-46-4      | sec-Butyl acetate                       | 950            | 63.3          | 47.5           |
| 540-88-5      | tert-Butyl acetate                      | 950            | 63.3          | 47.5           |
| 141-32-2      | Butyl acrylate                          | 55             | 3.67          | 2.75           |
| 71-36-3       | n-Butyl alcohol                         | 150            | 10            | 7.5            |
| 78-92-2       | Sec-Butyl alcohol                       | 305            | 20.3          | 15.25          |
| 75-65-0       | tert-Butyl alcohol                      | 300            | 20            | 15             |
| 109-73-9      | Butylamine                              | 15             | 1             | .75            |
| 124-17-4      | Butyl carbitol acetate (ID)             |                | 0.846         | .625           |
| 1189-85-1     | tert-Butyl chromate, as CrO3            | 0.1            | 0.007         | .005           |
| 2426-08-6     | n-Butyl glycidyl ether                  | 135            | 9             | 6.75           |
| 138-22-7      | n-Butyl lactate                         | 25             | 1.67          | 1.25           |
| 109-79-5      | Butyl mercaptan                         | 1.8            | 0.12          | 0.09           |
| 89-72-5       | o-sec-Butylphenol                       | 30             | 2             | 1.5            |
| 98-51-1       | p-tert-Butyltoluene                     | 60             | 4             | 3              |
| •             | •                                       |                |               |                |

| CAS<br>NUMBER | SUBSTANCE                       | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---------------------------------|----------------|---------------|----------------|
| 1317-65-3     | Calcium carbonate               | 10             | 0.667         | 0.5            |
| 156-62-7      | Calcium cyanamide               | 0.5            | 0.033         | 0.025          |
| 1305-62-0     | Calcium hydroxide               | 5              | 0.333         | 0.25           |
| 1305-78-8     | Calcium oxide                   | 2              | 0.133         | 0.1            |
| 1344-95-2     | Calcium silicate (synthetic)    | 10             | 0.667         | 0.5            |
| 13397-24-5    | Calcium sulfate                 | 10             | 0.667         | 0.5            |
| 76-22-2       | Camphor, synthetic              | 12             | 0.8           | 0.6            |
| 105-60-2      | Caprolactam - Including:        |                |               |                |
|               | Dust                            | 1              | 0.067         | 0.05           |
|               | Vapor                           | 20             | 1.33          | 1.0            |
| 1333-86-4     | Carbon black                    | 3.5            | 0.23          | 0.175          |
| 2425-06-1     | Captafol                        | 0.1            | 0.007         | 0.005          |
| 133-06-2      | Captan                          | 5              | 0.333         | 0.25           |
| 463-58-1      | Carbonyl sulfide                | 0.4            | 0.027         | 0.02           |
| 63-25-2       | Carbaryl                        | 5              | 0.333         | 0.25           |
| 1563-66-2     | Carbofuran                      | 0.1            | 0.007         | 0.005          |
| 75-15-0       | Carbon disulfide                | 30             | 2             | 1.5            |
| 558-13-4      | Carbon tetrabromide             | 1.4            | 0.093         | 0.07           |
| 75-44-5       | Carbonyl chloride, See Phosgene |                |               |                |
| 353-50-4      | Carbonyl fluoride               | 5              | 0.333         | 0.25           |
| 120-80-9      | Catechol                        | 20             | 1.33          | 1.0            |
| 21351-79-1    | Cesium hydroxide                | 2              | 0.133         | 0.10           |
| 133-90-4      | Chloramben (PL)                 |                | 887           | 133            |
| 8001-35-2     | Chlorinated camphene            | 0.5            | 0.0333        | 0.025          |
| 31242-93-0    | Chlorinated diphenyl oxide      | 0.5            | 0.033         | 0.025          |
| 7782-50-5     | Chlorine                        | 3              | 0.2           | 0.15           |
| 10049-04-4    | Chlorine dioxide                | 0.3            | 0.02          | 0.015          |
| 7790-91-2     | Chlorine trifluoride (CL)       | 0.38           | 0.025         | 0.002          |
| 107-20-0      | Chloroacetaldehyde              | 0.32           | 0.021         | 0.015          |
| 78-95-5       | Chloroacetone                   | 0.38           | 0.0253        | 0.019          |
| 532-27-4      | a-Chloroacetophenone            | 0.32           | 0.021         | 0.016          |
| 79-04-9       | Chloroacetyl chloride           | 0.2            | 0.013         | 0.01           |
| 108-90-7      | Chlorobenzene                   | 350            | 23.3          | 17.5           |
| 510-15-6      | Chlorobenzilate (PL1)           |                | 0.047         | 0.035          |

| CAS<br>NUMBER | SUBSTANCE  | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|--|----------------|---------------|----------------|
| 2698-41-1     | O-Chlorobenzylidene malononitrile (CL)                 | 0.4            | 0.0027        | 0.03           |
| 126-99-8      | 2-Chloro-1,3-butadiene, see B-Chloroprene              |                |               |                |
| 107-07-3      | 2-Chloroethanol, see Ethylene chlorohydrin             |                |               |                |
| 600-25-9      | 1-Chloro-1-nitro propane                               | 10             | 0.667         | 0.5            |
| 95-57-8       | 2-Chlorophenol (and all isomers) (ID)                  |                | 0.033         | 0.025          |
| 76-06-2       | Chloropicrin   | 0.7            | 0.047         | 0.037          |
| 126-99-8      | B-chloroprene  | 36             | 2.4           | 1.8            |
| 2039-87-4     | o-Chlorostyrene  | 285            | 19            | 14.25          |
| 95-49-8       | o-Chlorotoluene  | 250            | 16.7          | 12.5           |
| 1929-82-4     | 2-Chloro-6-(tri-chloromethyl) pyridine, see Nitrapyrin |                |               |                |
| 2921-88-2     | Chlorpyrifos   | 0.2            | 0.013         | 0.01           |
| 7440-47-3     | Chromium metal - Including:                            | 0.5            | 0.033         | 0.025          |
| 7440-47-3     | Chromium (II) compounds, as Cr                         | 0.5            | 0.033         | 0.025          |
| 16065-83-1    | Chromium (III) compounds, as Cr                        | 0.5            | 0.033         | 0.025          |
| 2971-90-6     | Clopidol   | 10             | 0.667         | 0.5            |
| NA            | Coal dust (<5% silica)                                 | 2              | 0.133         | 0.1            |
| 10210-68-1    | Cobalt carbonyl as Co                                  | 0.1            | 0.007         | 0.005          |
| 16842-03-8    | Cobalt hydrocarbonyl as Co                             | 0.1            | 0.007         | 0.005          |
| 7440-48-4     | Cobalt metal, dust, and fume                           | 0.05           | 0.0033        | 0.0025         |
| 7440-50-8     | Copper:  |                |               |                |
| 7440-50-8     | Fume   | 0.2            | 0.013         | 0.01           |
| 7440-50-8     | Dusts & mists, as Cu                                   | 1              | 0.067         | 0.05           |
| 95-48-7       | o-Cresol   | 22             | 1.47          | 1.1            |
| 108-39-4      | m-Cresol   | 22             | 1.47          | 1.1            |
| 106-44-5      | p-Cresol   | 22             | 1.47          | 1.1            |
| 1319-77-3     | Cresols/Cresylic Acid (isomers and mixtures)           | 22             | 1.47          | 1.1            |
| 123-73-9      | Crotonaldehyde   | 5.7            | 0.38          | 0.285          |
| 299-86-5      | Cruformate   | 5              | 0.333         | 0.25           |
| 98-82-8       | Cumene   | 245            | 16.3          | 12.25          |
| 420-04-2      | Cyanamide  | 2              | 0.133         | 0.1            |
| 592-01-8      | Cyanide and compounds as CN                            | 5              | 0.333         | 0.25           |
| 110-82-7      | Cyclohexane  | 1050           | 70            | 52.5           |
| 108-93-0      | Cyclohexanol   | 200            | 13.3          | 10             |
| 108-94-1      | Cyclohexanone  | 100            | 6.67          | 5              |
|               |  |                |               | *              |

