

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS DEPARTMENT OF
LABOR AND ECONOMIC OPPORTUNITY

DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY AND HEALTH STANDARD OCCUPATIONAL
HEALTH STANDARDS

Filed with the secretary of state on

These rules become effective immediately upon filing with the ~~Secretary of State~~ **secretary of state** unless adopted under section 33, 44, or 45a(6) of **the administrative procedures act of 1969, 1969 PA 306, MCL 24.233, 24.244, or 24.245a** ~~1969 PA 306~~. Rules adopted under these sections become effective 7 days after filing with the ~~Secretary of State~~ **secretary of state**.

(By authority conferred on the director of the ~~department of licensing and regulatory affairs~~ **department of labor and economic opportunity** by sections **14, 16, 19, 21, and 24** of **the Michigan occupational safety and health act, 1974 PA 154, MCL 408.1014, 408.1016, 408.1019, 408.1021, and 408.1024, and Executive Reorganization Order Nos. 1996-1, 1996-2, 2003-1, 2008-4, 2011-4, and 2019-3, MCL 330.3101, 445.2001, 445.2011, 445.2025, 445.2030, and 125.1998)** ~~14 and 24 of 1974 PA 154, MCL 408.1014 and 408.1024, and Executive Reorganization Orders Nos. 1996-1, 1996-2, 2003-1, 2008-4, and 2011-4, MCL 330.3101, 445.2001, 445.2011, 445.2025 and 445.2030)~~

R 325.51101, R 325.51105, and R 325.51108 of the Michigan Administrative Code are amended, and R 325.51101a is rescinded, as follows:

PART 301. AIR CONTAMINANTS FOR GENERAL INDUSTRY

R 325.51101 **Scope, application, and availability of standards.** ~~Scope.~~

Rule 1. (1) These rules do not apply to the following types of employment:

- (a) Agriculture.
- (b) Domestic.
- (c) Mining.
- (d) Construction.

(2) Exposure to air contaminants in construction work is covered by **Construction Safety and Health Standard Part 601. "Air Contaminants for Construction."** ~~Occupational Health Standard Part 601 "Air Contaminants for Construction,"~~ as referenced in R 325.51101a.

(3) **The following Michigan Occupational Safety and Health Administration (MIOSHA) standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Labor and Economic Opportunity, MIOSHA Regulatory Services Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at the following website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.**

August 12, 2019

- (a) General Industry Safety and Health Standard Part 302. “Vinyl Chloride,” R 325.51401 to R 325.51414.
- (b) General Industry Safety and Health Standard Part 303. “Methylenedianiline (MDA) in General Industry,” R 325.50051 to R 325.50076.
- (c) General Industry and Construction Safety and Health Standard Part 304. “Ethylene Oxide,” R 325.51151 to R 325.51177.
- (d) Occupational Health Standard Part 305. “Asbestos for General Industry,” R 325.51311 to R 325.51312.
- (e) General Industry and Construction Safety and Health Standard Part 306. “Formaldehyde,” R 325.51451 to R 325.51477.
- (f) General Industry and Construction Safety and Health Standard Part 307. “Acrylonitrile,” R 325.51501 to R 325.51527.
- (g) General Industry and Construction Safety and Health Standard Part 308. “Inorganic Arsenic,” R 325.51601 to R 325.51628.
- (h) General Industry Safety and Health Standard Part 309. “Cadmium in General Industry,” R 325.51851 to R 325.51886.
- (i) General Industry Safety and Health Standard Part 310. “Lead in General Industry,” R 325.51901 to R 325.51958.
- (j) General Industry and Construction Safety and Health Standard Part 311. “Benzene,” R 325.77101 to R 325.77115.
- (k) Occupational Health Standard Part 312. “1,3-Butadiene,” R 325.50091 to R 325.50093.
- (l) Occupational Health Standard Part 313. “Methylene Chloride,” R 325.51651 to R 325.51653.
- (m) General Industry and Construction Safety and Health Standard Part 314. “Coke Oven Emissions,” R 325.50100 to R 325.50136.
- (n) Occupational Health Standard Part 315. “Chromium (VI) in General Industry,” R 325.50141 to R 325.50143.
- (o) General Industry Safety and Health Standard Part 340. “Beryllium,” R 325.34001 to R 325.34010.
- (p) General Industry Safety and Health Standard Part 350. “Carcinogens,” R 325.35001 to R 325.35011.
- (q) Occupational Health Standard Part 451. “Respiratory Protection,” R 325.60051 to R 325.60052.
- (r) General Industry Safety and Health Standard Part 590. “Silica in General Industry,” R 325.59001 to R 325.59015.
- (s) Construction Safety and Health Standard Part 601. “Air Contaminants for Construction,” R 325.60151 to R 325.60161.

R 325.51101a **Rescinded.** ~~Availability of referenced standards.~~

~~Rule 1a. The following Michigan occupational safety and health (MIOSHA) standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Regulatory Services Section, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.~~

- ~~(a) Occupational Health Standard Part 302 “Vinyl Chloride,” R 325.51401 to R 325.51414.~~
- ~~(b) Occupational Health Standard Part 303 “Methylenedianiline,” R 325.50051 to R 325.50076.~~
- ~~(c) Occupational Health Standard Part 304 “Ethylene oxide,” R 325.51151 to R 325.51177.~~
- ~~(d) Occupational Health Standard Part 305 “Asbestos for General Industry,” R 325.51311 to R 325.51312.~~
- ~~(e) Occupational Health Standard Part 306 “Formaldehyde,” R 325.51451 to R 325.51477.~~
- ~~(f) Occupational Health Standard Part 307 “Acrylonitrile,” R 325.51501 to R 325.51527.~~
- ~~(g) Occupational Health Standard Part 308 “Inorganic Arsenic,” R 325.51601 to R 325.51628.~~
- ~~(h) Occupational Health Standard Part 309 “Cadmium,” R 325.51851 to R 325.51886.~~
- ~~(i) Occupational Health Standard Part 310 “Lead,” R 325.51901 to R 325.51958.~~
- ~~(j) Occupational Health Standard Part 311 “Benzene,” R 325.77101 to R 325.77115.~~
- ~~(k) Occupational Health Standard Part 312 “1,3-Butadiene,” R 325.50091 to R 325.50092.~~
- ~~(l) Occupational Health Standard Part 313 “Methylene Chloride,” R 325.51651 to R 325.51652.~~
- ~~(m) Occupational Health Standard Part 314 “Coke Oven Emissions,” R 325.50101 to R 325.50136.~~
- ~~(n) Occupational Health Standard Part 315 “Chromium (VI) in General Industry,” R 325.50141 to R 325.50143.~~
- ~~(o) Occupational Health Standard Part 350 “Carcinogens,” R 325.35001 to R 325.35011.~~
- ~~(p) Occupational Health Standard Part 451 “Respiratory Protection,” R 325.60051 to R 325.60052.~~
- ~~(q) Occupational Health Standard Part 601 “Air Contaminants for Construction,” R 325.60151 to R 325.60161.~~

R 325.51105 Methods of compliance.

Rule 5. To achieve compliance with the provisions of R 325.51103 and R 325.51104, administrative or engineering controls **must shall** first be determined and implemented **if when** feasible. If such controls are not feasible to achieve full compliance, then personal protective equipment or any other protective measures **must shall** be used to keep the employee’s exposure to air contaminants within the exposure limits prescribed in these rules. Any equipment and technical measures used for this purpose **must shall** be approved for each particular use by a competent industrial hygienist or other technically qualified person. **If when** a respirator is used, its use **must shall** comply with the provisions of **Occupational Health Standard Part 451. “Respiratory Protection.”** ~~Occupational health standard part 451 “Respiratory Protection,” R 325.60051 to R 325.60052.~~

R 325.51108 Tables.

Rule 8. Tables G-1-A and G-2 read as follows:

| TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS | | | | | | | | |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
| | | ppm ^B | mg/m ^{3C} mg÷m ^{3C} | ppm ^B | mg/m ^{3C} mg÷m ^{3C} | ppm ^B | mg/m ^{3C} mg÷m ^{3C} | |
| Abate | | – | 15 | – | – | – | – | – |
| Acetaldehyde | 75-07-0 | 100 | 180 | 150 | 270 | – | – | – |
| Acetic acid | 64-19-7 | 10 | 25 | – | – | – | – | – |
| Acetic anhydride | 108-24-7 | – | – | – | – | 5 | 20 | – |
| Acetone | 67-64-1 | 750 | 1800 | 1000 | 2400 | – | – | – |
| Acetonitrile | 75-05-8 | 40 | 70 | 60 | 105 | – | – | – |
| 2-Acetylaminofluorine; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011 ^F | 53-96-3 | | | | | | | |
| Acetylene dichloride; see 1,2-Dichloroethylene | | | | | | | | |
| Acetylene tetrabromide | 79-27-6 | 1 | 14 | – | – | – | – | – |
| Acetylsalicylic acid (Aspirin) | 50-78-2 | – | 5 | – | – | – | – | – |
| Acrolein | 107-02-8 | 0.1 | 0.25 | 0.3 | 0.8 | – | – | – |
| Acrylamide | 79-06-1 | – | 0.03 | – | – | – | – | x |
| Acrylic acid | 79-10-7 | 10 | 30 | – | – | – | – | x |
| Acrylonitrile; see GI & CS Part 307. Acrylonitrile^F OH Part 307, R 325.51501 to R 325.51527 ^F | 107-13-1 | 2 | 4.34 | 10 | 21.7 | | | |
| Aldrin | 309-00-2 | – | 0.25 | – | – | – | – | x |
| Allyl alcohol | 107-18-6 | 2 | 5 | 4 | 10 | – | – | x |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| | | TWA | | STEL ^D | | Ceiling | | |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| Substance | CAS No. ^A | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | Skin Designation |
| Allyl chloride | 107-05-1 | 1 | 3 | 2 | 6 | – | – | – |
| Allyl glycidyl ether (AGE) | 106-92-3 | 5 | 22 | 10 | 44 | – | – | – |
| Allyl propyl disulfide | 2179-59-1 | 2 | 12 | 3 | 18 | – | – | – |
| □α Alumina (aluminum oxide) | | | | | | | | |
| Respirable fraction | 1344-28-1 | – | 5 | – | – | – | – | – |
| Total dust | | – | 10 | – | – | – | – | – |
| Aluminum (as Al) | | | | | | | | |
| Alkyls | | – | 2 | – | – | – | – | – |
| Metal | | – | – | – | – | – | – | – |
| Respirable dust | 7429-90-5 | – | 5 | – | – | – | – | – |
| Total dust | | – | 15 | – | – | – | – | – |
| Pyro powders | | – | 5 | – | – | – | – | – |
| Soluble salts | | – | 2 | – | – | – | – | – |
| Welding fumes* | | – | 5 | – | – | – | – | – |
| 4-Aminodiphenyl; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011 ^F | 92-67-1 | | | | | | | |
| 2-Aminoethanol; see Ethanolamine | | | | | | | | |
| 2-Aminopyridine | 504-29-0 | 0.5 | 2 | – | – | – | – | – |
| Amitrole | 61-82-5 | – | 0.2 | – | – | – | – | – |
| Ammonia | 7664-41-7 | – | – | 35 | 24 | – | – | – |
| Ammonium chloride fume | 12125-02-9 | – | 10 | – | 20 | – | – | – |
| Ammonium sulfamate | | | | | | | | |
| Respirable dust | 7773-06-0 | – | 5 | – | – | – | – | – |
| Total dust | | – | 10 | – | – | – | – | – |
| n-Amyl acetate | 628-63-7 | 100 | 525 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| | | TWA | | STEL ^D | | Ceiling | | |
|---|----------------------|------------------------|--|-------------------|--|------------------|--|-------------------------|
| Substance | CAS No. ^A | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | Skin Designation |
| sec-Amyl acetate | 626-38-0 | 125 | 650 | – | – | – | – | – |
| Aniline and homologues | 62-53-3 | 2 | 8 | – | – | – | – | x |