| CAS<br>NUMBER | SUBSTANCE                                     | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---|----------------|---------------|----------------|
| 110-83-8      | Cyclohexene                                   | 1015           | 67.7          | 50.75          |
| 108-91-8      | Cyclohexylamine                               | 41             | 2.73          | 2.05           |
| 121-82-4      | Cyclonite                                     | 1.5            | 0.1           | 0.075          |
| 542-92-7      | Cyclopentadiene                               | 200            | 13.3          | 10             |
| 287-92-3      | Cyclopentane                                  | 1720           | 114.667       | 86             |
| 94-75-7       | 2,4-D   | 10             | 0.667         | 0.5            |
| 17702-41-9    | Decaborane                                    | 0.3            | 0.02          | 0.015          |
| 8065-48-3     | Demeton                                       | 0.1            | 0.007         | 0.005          |
| 123-42-2      | Diacetone alcohol                             | 240            | 16            | 12             |
| 39393-37-8    | Dialkyl phthalate (ID)                        |                | 16.4          | 2.46           |
| 107-15-3      | 1,2-Diaminoethane, See Ethylenediamine        |                |               |                |
| 333-41-5      | Diazinon                                      | 0.1            | 0.007         | 0.005          |
| 334-88-3      | Diazomethane                                  | 0.34           | 0.023         | 0.017          |
| 19287-45-7    | Diborane                                      | 0.1            | 0.007         | 0.005          |
| 102-81-8      | 2-N-Dibutylamino ethanol                      | 14             | 0.933         | 0.7            |
| 2528-36-1     | Dibutyl phenyl phosphate                      | 3.5            | 0.233         | 0.175          |
| 107-66-4      | Dibutyl phosphate                             | 8.6            | 0.573         | 0.43           |
| 84-74-2       | Dibutyl phthalate                             | 5              | 0.333         | 0.25           |
| 7572-29-4     | Dichloroacetylene                             | 0.39           | 0.0026        | 0.0195         |
| 95-50-1       | o-Dichlorobenzene                             | 300            | 20            | 15             |
| 106-46-7      | 1,4-Dichlorobenzene                           | 450            | 30            | 22.5           |
| 118-52-5      | 1,3-Dichloro-5, 5-dimethyl hydantoin          | 0.2            | 0.013         | 0.025          |
| 75-34-3       | Dichloroethane                                | 405            | 27            | 20.25          |
| 540-59-0      | 1,2-Dichloroethylene                          | 790            | 52.7          | 39.5           |
| 111-44-4      | Dichloroethyl ether                           | 30             | 2             | 1.5            |
| 75-43-4       | Dichlorofluoromethane                         | 40             | 2.67          | 2              |
| 594-72-9      | 1, I-Dichloro-I-nitroethane                   | 10             | 0.667         | 0.5            |
| 78-87-5       | 1,2-Dichloropropane, see Propylene dichloride |                |               |                |
| 75-99-0       | 2,2-Dichloropropionic acid                    | 6              | 0.4           | 0.3            |
| 62-73-7       | Dichlorvos                                    | 1              | 0.067         | 0.05           |
| 141-66-2      | Dicrotophos                                   | 0.25           | 0.017         | 0.125          |
| 77-73-6       | Dicyclopentadiene                             | 30             | 2             | 1.5            |
| 102-54-5      | Dicyclopentadienyl iron                       | 10             | 0.667         | 0.5            |
| 111-42-2      | Diethanolamine                                | 15             | 1             | 0.75           |
| L             |   |                |               | L              |

| CAS<br>NUMBER | SUBSTANCE   | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---|----------------|---------------|----------------|
| 109-89-7      | Diethylamine  | 30             | 2             | 1.5            |
| 100-37-8      | 2-Diethylamino-ethanol  | 50             | 3.33          | 2.5            |
| 111-40-0      | Diethylene triamine   | 4              | 0.267         | 0.2            |
| 60-29-7       | Diethyl ether   | 1200           | 80            | 60             |
| 96-22-0       | Diethyl Ketone  | 705            | 47            | 35.25          |
| 84-66-2       | Diethyl phthalate   | 5              | 0.333         | 0.25           |
| 2238-07-5     | Diglycidyl ether (DGE)  | 0.53           | 0.035         | 0.0265         |
| 123-31-9      | Dihydroxybenzene, see Hydroquinone                                |                |               |                |
| 108-83-8      | Diisobutyl ketone   | 145            | 9.67          | 7.25           |
| 108-18-9      | Diisopropylamine  | 20             | 1.33          | 1              |
| 127-19-5      | Dimethyl acetamide  | 35             | 2.33          | 1.75           |
| 124-40-3      | Dimethylamine   | 9.2            | 0.613         | 0.46           |
| 60-11-7       | Dimethyl aminoazo-benzene (NY)                                    |                | 0.002         | 0.0003         |
| 1300-73-8     | Dimethylamino-benzene, see Xylidine                               |                |               |                |
| 121-69-7      | Dimethylaniline (N,N-Dimethylaniline)                             | 25             | 1.67          | 1.25           |
| 1330-20-7     | Dimethylbenzene, see Xylene                                       |                |               |                |
| 300-76-5      | Dimethyl-1,2-dibromo-2-dichloroethyl phosphate, see Naled         |                |               |                |
| 68-12-2       | Dimethylformamide   | 30             | 2             | 1.5            |
| 108-83-8      | 2,6-Dimethyl-4-heptanone, see Diisobutyl ketone                   |                |               |                |
| 131-11-3      | Dimethylphthalate   | 5              | 0.333         | 0.25           |
| 148-01-6      | Dinitolmide   | 5              | 0.333         | 0.25           |
| 528-29-0      | Dinitrobenzene  | 1              | 0.067         | 0.05           |
| 99-65-0       | m (or) 1,3-Dinitrobenzene   | 1              | 0.067         | 0.05           |
| 100-25-4      | p (or) 1,4-Dinitrobenzene   | 1              | 0.067         | 0.05           |
| 534-52-1      | Dinitro-o-cresol  | 0.2            | 0.013         | 0.01           |
| 148-01-6      | 3,5-Dinitro-o-toluamide, see Dinitolmide                          |                |               |                |
| 117-84-0      | N-Dioctyl Phthalate   | 5              | 0.333         | 0.25           |
| 78-34-2       | Dioxathion  | 0.2            | 0.013         | 0.01           |
| 92-52-4       | Diphenyl, see Biphenyl  |                |               |                |
| 122-39-4      | Diphenylamine   | 10             | 0.667         | 0.5            |
|               | Diphenyl methane diisocyanate, see Methylenediphenyl diisocyanate |                |               |                |
| 34590-94-8    | Dipropylene glycol methyl ether                                   | 600            | 40            | 30             |
|               |   | 1              | i             | 1              |

| CAS<br>NUMBER | SUBSTANCE                                    | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|--|----------------|---------------|----------------|
| 123-19-3      | Dipropyl ketone                              | 235            | 15.7          | 11.75          |
| 85-00-7       | Diquat                                       | 0.5            | 0.033         | 0.01           |
| 97-77-8       | Disulfiram                                   | 2              | 0.133         | 0.1            |
| 298-04-4      | Disulfoton                                   | 0.1            | 0.007         | 0.005          |
| 128-37-0      | 2,6-Ditert. butyl-p-cresol                   | 10             | 0.667         | 0.5            |
| 330-54-1      | Diuron                                       | 10             | 0.667         | 0.5            |
| 108-57-6      | Divinyl benzene                              | 50             | 3.33          | 2.5            |
| 1302-74-5     | Emery (corundum) total dust (> 1% silica)    | 10             | 0.667         | 0.5            |
| 115-29-7      | Endosulfan                                   | 0.1            | 0.007         | 0.005          |
| 72-20-8       | Endrin                                       | 0.1            | 0.007         | 0.005          |
| 13838-16-9    | Enflurane                                    | 566            | 37.7          | 28.3           |
| 1395-21-7     | Enzymes, see Subtilisins                     |                |               |                |
| 2104-64-5     | EPN (Ethoxy-4-Nitro-phenoxy phenylphosphine) | 0.5            | 0.033         | 0.025          |
| 106-88-7      | 1,2-Epoxybutane (MI)                         |                | 0.8           | 0.6            |
| 75-56-9       | 1,2-Epoxypropane, see Propylene oxide        |                |               |                |
| 556-52-5      | 2,3-Epoxy-1-propanol, see Glycidol           |                |               |                |
| 75-08-1       | Ethanethiol, see Ethyl mercaptan             |                |               |                |
| 141-43-5      | Ethanolamine                                 | 8              | 0.533         | 0.4            |
| 563-12-2      | Ethion                                       | 0.4            | 0.027         | 0.02           |
| 110-80-5      | 2-Ethoxyethanol                              | 19             | 1.27          | 0.95           |
| 111-15-9      | 2-Ethoxyethyl acetate (EGEEA)                | 27             | 1.8           | 1.35           |
| 141-78-6      | Ethyl acetate                                | 1400           | 93.3          | 70             |
| 64-17-5       | Ethyl alcohol                                | 1880           | 125           | 94             |
| 75-04-7       | Ethylamine                                   | 18             | 1.2           | 0.9            |
| 541-85-5      | Ethyl amyl ketone                            | 130            | 8.67          | 6.5            |
| 100-41-4      | Ethyl benzene                                | 435            | 29            | 21.75          |
| 74-96-4       | Ethyl bromide                                | 22             | 1.47          | 1.1            |
| 106-35-4      | Ethyl butyl ketone                           | 230            | 15.3          | 11.5           |
| 51-79-6       | Ethyl carbamate (Urethane) (WA)              |                | 0.002         | 0.0015         |
| 75-00-3       | Ethyl chloride                               | 2640           | 176           | 132            |
| 107-07-3      | Ethylene chlorohydrin                        | 3              | 0.2           | 0.15           |
| 107-15-3      | Ethylenediamine                              | 25             | 1.67          | 1.25           |
| 107-06-2      | Ethylene dichloride                          | 40             | 2.667         | 2              |
| 107-21-1      | Ethylene glycol vapor (CL)                   | 127            | 0.846         | 6.35           |
|               | •  | •              |               | •              |