| Anisidine (o- and p-isomers) | 29191-52-4 | – | 0.5 | – | – | – | – | x |
| Antimony and compounds (as Sb) | 7440-36-0 | – | 0.5 | – | – | – | – | – |
| ANTU (alpha-naphthylthiourea) | 86-88-4 | – | 0.3 | – | – | – | – | – |
| Arsenic, organic compounds (as As) | 7440-38-2 | – | 0.5 | – | – | – | – | – |
| Arsenic, inorganic compounds (as As); see GI & CS Part 308. Inorganic Arsenic^F OH Part 308, R 325.51601 to R 325.51628^F | 7440-38-2 | | 0.01 | | | | | |
| Arsine | 7784-42-1 | 0.05 | 0.2 | – | – | – | – | – |
| | | TWA | | STEL ^D | | | | |
| Asbestos; see OH Part 305. Asbestos for General Industry^F , R 325.51311 to R 325.51312 ^F | Varies | 0.1f/cc 0.1f:ee | | – | | | | |
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} | Skin Designation |
| Atrazine | 1912-24-9 | – | 5 | – | – | – | – | – |
| Azinphos-methyl | 86-50-0 | – | 0.2 | – | – | – | – | x |
| Barium, soluble compounds (as Ba) | 7440-39-3 | – | 0.5 | – | – | – | – | – |
| Barium sulfate | | | | | | | | |
| Respirable dust | 7727-43-7 | – | 5 | – | – | – | – | – |
| Total dust | | – | 10 | – | – | – | – | – |
| Benomyl | | | | | | | | |
| Respirable dust | 17804-35-2 | – | 5 | – | – | – | – | – |
| Total dust | | – | 10 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|---|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | |
| Benzene ^E ; see GI & CS Part 311. Benzene^F OH Part 311, R 325.77101 to R 325.77115^F and table G-2 for limits applicable in the operations or sectors excluded in R 325.77101 ^E | 71-43-2 | 1 | 3.19 | 5 | 15.97 | | | |
| Benzidine; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011^F | 92-87-5 | | | | | | | |
| p-Benzoquinone; see Quinone | | | | | | | | |
| Benzo(a)pyrene; see Coal tar pitch volatiles | | | | | | | | |
| Benzoyl peroxide | 94-36-0 | – | 5 | – | – | – | – | – |
| Benzyl chloride | 100-44-7 | 1 | 5 | – | – | – | – | – |
| Beryllium and beryllium compounds (as Be) see GI Part 340. Beryllium | 7440-41-7 | – | 0.0002 (0.2 µg/m³) | – | 0.002 (2.0 µg/m³) | – | – | – |
| | | See table G-2 | | | | | | |
| Biphenyl; see Diphenyl | | | | | | | | |
| Bismuth telluride, Undoped Respirable dust Total dust | 1304-82-1 | – | 5 | – | – | – | – | – |
| | | – | 15 | – | – | – | – | – |
| Bismuth telluride, Se-doped | | – | 5 | – | – | – | – | – |
| Borates, Tetra, Sodium Salts Anhydrous Decahydrate Pentahydrate | 1330-43-4 | – | 10 | – | – | – | – | – |
| | 1303-96-4 | – | 10 | – | – | – | – | – |
| | 12179-04-3 | – | 10 | – | – | – | – | – |
| Boron oxide, Total dust | 1303-86-2 | – | 10 | – | – | – | – | – |
| Boron tribromide | 10294-33-4 | – | – | – | – | 1 | 10 | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Boron trifluoride | 7637-07-2 | – | – | – | – | 1 | 3 | – |
| Bromacil | 314-40-9 | 1 | 10 | – | – | – | – | – |
| Bromine | 7726-95-6 | 0.1 | 0.7 | 0.3 | 2 | – | – | – |
| Bromine pentafluoride | 7789-30-2 | 0.1 | 0.7 | – | – | – | – | – |
| Bromoform | 75-25-2 | 0.5 | 5 | – | – | – | – | – |
| 1,3-Butadiene; see OH Part 312. 1,3-Butadiene^F R 325.50091 to R 325.50092 ^F | 106-99-0 | 1 | 2.2 | 5 | 11.1 | – | – | – |
| Butane | 106-97-8 | 800 | 1900 | – | – | – | – | – |
| Butanethiol; see Butyl mercaptan | | | | | | | | |
| 2-Butanone (Methyl ethyl ketone) | 78-93-3 | 200 | 590 | 300 | 885 | – | – | – |
| 2-Butoxyethanol | 111-76-2 | 25 | 120 | – | – | – | – | x |