| CAS<br>NUMBER | SUBSTANCE   | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---|----------------|---------------|----------------|
| 628-96-6      | Ethylene glycol denigrate   | 0.31           | 0.021         | 0.016          |
| 110-49-6      | Ethylene glycol methyl ether acetate, see 2-Methoxyethyl acetate  |                |               |                |
| 96-45-7       | Ethylene thiourea (PL2)   |                | 0.047         | 0.035          |
| 109-94-4      | Ethyl formate   | 300            | 20            | 15             |
| 16219-75-3    | Ethylidene norbornene (CL)  | 25             | 0.167         | 1.25           |
| 75-08-1       | Ethyl mercaptan   | 1              | 0.067         | 0.05           |
| 100-74-3      | N-Ethylmorpholine   | 23             | 1.53          | 1.15           |
| 78-10-4       | Ethyl silicate  | 85             | 5.67          | 4.25           |
| 22224-92-6    | Fenamiphos  | 0.1            | 0.007         | 0.005          |
| 115-90-2      | Fensulfothion   | 0.1            | 0.007         | 0.005          |
| 55-38-9       | Fenthion  | 0.2            | 0.013         | 0.01           |
| 14484-64-1    | Ferbam  | 10             | 0.667         | 0.5            |
| 12604-58-9    | Ferrovanadium dust  | 1              | 0.067         | 0.05           |
| NA            | Fibrous glass dust  | 10             | 0.667         | 0.5            |
| NA            | Fine Mineral Fibers - Including: mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less. (ID) |                | 0.661         | 0.5            |
| NA            | Fluorides, as F   | 2.5            | 0.167         | 0.125          |
| 7782-41-4     | Fluorine  | 2              | 0.133         | 0.1            |
| 944-22-9      | Fonofos   | 0.1            | 0.007         | 0.005          |
| 75-12-7       | Formamide   | 30             | 2             | 1.5            |
| 64-18-6       | Formic acid   | 9.4            | 0.627         | 0.47           |
| 98-01-1       | Furfural  | 8              | 0.533         | 0.4            |
| 98-00-0       | Furfuryl alcohol  | 40             | 2.67          | 2              |
| 7782-65-2     | Germanium tetrahydride  | 0.6            | 0.04          | 0.03           |
| NA            | Glass, Fibrous or dust, see Fibrous glass dust  |                |               |                |
| 111-30-8      | Glutaraldehyde (CL)   | 0.82           | 0.0047        | 0.041          |
| 556-52-5      | Glycidol  | 75             | 5             | 3.75           |
| 110-80-5      | Glycol monoethyl ether, see 2-Ethoxyethanol   |                |               |                |
| 7440-58-6     | Hafnium   | 0.5            | 0.033         | 0.025          |
| 110-43-0      | 2-Heptanone, see Methyl n-amyl ketone   |                |               |                |
| 106-35-4      | 3-Heptanone, see Ethyl butyl ketone   |                |               |                |
| 151-67-7      | Halothane   | 404            | 26.9          | 20.2           |

| CAS<br>NUMBER | SUBSTANCE   | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---|----------------|---------------|----------------|
| 142-82-5      | Heptane (n-Heptane)                                   | 1640           | 109           | 82             |
| 77-47-4       | Hexachlorocyclopentadiene                             | 0.1            | 0.007         | 0.005          |
| 1335-87-1     | Hexachloronaphthalene                                 | 0.2            | 0.013         | 0.010          |
| 684-16-2      | Hexafluoroacetone                                     | 0.7            | 0.047         | 0.035          |
| 822-06-0      | Hexamethylene diisocyanate                            | 0.03           | 0.002         | 0.0015         |
| 680-31-9      | Hexamethylphosphoramide (WA)                          |                | 0.002         | 0.0015         |
| 110-54-3      | Hexane (n-Hexane)                                     | 180            | 12            | 9              |
| 591-78-6      | 2-Hexanone, see Methyl n-butyl ketone                 |                |               |                |
| 108-10-1      | Hexone, see Methyl isobutyl ketone                    |                |               |                |
| 108-84-9      | sec-Hexyl acetate                                     | 300            | 20            | 15             |
| 107-41-5      | Hexylene glycol (CL)                                  | 121            | 0.806         | 6.05           |
| 37275-59-5    | Hydrogenated terphenyls                               | 5              | 0.333         | 0.25           |
| 10035-10-6    | Hydrogen bromide (CL)                                 | 10             | 0.0667        | 0.5            |
| 7647-01-0     | Hydrogen chloride (CL)                                | 7.5            | 0.05          | 0.375          |
| 7722-84-1     | Hydrogen peroxide                                     | 1.5            | 0.1           | 0.075          |
| 7783-06-4     | Hydrogen sulfide                                      | 14             | 0.933         | 0.7            |
| 123-31-9      | Hydroquinone  | 2              | 0.133         | 0.1            |
| 123-42-2      | 4-Hydroxy-4-Methyl-2-pentanone, see Diacetone alcohol |                |               |                |
| 999-61-1      | 2 -Hydroxypropyl acrylate                             | 3              | 0.2           | 0.15           |
| 95-13-6       | Indene  | 45             | 3             | 2.25           |
| 7440-74-6     | Indium & compounds as In                              | 0.1            | 0.007         | 0.005          |
| 7553-56-2     | lodine (CL)   | 0.1            | 0.0067        | 0.005          |
| 75-47-8       | lodoform  | 10             | 0.667         | 0.5            |
| 1309-37-1     | Iron oxide fume (Fe2O3) as Fe                         | 5              | 0.333         | 0.25           |
| 13463-40-6    | Iron pentacarbonyl as Fe                              | 0.8            | 0.053         | 0.04           |
| 7439-89-6     | Iron salts, soluble, as Fe                            | 1              | 0.067         | 0.05           |
| 123-92-2      | Isoamyl acetate                                       | 525            | 35            | 26.25          |
| 123-51-3      | Isoamyl alcohol                                       | 360            | 24            | 18             |
| 110-19-0      | Isobutyl acetate                                      | 700            | 46.7          | 35             |
| 78-83-1       | Isobutyl alcohol                                      | 150            | 10            | 6              |
| 26952-21-6    | Isooctyl alcohol                                      | 270            | 18            | 13.5           |
| 78-59-1       | Isophorone  | 28             | 1.867         | 1.4            |
| 4098-71-9     | Isophorone diisocyanate                               | 0.09           | 0.006         | 0.0045         |
| 109-59-1      | Isopropoxyethanol                                     | 105            | 7             | 5.25           |

| CAS<br>NUMBER | SUBSTANCE                              | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|--|----------------|---------------|----------------|
| 108-21-4      | Isopropyl Acetate                      | 1040           | 69.3          | 52             |
| 67-63-0       | Isopropyl alcohol                      | 980            | 65.3          | 49             |
| 75-31-0       | Isopropylamine                         | 12             | 0.8           | 0.6            |
| 643-28-7      | N-Isopropylaniline                     | 10             | 0.667         | 0.5            |
| 108-20-3      | Isopropyl ether                        | 1040           | 69.3          | 52             |
| 4016-14-2     | Isopropyl glycidyl ether (IGE)         | 240            | 16            | 12             |
| 1332-58-7     | Kaolin (respirable dust)               | 2              | 0.133         | 0.1            |
| 463-51-4      | Ketene                                 | 0.9            | 0.06          | 0.045          |
| 7580-67-8     | Lithium hydride                        | 0.025          | 0.002         | 0.00125        |
| 546-93-0      | Magnesite                              | 10             | 0.667         | 0.5            |
| 1309-48-4     | Magnesium oxide fume                   | 10             | 0.667         | 0.5            |
| 121-75-5      | Malathion                              | 10             | 0.667         | 0.5            |
| 108-31-6      | Maleic anhydride                       | 1              | 0.067         | 0.05           |
| 7439-96-5     | Manganese as Mn Including:             |                |               |                |
| 7439-96-5     | Dust & compounds                       | 5              | 0.333         | 0.25           |
| 7439-96-5     | Fume                                   | 1              | 0.067         | 0.05           |
| 101-68-8      | MDI, see Methylene diphenyl isocyanate |                |               |                |
| NA            | Mercaptans not otherwise listed (ID)   |                | 0.033         | 0.025          |
| 141-79-7      | Mesityl oxide                          | 60             | 4             | 3              |
| 79-41-4       | Methacrylic acid                       | 70             | 4.67          | 3.5            |
| 74-93-1       | Methanethiol, see Methyl mercaptan     |                |               |                |
| 67-56-1       | Methanol                               | 260            | 17.3          | 13             |
| 16752-77-5    | Methomyl                               | 2.5            | 0.17          | 0.125          |
| 72-43-5       | Methoxychlor                           | 10             | 0.667         | 0.5            |
| 109-86-4      | 2-Methoxyethanol                       | 16             | 1.07          | 0.8            |
| 110-49-6      | 2-Methoxyethyl acetate                 | 24             | 1.6           | 1.2            |
| 150-76-5      | 4-Methoxyphenol                        | 5              | 0.333         | 0.25           |
| 108-65-6      | 1-methoxy-2-propyl acetate (ID)        | n/a            | 24            | 3.6            |
| 79-20-9       | Methyl acetate                         | 610            | 40.7          | 30.5           |
| 74-99-7       | Methyl acetylene                       | 1640           | 109           | 82             |
| NA            | Methyl acetylene-propadiene mix (MAPP) | 1640           | 109           | 82             |
| 96-33-3       | Methyl acrylate                        | 35             | 2.33          | 1.75           |
| 126-98-7      | Methylacrylonitrile                    | 3              | 0.2           | 0.15           |
| 74-89-5       | Methylamine                            | 12             | 0.8           | 0.6            |
|               | •                                      |                |               | •              |

| CAS<br>NUMBER | SUBSTANCE   | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---|----------------|---------------|----------------|
| 108-11-2      | Methyl emyl alcohol, see Methyl isobutyl carbinol |                |               |                |
| 110-43-0      | Methyl n-amyl ketone                              | 235            | 15.7          | 11.75          |
| 100-61-8      | N-Methyl aniline                                  | 2              | 0.133         | 0.1            |
| 74-83-9       | Methyl bromide                                    | 19             | 1.27          | 0.95           |
| 591-78-6      | Methyl n-butyl ketone                             | 20             | 1.33          | 1              |
| 74-87-3       | Methyl chloride                                   | 103            | 6.867         | 5.15           |
| 71-55-6       | Methyl chloroform                                 | 1910           | 127           | 95.5           |
| 137-05-3      | Methyl 2-cyano-acrylate                           | 8              | 0.533         | 0.4            |
| 25639-42-3    | Methylcyclohexanol                                | 235            | 15.7          | 11.75          |
| 583-60-8      | o-Methylcyclohexanone                             | 230            | 15.3          | 11.5           |
| 8022-00-2     | Methyl demeton                                    | 0.5            | 0.033         | 0.01           |
| 101-68-8      | Methylenediphenyl diisocyanate (MDI)              | 0.05           | 0.003         | 0.0025         |
| 5124-30-1     | Methylene bis (4-cyclohexyl isocyanate)           | 0.11           | 0.007         | 0.0055         |
| 78-93-3       | Methyl ethyl ketone (MEK)                         | 590            | 39.3          | 29.5           |
| 1338-23-4     | Methyl ethyl ketone peroxide (CL)                 | 1.5            | 0.01          | 0.0075         |
| 107-31-3      | Methyl formate                                    | 246            | 16.4          | 12.3           |
| 541-85-5      | 5-Methyl-3-heptanone, see Ethyl amyl ketone       |                |               |                |
| 110-12-3      | Methyl isoamyl ketone                             | 240            | 16            | 12             |
| 108-11-2      | Methyl isobutyl carbinol                          | 104            | 6.93          | 5.2            |
| 108-10-1      | Methyl isobutyl ketone                            | 205            | 13.7          | 10.25          |
| 624-83-9      | Methyl isocyanate                                 | 0.05           | 0.003         | 0.0025         |
| 563-80-4      | Methyl isopropyl ketone                           | 705            | 47            | 35.25          |
| 74-93-1       | Methyl mercaptan                                  | 0.5            | 0.033         | 0.025          |
| 80-62-6       | Methyl methacrylate                               | 410            | 27.3          | 20.5           |
| 298-00-0      | Methyl parathion                                  | 0.2            | 0.013         | 0.01           |
| 107-87-9      | Methyl propyl ketone                              | 700            | 46.7          | 35             |
| 681-84-5      | Methyl silicate                                   | 6              | 0.4           | 0.3            |
| 98-83-9       | a-Methyl styrene                                  | 240            | 16            | 10.20          |
| 109-87-5      | Methylal (dimethoxymethane)                       | 3110           | 207           | 155.5          |
| 108-87-2      | Methylcyclohexane                                 | 1610           | 107           | 80.5           |
| 21087-64-9    | Metribuzin  | 5              | 0.333         | 0.25           |
| 7786-34-7     | Mevinphos   | 0.1            | 0.007         | 0.005          |
| 12001-26-2    | Mica (Respirable dust)                            | 3              | 0.2           | 0.15           |
| NA            | Mineral Wool Fiber (no asbestos)                  | 10             | 0.667         | 0.5            |
| ·             | 1   |                | ·             |                |

| CAS<br>NUMBER | SUBSTANCE                               | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---|----------------|---------------|----------------|
| 7439-98-7     | Molybdenum as Mo - Including:           |                |               |                |
| NA            | Soluble compounds                       | 5              | 0.333         | 0.25           |
| NA            | Insoluble compounds                     | 10             | 0.667         | 0.5            |
| 108-90-7      | Monochlorobenzene, see Chlorobenzene    |                |               |                |
| 6923-22-4     | Monocrotophos                           | 0.25           | 0.017         | 0.0125         |
| 110-91-8      | Morpholine                              | 70             | 4.67          | 0.35           |
| 300-76-5      | Naled                                   | 3              | 0.2           | 0.15           |
| 91-20-3       | Naphthalene                             | 50             | 3.33          | 2.5            |
| 54-11-5       | Nicotine                                | 0.5            | 0.033         | 0.025          |
| 1929-82-4     | Nitrapyrin                              | 10             | 0.667         | 0.5            |
| 7697-37-2     | Nitric acid                             | 5              | 0.333         | 0.25           |
| 100-01-6      | p-Nitroaniline                          | 3              | 0.2           | 0.15           |
| 98-95-3       | Nitrobenzene                            | 5              | 0.333         | 0.25           |
| 100-00-5      | p-Nitrochlorobenzene                    | 3              | 0.2           | 0.15           |
| 79-24-3       | Nitroethane                             | 310            | 20.7          | 15.5           |
| 7783-54-2     | Nitrogen trifluoride                    | 29             | 1.93          | 1.45           |
| 55-63-0       | Nitroglycerin                           | 0.46           | 0.031         | 0.023          |
| 75-52-5       | Nitromethane                            | 50             | 3.333         | 2.5            |
| 108-03-2      | 1-Nitropropane                          | 90             | 6             | 4.5            |
| 99-08-1       | m (or) 3-Nitrotoluene                   | 11             | 0.733         | 0.55           |
| 88-72-2       | o (or) 2-Nitrotoluene                   | 11             | 0.733         | 0.55           |
| 99-99-0       | p (or) 4-Nitrotoluene                   | 11             | 0.733         | 0.55           |
| 76-06-2       | Nitrotrichloromethane, see Chloropicrin |                |               |                |
| 10024-97-2    | Nitrous oxide                           | 90             | 6             | 4.5            |
| 111-84-2      | Nonane                                  | 1050           | 70            | 52.5           |
| 2234-13-1     | Octachloronaphthalene                   | 0.1            | 0.007         | 0.005          |
| 111-65-9      | Octane                                  | 1400           | 93.3          | 70             |
| NA            | Oil mist, mineral                       | 5              | 0.333         | 0.25           |
| 20816-12-0    | Osmium tetroxide as Os                  | 0.002          | 0.0001        | 0.0001         |
| 144-62-7      | Oxalic acid                             | 1              | 0.067         | 0.05           |
| 7783-41-7     | Oxygen difluoride (CL)                  | 0.11           | 0.0007        | 0.0005         |
| 8002-74-2     | Paraffin wax fume                       | 2              | 0.133         | 0.1            |
| 4685-14-7     | Paraquat                                | 0.1            | 0.007         | 0.007          |
| NA            | Paraquat, all Compounds                 | 0.1            | 0.007         | 0.005          |

| CAS<br>NUMBER | SUBSTANCE                                   | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---|----------------|---------------|----------------|
| 56-38-2       | Parathion                                   | 0.1            | 0.007         | 0.005          |
| 19624-22-7    | Pentaborane                                 | 0.01           | 0.001         | 0.0005         |
| 1321-64-8     | Pentachloronaphthalene                      | 0.5            | 0.033         | 0.025          |
| 82-68-8       | Pentachloronitrobenzene                     | 0.5            | 0.0333        | 0.025          |
| 87-86-5       | Pentachlorophenol                           | 0.5            | 0.033         | 0.025          |
| 109-66-0      | Pentane                                     | 1770           | 118           | 88.5           |
| 107-87-9      | 2-Pentanone, see Methyl propyl ketone       |                |               |                |
| 594-42-3      | Perchloromethyl mercaptan                   | 0.8            | 0.053         | 0.04           |
| 7616-94-6     | Perchloryl Fluoride                         | 13             | 0.867         | 0.65           |
| 93763-70-3    | Perlite                                     | 10             | 0.667         | 0.5            |
| 532-27-4      | Phenacyl chloride, see a-Chloroacetophenone |                |               |                |
| 108-95-2      | Phenol                                      | 19             | 1.27          | 0.95           |
| 92-84-2       | Phenothiazine                               | 5              | 0.333         | 0.25           |
| 108-45-2      | m-Phenylenediamine                          | 0.1            | 0.0067        | 0.005          |
| 106-50-3      | p-Phenylenediamine                          | 0.1            | 0.007         | 0.005          |
| 101-84-8      | Phenyl ether, vapor                         | 7              | 0.467         | 0.035          |
| 122-60-1      | Phenyl glycidyl ether (PGE)                 | 6              | 0.4           | 0.3            |
| 108-98-5      | Phenyl mercaptan                            | 2              | 0.133         | 0.1            |
| 638-21-1      | Phenylphosphine (CL)                        | 0.25           | 0.0017        | 0.00125        |
| 298-02-2      | Phorate                                     | 0.05           | 0.003         | 0.001          |
| 7786-34-7     | Phosdrin, see Mevinphos                     |                |               |                |
| 75-44-5       | Phosgene                                    | 0.4            | 0.027         | 0.02           |
| 7803-51-2     | Phosphine                                   | 0.4            | 0.027         | 0.02           |
| 7664-38-2     | Phosphoric acid                             | 1              | 0.067         | 0.05           |
| 7723-14-0     | Phosphorus                                  | 0.1            | 0.007         | 0.005          |
| 10025-87-3    | Phosphorus oxychloride                      | 0.6            | 0.04          | 0.030          |
| 10026-13-8    | Phosphorus penta-chloride                   | 1              | 0.067         | 0.05           |
| 1313-80-3     | Phosphorus penta-sulfide                    | 1              | 0.067         | 0.05           |
| 1314-56-3     | Phosphorus pentoxide (ID)                   |                | 0.067         | 0.05           |
| 7719-12-2     | Phosphorus trichloride                      | 1.5            | 0.1           | 0.075          |
| 85-44-9       | Phthalic anhydride                          | 6              | 0.4           | 0.3            |
| 626-17-5      | m-Phthalodinitrile                          | 5              | 0.333         | 0.25           |
| 1918-02-1     | Picloram                                    | 10             | 0.667         | 0.5            |
| 88-89-1       | Picric acid                                 | 0.1            | 0.006         | 0.005          |
|               | 1   |                |               |                |