| n-Butyl acetate | 123-86-4 | 150 | 710 | 200 | 950 | – | – | – |
| sec-Butyl acetate | 105-46-4 | 200 | 950 | – | – | – | – | – |
| tert-Butyl acetate | 540-88-5 | 200 | 950 | – | – | – | – | – |
| Butyl acrylate | 141-32-2 | 10 | 55 | – | – | – | – | – |
| n-Butyl alcohol (n-butanol) | 71-36-3 | – | – | – | – | 50 | 150 | x |
| sec-Butyl alcohol (sec-butanol) | 78-92-2 | 100 | 305 | – | – | – | – | – |
| tert-Butyl alcohol (tert-butanol) | 75-65-0 | 100 | 300 | 150 | 450 | – | – | – |
| Butylamine | 109-73-9 | – | – | – | – | 5 | 15 | x |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|----------------------|------------------|---|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | |
| tert-Butyl chromate (as Cr+6); see OH Part 315. Chromium (VI) in General Industry^{F,G} R 325.50141 to R 325.50143^{F,G} | 1189-85-1 | – | 0.005 (5 µg/m ³) (5 µg÷m ³) | – | – | – | – | x |
| n-Butyl glycidyl ether (BGE) | 2426-08-6 | 25 | 135 | – | – | – | – | – |
| n-Butyl lactate | 138-22-7 | 5 | 25 | – | – | – | – | – |
| Butyl mercaptan | 109-79-5 | 0.5 | 1.5 | – | – | – | – | – |
| o-sec-Butylphenol | 89-72-5 | 5 | 30 | – | – | – | – | x |
| p-tert-Butyltoluene | 98-51-1 | 10 | 60 | 20 | 120 | – | – | – |
| Cadmium; see GI Part 309. Cadmium in General Industry^F OH Part 309, R 325.51851 to R 325.51886^F | 7440-43-9 | – | 0.005 | – | – | – | – | – |
| Calcium carbonate, Respirable dust Total dust | 1317-65-3 | – – | 5 15 | – – | – – | – – | – – | – – |
| Calcium cyanamide | 156-62-7 | – | 0.5 | – | – | – | – | – |
| Calcium hydroxide | 1305-62-0 | – | 5 | – | – | – | – | – |
| Calcium oxide | 1305-78-8 | – | 5 | – | – | – | – | – |
| Calcium silicate, Respirable dust Total dust | 1344-95-2 | – – | 5 15 | – – | – – | – – | – – | – – |
| Calcium sulfate, Respirable dust Total dust | 7778-18-9 | – – | 5 15 | – – | – – | – – | – – | – – |
| Camphor, synthetic | 76-22-2 | – | 2 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Caprolactam, Dust Vapor | 105-60-2 | — 5 | 1 20 | — 10 | 3 40 | — — | — — | — — |
| Captafol (Difolatan ^R) | 2425-06-1 | — | 0.1 | — | — | — | — | — |
| Captan | 133-06-2 | — | 5 | — | — | — | — | — |
| Carbaryl (Sevin ^R) | 63-25-2 | — | 5 | — | — | — | — | — |
| Carbofuran (Furadan ^R) | 1563-66-2 | — | 0.1 | — | — | — | — | — |
| Carbon black | 1333-86-4 | — | 3.5 | — | — | — | — | — |
| Carbon dioxide | 124-38-9 | 5,000 | 9,000 | 30,000 | 54,000 | — | — | — |
| Carbon disulfide | 75-15-0 | 4 | 12 | 12 | 36 | — | — | x |
| Carbon monoxide | 630-08-0 | 35 | 40 | — | — | 200 | 229 | — |
| Carbon tetrabromide | 558-13-4 | 0.1 | 1.4 | 0.3 | 4 | — | — | — |
| Carbon tetrachloride (Tetrachloromethane) | 56-23-5 | 2 | 12.6 | — | — | — | — | x |
| Carbonyl fluoride | 353-50-4 | 2 | 5 | 5 | 15 | — | — | — |
| Catechol (Pyrocatechol) | 120-80-9 | 5 | 20 | — | — | — | — | x |
| Cellulose, Respirable dust Total dust | 9004-34-6 | — — | 5 15 | — — | — — | — — | — — | — — |
| Cesium hydroxide | 21351-79-1 | — | 2 | — | — | — | — | — |
| Chlordane | 57-74-9 | — | 0.5 | — | — | — | — | x |
| Chlorinated camphene (Toxaphone) | 8001-35-2 | — | 0.5 | — | 1 | — | — | x |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|--------------------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Chlorinated diphenyl oxide | 55720-99-5 or 31242-93-0 | – | 0.5 | – | – | – | – | – |