| CAS<br>NUMBER | SUBSTANCE   | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---|----------------|---------------|----------------|
| 83-26-1       | Pindone   | 0.1            | 0.007         | 0.005          |
| 142-64-3      | Piperazine dihydro-chloride   | 5              | 0.333         | 0.25           |
| 83-26-1       | 2-Pivaloyl-I,3-indandione, see Pindone  |                |               |                |
| 7440-06-4     | Platinum - Including:   |                |               |                |
| 7440-06-4     | Metal   | 1              | 0.067         | 0.05           |
| NA            | Soluble salts, as Pt  | 0.002          | 0.0001        | 0.0001         |
| 65997-15-1    | Portland cement   | 10             | 0.667         | 0.5            |
| 1310-58-3     | Potassium hydroxide   | 2              | 0.133         | 0.1            |
| 107-19-7      | Propargyl alcohol   | 2.3            | 0.153         | 0.115          |
| 123-38-6      | Propionaldehyde (LA)  | 0.43           | 0.0287        | 0.0215         |
| 79-09-4       | Propionic acid  | 30             | 2             | 1.5            |
| 114-26-1      | Propoxur (Baygon)   | 0.5            | 0.033         | 0.025          |
| 109-60-4      | n-Propyl acetate  | 840            | 56            | 42             |
| 71-23-8       | Propyl alcohol  | 500            | 33.3          | 25             |
| 78-87-5       | Propylene dichloride  | 347            | 23.133        | 17.35          |
| 6423-43-4     | Propylene glycol dinitrate  | 0.34           | 0.023         | 0.017          |
| 107-98-2      | Propylene glycol monomethyl ether   | 360            | 24            | 18             |
| 75-56-9       | Propylene oxide   | 48             | 3.2           | 2.4            |
| 627-13-4      | n-Propyl nitrate  | 105            | 7             | 5.25           |
| 8003-34-7     | Pyrethrum   | 5              | 0.333         | 0.25           |
| 110-86-1      | Pyridine  | 15             | 1             | 0.75           |
| 120-80-9      | Pyrocatechol, see Catechol  |                |               |                |
| 106-51-4      | Quinone   | 0.4            | 0.027         | 0.02           |
| 121-84-4      | RDX, see Cyclonite  |                |               |                |
| NA            | Refractory Ceramic Fibers (see entry for specific content of emissions, ex: silica) |                |               |                |
| 108-46-3      | Resorcinol  | 45             | 3             | 2.25           |
| 7440-16-6     | Rhodium - Including:  |                |               |                |
| 7440-16-6     | Metal   | 1              | 0.067         | 0.05           |
| NA            | Insoluble compounds, as Rh  | 1              | 0.067         | 0.05           |
| NA            | Soluble compounds, as Rh  | 0.01           | 0.001         | 0.0005         |
| 299-84-3      | Ronnel  | 10             | 0.667         | 0.5            |
| 83-79-4       | Rotenone (commercial)   | 5              | 0.333         | 0.25           |

| CAS<br>NUMBER | SUBSTANCE  | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|--|----------------|---------------|----------------|
| 8030-30-6     | Rubber solvent (Naphtha)                             | 1590           | 106           | 79.5           |
| 14167-18-1    | Salcoine as CO                                       | 0.1            | 0.007         | 0.005          |
| 7782-49-2     | Selenium   | 0.2            | 0.013         | 0.010          |
| NA            | Selenium and compounds as Se                         | 0.2            | 0.013         | 0.01           |
| 136-78-7      | Sesone   | 10             | 0.667         | 0.5            |
| 7803-62-5     | Silane, see silicon tectrahydride                    |                |               |                |
| NA            | Silica - amorphous - Including:                      |                |               |                |
| 61790-53-2    | Diatomaceous earth (uncalcined)                      | 10             | 0.667         | 0.5            |
| 112926-00-8   | Precipitated silica                                  | 10             | 0.667         | 0.5            |
| 112926-00-8   | Silica gel   | 10             | 0.667         | 0.5            |
| NA            | Silica, crystalline - Including:                     |                |               |                |
| 14464-46-1    | Cristobalite   | 0.05           | 0.0033        | 0.0025         |
| 14808-60-7    | quartz   | 0.1            | 0.0067        | 0.005          |
| 60676-86-0    | silica, fused  | 0.1            | 0.0067        | 0.005          |
| 15468-32-3    | tridymite  | 0.05           | 0.0033        | 0.0025         |
| 1317-95-9     | Tripoli  | 0.1            | 0.0067        | 0.005          |
| 7440-21-3     | Silicon  | 10             | 0.667         | 0.5            |
| 409-21-2      | Silicon carbide                                      | 10             | 0.667         | 0.5            |
| 7803-62-5     | Silicon tetrahydride                                 | 7              | 0.467         | 0.35           |
| 7440-22-4     | Silver - Including                                   |                |               |                |
| 7440-22-4     | Metal  | 0.1            | 0.007         | 0.005          |
| 7440-22-4     | Soluble compounds, as Ag                             | 0.01           | 0.001         | 0.005          |
| 26628-22-8    | Sodium azide (CL)                                    | 0.3            | 0.002         | 0.0015         |
| 7631-90-5     | Sodium bisulfite                                     | 5              | 0.333         | 0.25           |
| 136-78-7      | Sodium 2,4-dichloro-phenoxyethyl sulfate, see Sesone |                |               |                |
| 62-74-8       | Sodium fluoroacetate                                 | 0.05           | 0.003         | 0.0025         |
| 1310-73-2     | Sodium hydroxide                                     | 2              | 0.133         | 0.1            |
| 7681-57-4     | Sodium metabisulfite                                 | 5              | 0.333         | 0.25           |
| NA            | Stearates (not including toxic metals)               | 10             | 0.667         | 0.5            |
| 7803-52-3     | Stibine  | 0.5            | 0.033         | 0.025          |
| 8052-41-3     | Stoddard solvent                                     | 525            | 35            | 26.25          |
| 57-24-9       | Strychnine   | 0.15           | 0.01          | 0.0075         |
| 60-41-3       | Strychnine sulfate as strichnine                     | 0.15           | 0.01          | 0.01           |
| 100-42-5      | Styrene monomer (ID)                                 |                | 6.67          | 1              |
|               | •  | -              |               | •              |

| CAS<br>NUMBER | SUBSTANCE   | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|---|----------------|---------------|----------------|
| 1395-21-7     | Subtilisins (Proteolytic enzymes as 100% pure crystalline enzyme) | 0.00006        | 4.0E-07       | 3.0E-7         |
| 3689-24-5     | Sulfotep  | 0.2            | 0.013         | 0.01           |
| 7664-93-9     | Sulfuric acid   | 1              | 0.067         | 0.05           |
| 10025-67-9    | Sulfur monochloride (CL)  | 6              | 0.04          | 0.03           |
| 5714-22-7     | Sulfur pentafluoride (CL)   | 0.1            | 0.0007        | 0.0005         |
| 7783-60-0     | Sulfur tetrafluoride (CL)   | 0.4            | 0.0027        | 0.002          |
| 2699-79-8     | Sulfuryl fluoride   | 20             | 1.33          | 1              |
| 35400-43-2    | Sulprofos   | 1              | 0.067         | 0.05           |
| 8065-48-3     | Systox, see Demeton   |                |               |                |
| 93-76-5       | 2,4,5-Trichlorophen-oxyacetic acid (2,4,5,-T)                     | 10             | 0.667         | 0.05           |
| 7440-25-7     | Tantalum  | 5              | 0.333         | 0.25           |
| 3689-24-5     | TEDP, see Sulfotep  |                |               |                |
| 13494-80-9    | Tellurium & Compounds as Te                                       | 0.1            | 0.007         | 0.005          |
| 7783-80-4     | Tellurium hexafluoride as Te                                      | 0.2            | 0.013         | 0.01           |
| 3383-96-8     | Temephos  | 10             | 0.667         | 0.5            |
| 107-49-3      | TEPP (Tetraethyl-pyrophosphate)                                   | 0.05           | 0.003         | 0.0025         |
| 26140-60-3    | Terphenyls  | 4.7            | 0.313         | 0.235          |
| 1335-88-2     | Tetrachloronaphthalene  | 2              | 0.133         | 0.10           |
| 78-00-2       | Tetraethyl Lead   | 0.1            | 0.007         | 0.005          |
| 597-64-8      | Tetraethyltin as organic tin                                      | 0.1            | 0.007         | 0.005          |
| 109-99-9      | Tetrahydrofuran   | 590            | 39.3          | 29.5           |
| 75-74-1       | Tetramethyl lead, as Pb   | 0.15           | 0.01          | 0.0075         |
| 3333-52-6     | Tetramethyl succinonitrile  | 3              | 0.2           | 0.15           |
| 509-14-8      | Tetranitromethane   | 8              | 0.533         | 0.4            |
| 7722-88-5     | Tetrasodium pyrophosphate   | 5              | 0.333         | 0.25           |
| 479-45-8      | Tetryl  | 1.5            | 0.1           | 0.075          |
| 7440-28-0     | Thallium, soluble Compounds, as TI                                | 0.1            | 0.007         | 0.005          |
| 96-69-5       | 4,4-Thiobis (6 tert, butyl-m-cresol)                              | 10             | 0.667         | 0.5            |
| 68-11-1       | Thioglycolic acid   | 4              | 0.267         | 0.2            |
| 7719-09-7     | Thionyl chloride (CL)   | 4.9            | 0.0327        | 0.245          |
| 137-26-8      | Thiram  | 5              | 0.333         | 0.25           |
| 7440-31-5     | Tin - Including:  |                |               |                |
| 7440-31-5     | Metal   | 2              | 0.133         | 0.1            |