| Chlorine | 7782-50-5 | 0.5 | 1.5 | 1 | 3 | – | – | – |
| Chlorine dioxide | 10049-04-4 | 0.1 | 0.3 | 0.3 | 0.9 | – | – | – |
| Chlorine trifluoride | 7790-91-2 | – | – | – | – | 0.1 | 0.4 | – |
| Chloroacetaldehyde | 107-20-0 | – | – | – | – | 1 | 3 | – |
| 2-Chloroacetophenone (Phenacyl chloride) | 532-27-4 | 0.5 | 0.3 | – | – | – | – | – |
| Chloroacetyl chloride | 79-04-9 | 0.5 | 0.2 | – | – | – | – | – |
| Chlorobenzene | 108-90-7 | 75 | 350 | – | – | – | – | – |
| o-Chlorobenzylidene malononitrile | 2698-41-1 | – | – | – | – | 0.05 | 0.4 | x |
| Chlorobromomethane | 74-97-5 | 200 | 1050 | – | – | – | – | – |
| 2-Chloro-1,3-butadiene; see β- \square -Chloroprene | | | | | | | | |
| Chlorodifluoromethane | 75-45-6 | 1000 | 3500 | – | – | – | – | – |
| Chlorodiphenyl (42% Chlorine) (PCB) | 53469-21-9 | – | 1 | – | – | – | – | x |
| Chlorodiphenyl (54% Chlorine) (PCB) | 11097-69-1 | – | 0.5 | – | – | – | – | x |
| 1-Chloro-2,3-epoxy propane; see Epichlorohydrin | | | | | | | | |
| 2-Chloroethanol; see Ethylene chlorohydrin | | | | | | | | |
| Chloroethylene; see Vinyl chloride | | | | | | | | |
| Chloroform (Trichloromethane) | 67-66-3 | 2 | 9.78 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| | | TWA | | STEL ^D | | Ceiling | | |
|---|----------------------|------------------|---|-------------------|--|------------------|--|------------------|
| Substance | CAS No. ^A | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | Skin Designation |
| bis (Chloromethyl) ether; GI Part 350. Carcinogens^F see OH Part 350, R 325.35001 to R 325.35011 ^F | 542-88-1 | | | | | | | |
| Chloromethyl methyl ether; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011 ^F | 107-30-2 | | | | | | | |
| 1-Chloro-1-nitropropane | 600-25-9 | 4 | 10 | – | – | – | – | – |
| Chloropentafluoroethane | 76-15-3 | 1000 | 6320 | – | – | – | – | – |
| Chloropicrin | 76-06-2 | 0.1 | 0.7 | – | – | – | – | – |
| beta-Chloroprene | 126-99-8 | 10 | 35 | – | – | – | – | x |
| o-Chlorostyrene | 2039-87-4 | 50 | 285 | 75 | 428 | – | – | – |
| o-Chlorotoluene | 95-49-8 | 50 | 250 | – | – | – | – | – |
| 2-Chloro-6-(trichloromethyl) pyridine, Respirable dust Total dust | 1929-82-4 | – – | 5 15 | – – | – – | – – | – – | – – |
| Chlorpyrifos | 2921-88-2 | – | 0.2 | – | – | – | – | x |
| Chromic acid and chromates (as Cr+6); see OH Part 315. Chromium (VI) in General Industry^{F,G} , R 325.50141 to R 325.50143 ^{F,G} | Varies with compound | – | 0.005 (5 µg/m ³) (5 µg·m ³) | – | – | – | – | – |
| Chromium (II) compounds (as Cr) | 7440-47-3 | – | 0.5 | – | – | – | – | – |
| Chromium (III) compounds (as Cr) | 7440-47-3 | – | 0.5 | – | – | – | – | – |
| Chromium (VI) compounds; see OH Part 315. Chromium (VI) in General Industry^{F,G} , R 325.50141 to R 325.50143 ^{F,G} | Varies with compound | | (5 µg/m ³) (5 µg·m ³) | | | | | |
| Chromium metal (as Cr) | 7440-47-3 | – | 1 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|-----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | |
| Chrysene; see Coal tar pitch volatile | | | | | | | | |
| Clopidol | | | | | | | | |
| Respirable dust | 2971-90-6 | – | 5 | – | – | – | – | – |
| Total dust | | – | 15 | – | – | – | – | – |
| Coal dust (less than 5% SiO ₂) Respirable dust | – | – | 2 | – | – | – | – | – |
| Coal dust (greater than or equal to 5% SiO ₂), Respirable dust | – | – | 0.1 | – | – | – | – | – |
| Coal tar pitch volatile (as benzene solubles) anthracene, BaP, phenanthrene, acridine, crysene, pyrene | 65996-93-2 | – | 0.2 | – | – | – | – | – |
| Cobalt metal, dust, and fume (as Co) | 7440-48-4 | – | 0.05 | – | – | – | – | – |
| Cobalt carbonyl (as Co) | 10210-68-1 | – | 0.1 | – | – | – | – | – |
| Cobalt hydrocarbonyl (as Co) | 16842-03-8 | – | 0.1 | – | – | – | – | – |
| Coke oven emissions; see GI & CS Part 314. Coke Oven Emissions^F OH Part 314, R 325.50101 to R 325.50136^F | – | – | 0.15 (150 µg/m ³) (150 µg÷m ³) | – | – | – | – | – |
| Copper, Dusts and mists (as Cu) | 7440-50-8 | – | 1 | – | – | – | – | – |
| Fume (as Cu) | | – | 0.1 | – | – | – | – | – |
| Cotton dust (raw) | – | – | 1 | – | – | – | – | – |
| Crag herbicide (Sesone) | | | | | | | | |
| Total dust | 136-78-7 | – | 10 | – | – | – | – | – |
| Respirable fraction | | – | 5 | – | – | – | – | – |
| Cresol, all isomers | 1319-77-3 | 5 | 22 | – | – | – | – | X |
| Crotonaldehyde | 123-73-9 4170-30-3 | 2 | 6 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Crufomate | 299-86-5 | – | 5 | – | – | – | – | – |
| Cumene | 98-82-8 | 50 | 245 | – | – | – | – | x |
| Cyanamide | 420-04-2 | – | 2 | – | – | – | – | – |
| Cyanides (as CN) | Varies with compound | – | 5 | – | – | – | – | x |
| Cyanogen | 460-19-5 | 10 | 20 | – | – | – | – | – |
| Cyanogen chloride | 506-77-4 | – | – | – | – | 0.3 | 0.6 | – |
| Cyclohexane | 110-82-7 | 300 | 1050 | – | – | – | – | – |
| Cyclohexanol | 108-93-0 | 50 | 200 | – | – | – | – | x |
| Cyclohexanone | 108-94-1 | 25 | 100 | – | – | – | – | x |
| Cyclohexene | 110-83-8 | 300 | 1015 | – | – | – | – | – |
| Cyclohexylamine | 108-91-8 | 10 | 40 | – | – | – | – | – |
| Cyclonite | 121-82-4 | – | 1.5 | – | – | – | – | x |
| Cyclopentadiene | 542-92-7 | 75 | 200 | – | – | – | – | – |
| Cyclopentane | 287-92-3 | 600 | 1720 | – | – | – | – | – |
| Cyhexatin | 13121-70-5 | – | 5 | – | – | – | – | – |
| 2,4-D (Dichlorophenoxyacetic acid) | 94-75-7 | – | 10 | – | – | – | – | – |
| Decaborane | 17702-41-9 | 0.05 | 0.3 | 0.15 | 0.9 | – | – | x |
| Demeton (Systox ^R) | 8065-48-3 | – | 0.1 | – | – | – | – | x |
| Diacetone alcohol (4-Hydroxy-4-methyl-2-pentanone) | 123-42-2 | 50 | 240 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| 1,2-Diaminoethane; see Ethylenediamine | | | | | | | | |
| Diazinon | 333-41-5 | – | 0.1 | – | – | – | – | x |
| Diazomethane | 334-88-3 | 0.2 | 0.4 | – | – | – | – | – |
| Diborane | 19287-45-7 | 0.1 | 0.1 | – | – | – | – | – |
| 2-N-Dibutylaminoethanol | 102-81-8 | 2 | 14 | – | – | – | – | – |
| Dibutyl phosphate | 107-66-4 | 1 | 5 | 2 | 10 | – | – | – |
| Dibutyl phthalate | 84-74-2 | – | 5 | – | – | – | – | – |
| Dichloroacetylene | 7572-29-4 | – | – | – | – | 0.1 | 0.4 | – |
| o-Dichlorobenzene | 95-50-1 | – | – | – | – | 50 | 300 | – |
| p-Dichlorobenzene | 106-46-7 | 75 | 450 | 110 | 675 | – | – | – |
| 3,3'-Dichlorobenzidine; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011^F | 91-94-1 | | | | | | | |
| Dichlorodifluoromethane | 75-71-8 | 1000 | 4950 | – | – | – | – | – |
| 1,3-Dichloro-5,5-dimethyl hydantoin | 118-52-5 | – | 0.2 | – | 0.4 | – | – | – |
| Dichlorodiphenyltri-chloroethane (DDT) | 50-29-3 | – | 1 | – | – | – | – | x |
| 1,1-Dichloroethane | 75-34-3 | 100 | 400 | – | – | – | – | – |