| CAS<br>NUMBER | SUBSTANCE  | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|--|----------------|---------------|----------------|
| NA            | Oxide & inorganic compounds, except SnH4, as Sn      |                | 0.133         | 0.1            |
| NA            | Organic compounds as Sn                              | 0.1            | 0.007         | 0.005          |
| 108-88-3      | Toluene (toluol)                                     | 375            | 25            | 18.75          |
| 584-84-9      | Toluene-2,4-di-isocyanate (TDI)                      | 0.04           | 0.003         | 0.002          |
| 10-41-54      | p-Toluenesulfonic acid (ID)                          | n/a            | 0.067         | 0.05           |
| 126-73-8      | Tributyl phosphate                                   | 2.2            | 0.147         | 0.11           |
| 76-03-9       | Trichloroacetic acid                                 | 7              | 0.467         | 0.35           |
| 120-82-1      | 1,2,4-Trichlorobenzene (CL)                          | 37             | 2.47          | 1.85           |
| 79-01-6       | Trichloroethylene                                    | 269            | 17.93         | 13.45          |
| 1321-65-9     | Trichloronaphthalene                                 | 5              | 0.333         | 0.25           |
| 76-06-2       | Trichloronitromethane, See Chloropicrin              |                |               |                |
| 95-95-4       | 2,4,5-Trichlorophenol (MA)                           |                |               | 0.0016         |
| 96-18-4       | I,2,3-Trichloropropane                               | 60             | 4             | 3              |
| 121-44-8      | Triethylamine  | 4.1            | 0.27          | 0.2            |
| 1582-09-8     | Trifluralin (PL3)                                    |                | 7.7           | 1.15           |
| 552-30-7      | Trimellitic anhydride                                | 0.04           | 0.003         | 0.002          |
| 75-50-3       | Trimethylamine                                       | 12             | 0.8           | 0.6            |
| 25551-13-7    | Trimethyl benzene (mixed and individual isomers)     | 123            | 8.2           | 6.15           |
| 540-84-1      | 2,2,4-Trimethyl-pentane                              | 350            | 23.3          | 17.5           |
| 121-45-9      | Trimethyl phosphite                                  | 10             | 0.667         | 0.5            |
| 479-45-8      | 2,4,6-Trinitrophenyl-methylnitramine, see Tetryl     |                |               |                |
| 78-30-8       | Triorthocresyl phosphate                             | 0.1            | 0.007         | 0.005          |
| 603-34-9      | Triphenyl amine                                      | 5              | 0.333         | 0.25           |
| 115-86-6      | Triphenyl phosphate                                  | 3              | 0.2           | 0.15           |
| 7440-33-7     | Tungsten - Including:                                |                |               |                |
| NA            | Insoluble compounds                                  | 5              | 0.333         | 0.25           |
| NA            | Soluble compounds                                    | 1              | 0.067         | 0.05           |
| 8006-64-2     | Turpentine   | 560            | 37.3          | 28             |
| 7440-61-1     | Uranium (natural) Soluble & insoluble compounds as U | 0.2            | 0.013         | 0.01           |
| 110-62-3      | n-Valeraldehyde                                      | 175            | 11.7          | 8.75           |
| 1314-62-1     | Vanadium, as V2O5<br>Respirable Dust & fume          | 0.05           | 0.003         | 0.0025         |
| 108-05-4      | Vinyl acetate  | 35             | 2.3           | 1.75           |
| 25013-15-4    | Vinyl toluene  | 240            | 16            | 12             |

| CAS<br>NUMBER | SUBSTANCE                          | OEL<br>(mg/m3) | EL<br>(lb/hr) | AAC<br>(mg/m3) |
|---------------|------------------------------------|----------------|---------------|----------------|
| 8032-32-4     | VM & P Naphtha                     | 1370           | 91.3          | 68.5           |
| 81-81-2       | Warfarin                           | 0.1            | 0.007         | 0.005          |
| 1330-20-7     | Xylene (o-, m-, p-isomers)         | 435            | 29            | 21.75          |
| 1477-55-0     | m-Xylene a, a-diamine (CL)         | 0.1            | 0.0007        | 0.0005         |
| 1300-73-8     | Xylidine                           | 2.5            | 1.67          | 0.125          |
| 7440-65-5     | Yttrium (Metal and compounds as Y) | 1              | 0.067         | 0.05           |
| 7440-66-6     | Zinc metal (ID)                    |                | 0.667         | 0.5            |
| 7646-85-7     | Zinc chloride fume                 | 1              | 0.067         | 0.05           |
| 1314-13-2     | Zinc oxide fume                    | 5              | 0.333         | 0.05           |
| 1314-13-2     | Zinc oxide dust                    | 10             | 0.667         | 0.5            |
| 7440-67-7     | Zirconium compounds as Zr          | 5              | 0.333         | 0.25           |

Note: ACGIH: American Conference of Government Industrial Hygienists; CAS: Chemical Abstract Service; CL: Derived from ACGIH ceiling Limit UF = 10; ID. Idaho Division Department of Environmental Quality. Not OEL based; LA: From LA Dept. of Environmental Quality. Not OEL based eight (8) hour TWA; MA: From MA Dept. of Environmental Protection, Div. of Air Quality Control. Not OEL based, annual averaging time, no UF; MI. From MI Dept. of Natural Resources, Air Quality Div. Based on toxicological data, annual averaging time, no UF; NY: From New York Dept. of Conservation, Div. of Air Quality. Not OEL based, annual averaging. time no UF; OEL: Reference Occupational Exposure Level; PL: From Phil. Dept. of Air Management Services. Not OEL based, annual averaging time no UF; PL1: From Phil. Dept. of Air Management Services. Unspecified OEL based, annual averaging time, UF=10; PL2: From Phil. Dept. of Air Management Services. Not OEL based annual averaging. time, UF=10; PL3: From Phil. Dept. of Air Management Services. Not OEL based, annual averaging. time, UF=1000.; TWA: Time Weighted Average; UF: Uncertainty Factor; WA: From Washington Dept. of Ecology, Air Programs. Acceptable Source Impact Level based.

#### 586. TOXIC AIR POLLUTANTS CARCINOGENIC INCREMENTS.

**O1.** Toxic Air Pollutant Carcinogenic Increments. Those ambient air quality increments based on the probability of developing excess cancers over a seventy (70) year lifetime exposure to one microgram per cubic meter (1 ug/m3) of a given carcinogen and expressed in terms of a screening emission level or an acceptable ambient concentration for a carcinogenic toxic air pollutant.

<u>O2.</u> <u>Carcinogen Table.</u> The screening emissions levels (EL) and acceptable ambient concentrations (AACC) for carcinogens are as provided in the following table. The AACC in this section are annual averages.

(3-28-23)(

| CAS<br>NUMBER | SUBSTANCE     | URF     | EL<br>lb/hr | AACC<br>ug/m3 |
|---------------|---------------|---------|-------------|---------------|
| 75-07-0       | Acetaldehyde  | 2.2E-06 | 3.0E-03     | 4.5E-01       |
| 79-06-1       | Acrylamide    | 1.3E-03 | 5.1E-06     | 7.7E-04       |
| 107-13-1      | Acrylonitrile | 6.8E-05 | 9.8E-05     | 1.5E-02       |
| 309-00-2      | Aldrin        | 4.9E-03 | 1.3E-06     | 2.0E-04       |
| 62-53-3       | Aniline       | 7.4E-06 | 9.0E-04     | 1.4E-01       |

| CAS<br>NUMBER | SUBSTANCE  | URF     | EL<br>lb/hr | AACC<br>ug/m3 |
|---------------|--|---------|-------------|---------------|
| 140-57-8      | Aramite  | 7.1E-06 | 9.3E-04     | 1.4E-01       |
| NA            | Aroclor, all (PCB) (ID)                                      |         | 6.6E-05     | 1.0E-02       |
| 7440-38-2     | Arsenic compounds  | 4.3E-03 | 1.5E-06     | 2.3E-04       |
| 1332-21-4     | Asbestos (Fibers /M.L.)                                      | 2.3E-01 | N/A         | 4.0E-06       |
| 71-43-2       | Benzene  | 8.3E-06 | 8.0E-04     | 1.2E-01       |
| 92-87-5       | Benzidine  | 6.7E-02 | 9.9E-08     | 1.5E-05       |
| 50-32-8       | Benzo(a)pyrene   | 3.3E-03 | 2.0E-06     | 3.0E-04       |
| 7440-41-7     | Beryllium & compounds  | 2.4E-04 | 2.8E-05     | 4.2E-03       |
| 106-99-0      | 1,3-Butadiene  | 2.8E-04 | 2.4E-05     | 3.6E-03       |
| 111-44-4      | Bis (2-chloroethyl) ether                                    | 3.3E-04 | 2.0E-05     | 3.0E-03       |
| 542-88-1      | Bis (chloromethyl) ether                                     | 6.2E-02 | 1.0E-07     | 1.6E-05       |
| 108-60-1      | Bis (2-chloro-1-methyl- ethyl) ether                         | 2.0E-05 | 3.3E-04     | 5.0E-02       |
| 117-81-7      | Bis (2-ethylhexyl) phthalate                                 | 2.4E-07 | 2.8E-02     | 4.2E+00       |
| 7440-43-9     | Cadmium and compounds  | 1.8E-03 | 3.7E-06     | 5.6E-04       |
| 56-23-5       | Carbon tetrachloride   | 1.5E-05 | 4.4E-04     | 6.7E-02       |
| 57-74-9       | Chlordane  | 3.7E-04 | 1.8E-04     | 2.7E-03       |
| 67-66-3       | Chloroform   | 2.3E-05 | 2.8E-04     | 4.3E-02       |
| 18540-29-9    | Chromium (VI) & compounds as Cr+6                            | 1.2E-02 | 5.6E-07     | 8.3E-05       |
| NA            | Coal Tar Volitiles as benzene                                |         |             |               |
| NA            | Coke oven emissions  | 6.2E-04 | 1.1E-05     | 1.6E-03       |
| 8001-58-9     | Creosote (ID) See coal tar volatiles as benzene extractables |         |             |               |
| 50-29-3       | DDT (Dichlorodi phenyltrichloroethane)                       | 9.7E-05 | 6.8E-05     | 1.0E-02       |
| 96-12-8       | 1,2-Dibromo-3-chloropropane                                  | 6.3E-03 | 1.0E-06     | 1.6E-04       |
| 75-34-3       | 1,1 dichloroethane   | 2.6E-05 | 2.5E-04     | 3.8E-02       |
| 107-06-2      | 1,2 dichloroethane   | 2.6E-05 | 2.5E-04     | 3.8E-02       |
| 75-35-4       | 1,1 dichloroethylene   | 5.0E-05 | 1.3E-04     | 2.0E-02       |
| 75-09-2       | Dichloromethane (Methylenechloride)                          | 4.1E-06 | 1.6E-03     | 2.4E-01       |
| 542-75-6      | 1,3 dichloropropene  | 4.0E-06 | 1.7E-03     | 2.5E-01       |
| 764-41-0      | 1,4-Dichloro-2-butene  | 2.6E-03 | 2.5E-06     | 3.8E-04       |
| 60-57-1       | Dieldrin   | 4.6E-03 | 1.4E-06     | 2.1E-04       |
| 56-53-1       | Diethylstilbestrol   | 1.4E-01 | 4.7E-08     | 7.1E-06       |
| 123-91-1      | 1,4 dioxane  | 1.4E-06 | 4.8E-03     | 7.1E-01       |

| CAS<br>NUMBER | SUBSTANCE  | URF   | EL<br>lb/hr   | AACC<br>ug/m3                             |
|---------------|--|---|---|---|
|               | Dioxin and Furans (2,3,7,8,TCDD & mixtures) Dioxin and F<br>and expressed as an equivalent emission of 2,3,7,8, TCD<br>mers in accordance with US EPA guidelines. U.S. EPA, (2<br>Factors (TEFs) for Human Health Risk Assessments of 2,<br>Dioxin-Like Compounds. Risk Assessment Forum, Washir | D based on the<br>010) Recomme<br>3,7,8-Tetrachlo | relative poten-<br>ended Toxicity l<br>rodibenzo-p-di | cy of the iso-<br>Equivalence<br>oxin and |
| 122-66-7      | 1,2-Diphenylhydrazine  | 2.2E-04   | 3.0E-05   | 4.5E-03                                   |
| 106-89-8      | Epichlorohydrin  | 1.2E-06   | 5.6E-03   | 8.3E-01                                   |
| 106-93-4      | Ethylene dibromide   | 2.2E-04   | 3.0E-05   | 4.5E-03                                   |
| 75-21-8       | Ethylene oxide   | 1.0E-04   | 6.7E-05   | 1.0E-02                                   |
| 50-00-0       | Formaldehyde   | 1.3E-05   | 5.1E-04   | 7.7E-02                                   |
| 76-44-8       | Heptachlor   | 1.3E-03   | 5.1E-06   | 7.7E-04                                   |
| 1024-57-3     | Heptachlor Epoxide   | 2.6E-03   | 2.5E-06   | 3.5E-04                                   |
| 118-74-1      | Hexachlorobenzene  | 4.9E-04   | 1.3E-05   | 2.0E-03                                   |
| 87-68-3       | Hexachlorobutadiene  | 2.0E-05   | 3.3E-04   | 5.0E-02                                   |
|               | Hexachlorocyclo-hexane, Technical  | 5.1E-04   | 1.3E-05   | 1.9E-03                                   |
| 319-84-6      | Hexachlorocyclohexane (Lindane) Alpha (BHC)  | 1.8E-03   | 3.7E-06   | 5.6E-04                                   |
| 319-85-7      | Hexachlorocyclohexane (Lindane) Beta (BHC)   | 5.3E-04   | 1.3E-05   | 1.8E-03                                   |
| 58-89-9       | Hexachlorocyclohexane (Lindane) Gamma (BHC)  | 3.8E-04   | 1.7E-05   | 2.6E-03                                   |
| 67-72-1       | Hexachloroethane   | 4.0E-06   | 1.7E-03   | 2.5E-01                                   |
| 302-01-2      | Hydrazine  | 2.9E-03   | 2.3E-06   | 3.4E-04                                   |
| 10034-93-2    | Hydrazine Sulfate  | 2.9E-03   | 2.2E-06   | 3.5E-04                                   |
| 56-49-5       | 3-methylcholanthrene   | 2.7E-03   | 2.5E-06   | 3.7E-04                                   |
| 75-09-2       | Methylene Chloride   | 4.1E-06   | 1.6E-03   | 2.4E-01                                   |
| 74-87-3       | Methyl chloride  | 3.6E-06   | 1.9E-03   | 2.8E-01                                   |
| 101-14-4      | 4,4-Methylene bis(2-Chloroaniline)   | 4.7E-05   | 1.4E-04   | 2.1E-02                                   |
| 60-34-4       | Methyl hydrazine   | 3.1E-04   | 2.2E-05   | 3.2E-03                                   |
| 7440-02-0     | Nickel   | 2.4E-04   | 2.7E-05   | 4.2E-03                                   |
| 12035-72-2    | Nickel Subsulfide  | 4.8E-04   | 1.4E-05   | 2.1E-02                                   |
| 7440-02-0     | Nickel Refinery Dust   | 2.4E-04   | 2.8E-05   | 4.2E-02                                   |
| 79-46-9       | 2-Nitropropane   | 2.7E-02   | 2.5E-07   | 3.7E-05                                   |
| 55-18-5       | N-Nitrosodiethylamine (diethylnitrosoamine) (DEN)  | 4.3E-02   | 1.5E-07   | 2.3E-05                                   |
| 62-75-9       | N-Nitrosodimethylamine   | 1.4E-02   | 4.8E-07   | 7.1E-05                                   |
| 924-16-3      | N-Nitrosodi-n-butylamine   | 1.6E-03   | 4.1E-06   | 6.3E-04                                   |
| 930-55-2      | N-Nitrosopyrolidine  | 6.1E-04   | 1.1E-05   | 1.6E-03                                   |

| CAS<br>NUMBER | SUBSTANCE   | URF      | EL<br>lb/hr | AACC<br>ug/m3 |  |
|---------------|---|----------|-------------|---------------|--|
| 684-93-5      | N-Nitroso-N-methylurea (NMU)  | 3.5E-01  | 1.9E-08     | 2.9E-06       |  |
| 82-68-8       | Pentachloronitrobenzene   | 7.3E-05  | 9.1E-05     | 1.4E-02       |  |
| 127-18-4      | Perchloroethylene (see tetrachloroethylene)   |          |             |               |  |
| NA            | Polyaromatic Hydrocarbons (except 7-PAH group)  | 7.3E-05  | 9.1E-05     | 1.4E-02       |  |
|               | (Polycyclic Organic Matter or 7-PAH group) For emissions of the 7-PAH group, the following PAHs are considered together as one TAP, equivalent in potency to benzo(a)pyrene: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indenol(1,2,3,-cd)pyrene, benzo(a)pyrene. (WA) |          |             |               |  |
| 23950-58-5    | Promanide   | 4.6E-06  | 1.5E-03     | 2.2E-01       |  |
| 50-55-5       | Reserpine   | 3.0E-03  | 2.2E-06     | 3.3E-04       |  |
| 1746-01-6     | 2,3,7,8,-Tetrachlorodibenzo-p-dioxin (2,3,7,8, -TCDD)   | 4.5.E+01 | 1.5E-10     | 2.2E-08       |  |
| NA            | Soots and Tars (ID) See coal tar volatiles as benzene extractables.   |          |             |               |  |
| 79-34-5       | 1,1,2,2,Tetrachloro-ethane  | 5.8E-05  | 1.1E-05     | 1.7E-02       |  |
| 127-18-4      | Tetrachloroethylene   | 4.8E-07  | 1.3E-02     | 2.1E+00       |  |
| 79-00-5       | 1,1,2 - trichloroethane   | 1.6E-05  | 4.2E-04     | 6.2E-02       |  |
| 62-56-6       | Thiourea  | 5.5E-04  | 1.2E-05     | 1.8E-03       |  |
| 8001-35-2     | Toxaphene   | 3.2E-04  | 2.0E-05     | 3.0E-03       |  |
| 79-01-6       | Trichloroethylene   | 1.3E-06  | 5.1E-04     | 7.7E-01       |  |
| 88-06-2       | 2,4,6 - Trichlorophenol   | 5.7E-06  | 1.2E-03     | 1.8E-01       |  |
| 75-01-4       | Vinyl chloride  | 7.1E-06  | 9.4E-04     | 1.4E-01       |  |

Note: <u>CAS</u>: Chemical Abstract Service; **ID**: Idaho <u>Division Department</u> of Environmental Quality. Not OEL based; **URF**: Unit Risk Factor from EPA. **WA**: From Washington Dept. of Ecology, Air Programs. Acceptable Source Impact Level based.

# (BREAK IN CONTINUITY OF SECTIONS)

## 600. RULES FOR CONTROL OF OPEN BURNING.

**O1.** General. Sections 600 through 624 establish rules to protect human health and the environment from air pollutants resulting from open burning as well as to reduce the visibility impairment in mandatory Class I Federal Areas in accordance with the regional haze long-term strategy referenced at Section 667. (3-28-23)(\_\_\_\_\_)

<u>Open Burning</u>. Burning of matter where the products of combustion are emitted directly into the ambient air without passing through a stack, duct or chimney.

# Overview of Incorporations by Reference for the DEQ Air Quality Division, Docket No. 58-0101-2401 IDAPA 58.01.01, Rules for the Control of Air Pollution in Idaho

Required by Idaho Code § 67-5223(4)

Rulemaking Docket No. 58-0101-2401 describes incorporation by reference of final federal regulations promulgated with effective dates through July 1, 2024.

An efficient way to implement new or updated federal regulations is to incorporate them by reference into state rule. Reproducing the Code of Federal Regulations (CFR) in state rule is impractical and costly. Therefore, when possible, DEQ incorporates federal regulations by reference. Sections with no changes are also incorporated to ensure the state rules are consistent with federal regulations and to provide one set of rules for industry to follow. Idaho industry is required to comply with all applicable new and updated federal rules regardless of whether DEQ incorporates them by reference.

In addition, for DEQ to be the implementing authority for the Clean Air Act in the state of Idaho, the agency is required to (1) implement the National Ambient Air Quality Standards (NAAQS) and (2) implement an air quality operating permit program for facilities with significant emissions.

- (1) National Ambient Air Quality Standards Implementation—If an area in Idaho exceeds a NAAQS, DEQ will develop a state plan to improve air quality in that area. Whenever EPA updates a federal standard, DEQ also must demonstrate to EPA that it can implement the new standard. To obtain the appropriate authority to implement a new standard, DEQ incorporates by reference the following sections from <a href="Itile 40 Code of Federal Regulations">Itile 40 Code of Federal Regulations</a> (40 CFR) Parts 50, 51, 52, 53, and 58.
- (2) **Operating Permit Program**—Operating permit requirements are outlined under 40 CFR Parts 64 and 70. To write these permits in Idaho, DEQ must have the authority to include all of the applicable federal requirements. These requirements are contained in 40 CFR Parts 52, 60, 61, 62, 63, 73, and 82.

To maintain authority for implementing the Clean Air Act in Idaho, DEQ is required to continually demonstrate that our air quality program meets minimum federal requirements.

Note, if DEQ's air program does not meet EPA's minimum requirements, EPA could impose sanctions on Idaho as outlined in the Clean Air Act (42 USC § 7509). Under certain circumstances, these sanctions could include withholding federal highway funds or DEQ operating funds.

The following table summarizes the CFR sections the air quality division incorporates by reference.

| 40 CFR<br>Part | Title   | Changes During<br>Past Year? | Impact on<br>Idaho | Number of pages with changes |
|----------------|---|------------------------------|--------------------|------------------------------|
| 50             | National primary and secondary ambient air quality standards  | Yes                          | Yes                | 6                            |
| 51             | Requirements for preparation, adoption, and submittal of implementation plans   | No                           | No                 | -                            |
| 52             | Subparts A and N and Appendices D and E: Approval and promulgation of implementation plans  | Yes                          | Yes                | 44                           |
| 53             | Ambient air monitoring reference and equivalent methods   | Yes                          | Yes                | 7                            |
| 58             | Ambient air surveillance  | Yes                          | Yes                | 18                           |
| 60             | Standards of performance for new stationary sources   | Yes                          | Yes                | 230                          |
| 61             | National emission standards for hazardous air pollutants  | No                           | _                  | -                            |
| 62             | Subpart HHH: Federal plan requirements for hospital/medical/infectious waste incinerators constructed on or before December 1, 2008 | No                           | _                  | -                            |
| 63             | National emission standards for hazardous air pollutants for source categories  | Yes                          | Yes                | 82                           |
| 64             | Compliance assurance monitoring   |                              |                    |                              |
| 70             | State operating permit programs   | Yes                          | Yes                | 1                            |
| 72             | Permits   | No                           | _                  | -                            |
| 73             | Sulfur dioxide allowance system   | No                           | _                  | -                            |
| 82             | Protection of stratospheric ozone   | Yes                          | Yes                | 3                            |

These changes are discussed in more detail below. The associated Federal Register notices are denoted in parentheses as hyperlinks.

# The following parts were revised:

# National Ambient Air Quality Standards (NAAQS) Implementation

The NAAQS implementation rules promulgated by EPA in this time period are mostly administrative in nature.

A more detailed summary of the Code of Federal Register changes that impact NAAQS implementation is given below.

Part 50: National Primary and Secondary Ambient Air Quality Standards

- This section contains the air quality standards that EPA promulgates for the criteria pollutants: course and fine particulate matter (PM10 and PM2.5), ozone, sulfur dioxide (SO2), nitrogen dioxide (NO2), lead, and carbon monoxide (CO).
- There were two updates in this section. One updated the annual PM2.5 NAAQS (<u>FR-2024-03-06</u>). The second updated the methodology for measuring ozone concentrations (<u>FR-2023-10-12</u>).

**Part 52**, Subparts A and N and Appendices D and E: Approval and promulgation of implementation plans

- This section contains general provisions associated with state implementation plans and Idaho-specific state implementation plan actions.
- Subpart N Idaho: EPA promulgated one change in this section. The first focuses on Idaho's state implementation plan that approved the removal of Idaho's requirements for an inspection and maintenance program (FR-2023-07-17), and the second addresses Ozone transport for certain states in which Idaho wasn't included (FR 2023-04-24)

Part 53: Ambient air monitoring reference and equivalent methods

- DEQ is required to implement a NAAQS monitoring program in Idaho. Any updates to approved monitoring methods are included in this section. Approved industrial monitoring methods are also included in this section.
- There was one update to this section, it updated the annual PM2.5 NAAQS (<u>FR-2024-03-06</u>)

Part 58: Ambient air surveillance

- This section describes the requirements for states to operate a monitoring program.
- There was one update to this section, it included changes to the annual PM2.5 NAAQS (FR-2024-03-06)

# **Operating Permit Program Implementation**

A detailed summary of the Code of Federal Regulation changes impacting DEQ's operating permit program is given below.

Part 60: Standards of performance for new stationary sources

- This section describes the permitting requirements for new facilities of specific industries.
- This year's revisions included five updates: one focused on equipment for steel plants (FR-2024-02-14), one updated state requirements for submitting state plans to implement emission guidelines (FR-2023-11-17), one updated regulations for lead smelters (FR-2023-11-20), one established performance standards for the Oil and Natural Gas sector (FR-2024-03-08), and one removed Title V requirements for air curtain incinerators (FR-2024-04-17).

Part 63: National emission standards for hazardous air pollutants for source categories

- This section addresses national emission standards for hazardous air pollutants for specific sources of pollution.
- There are currently four updates to rules in this section that DEQ is incorporating by reference: these apply to taconite ore processing operations (<u>FR 2024-03-06</u>), iron and steel manufacturing facilities (<u>FR-2024-04-03</u>), miscellaneous organic chemical manufacturing, non-gasoline organic liquid distribution, and petroleum refineries (<u>FR-2024-04-04</u>), and copper smelting activities (<u>FR-2024-05-13</u>).

# Part 70: State operating permit programs

- This section describes the minimum requirements for state permitting programs.
- There is one revision to this part this year that addresses the removal of Title V
   Emergency Affirmative Defense provisions from state operating permit programs (FR-2024-07-21)

## Part 82: Protection of stratospheric ozone

- The purpose of this section is to implement the Montreal Protocol, which addresses substances that deplete the ozone layer.
- There was one update to the rules in this section that updated the list of acceptable refrigerants (FR-2023-09-08).

The updates associated with DEQ's operating permit program do not impact most Idaho facilities. The two most relevant are related to new oil and natural gas operations and emergency affirmative defense provisions. One created emission guidelines and more stringent standards for the new oil and gas operations. The other requires the removal of the emergency affirmative defense provisions from Idaho's state operating permit programs for consistency with federal regulations.

The following parts were not revised:

Part 51: Requirements for preparation, adoption, and submittal of implementation plans

• States are required to have a state implementation plan, which includes the rules and area-specific plans that address NAAQS. This section outlines the state implementation plan requirements for state environmental agencies.

Part 61: National emission standards for hazardous air pollutants

• This section addresses the national emission standards for certain hazardous air pollutants.

**Part 62**, Subpart HHH: Federal plan requirements for hospital/medical/infectious waste incinerators constructed on or before December 1, 2008

• This section describes the requirements for hospital/medical/infectious waste incinerators. DEQ took delegation of these federal plan requirements.

Part 64: Compliance assurance monitoring

• This section outlines the compliance assurance monitoring requirements for emission units at major sources of pollution.

## Part 72: Permits

• This section establishes permit requirements under the acid rain program.

Part 73: Sulfur dioxide allowance system

- This part establishes the requirements and procedures for an SO<sub>2</sub> pollutant trading program.
- Idaho currently does not have any sources participating in a pollutant trading program.