| 1,2-Dichloroethylene | 540-59-0 | 200 | 790 | – | – | – | – | – |
| Dichloroethyl ether | 111-44-4 | 5 | 30 | 10 | 60 | – | – | x |
| Dichlorofluoromethane | 75-43-4 | 10 | 40 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Dichloromethane; see Methylene chloride | | | | | | | | |
| 1,1-Dichloro-1-nitroethane | 594-72-9 | 2 | 10 | – | – | – | – | – |
| 1,2-Dichloropropane; see Propylene dichloride | | | | | | | | |
| 1,3-Dichloropropene | 542-75-6 | 1 | 5 | – | – | – | – | x |
| 2,2-Dichloropropionic acid | 75-99-0 | 1 | 6 | – | – | – | – | – |
| Dichlorotetrafluoroethane | 76-14-2 | 1000 | 7000 | – | – | – | – | – |
| Dichlorvos (DDVP) | 62-73-7 | – | 1 | – | – | – | – | x |
| Dicrotophos | 141-66-2 | – | 0.25 | – | – | – | – | x |
| Dicyclopentadiene | 77-73-6 | 5 | 30 | – | – | – | – | – |
| Dicyclopentadienyl iron, Respirable dust Total dust | 102-54-5 | – – | 5 10 | – – | – – | – – | – – | – – |
| Dieldrin | 60-57-1 | – | 0.25 | – | – | – | – | x |
| Diethanolamine | 111-42-2 | 3 | 15 | – | – | – | – | – |
| Diethylamine | 109-89-7 | 10 | 30 | 25 | 75 | – | – | – |
| 2-Diethylaminoethanol | 100-37-8 | 10 | 50 | – | – | – | – | x |
| Diethylene triamine | 111-40-0 | 1 | 4 | – | – | – | – | x |
| Diethyl ether; see Ethyl ether | | | | | | | | |
| Diethyl ketone | 96-22-0 | 200 | 705 | – | – | – | – | – |
| Diethyl phthalate | 84-66-2 | – | 5 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Difluorodibromomethane | 75-61-6 | 100 | 860 | – | – | – | – | – |
| Diglycidyl ether (DGE) | 2238-07-5 | 0.1 | 0.5 | – | – | – | – | – |
| Dihydroxybenzene; see Hydroquinone | | | | | | | | |
| Diisobutyl ketone | 108-83-8 | 25 | 150 | – | – | – | – | – |
| Diisopropylamine | 108-18-9 | 5 | 20 | – | – | – | – | x |
| 4-Dimethylaminoazobenzene; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011^F | 60-11-7 | | | | | | | |
| Dimethoxymethane; see Methylal | | | | | | | | |
| Dimethyl acetamide | 127-19-5 | 10 | 35 | – | – | – | – | x |
| Dimethylamine | 124-40-3 | 10 | 18 | – | – | – | – | – |
| Dimethylaminobenzene; see Xylidine | | | | | | | | |
| Dimethylaniline (N,N-Dimethylaniline) | 121-69-7 | 5 | 25 | 10 | 50 | – | – | x |
| Dimethylbenzene; see Xylene | | | | | | | | |
| Dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate | 300-76-5 | – | 3 | – | – | – | – | x |
| Dimethylformamide | 68-12-2 | 10 | 30 | – | – | – | – | x |
| 2,6-Dimethyl-4-heptanone; see Diisobutyl ketone | | | | | | | | |
| 1,1-Dimethylhydrazine | 57-14-7 | 0.5 | 1 | – | – | – | – | x |
| Dimethylphthalate | 131-11-3 | – | 5 | – | – | – | – | – |
| Dimethyl sulfate | 77-78-1 | 0.1 | 0.5 | – | – | – | – | x |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| | | TWA | | STEL ^D | | Ceiling | | |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| Substance | CAS No. ^A | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | Skin Designation |
| Dinitolmide (3,5-Dinitro-o-toluamide) | 148-01-6 | – | 5 | – | – | – | – | – |
| Dinitrobenzene (all isomers) | | – | 1 | – | – | – | – | x |
| (meta-) | 99-65-0 | | | | | | | |
| (ortho) | 528-29-0 | | | | | | | |
| (para-) | 100-25-4 | | | | | | | |
| Dinitro-o-cresol | 534-52-1 | – | 0.2 | – | – | – | – | x |
| Dinitrotoluene | 25321-14-6 | – | 1.5 | – | – | – | – | x |
| Dioxane (Diethylene dioxide) | 123-91-1 | 25 | 90 | – | – | – | – | x |
| Dioxathion (Delnav) | 78-34-2 | – | 0.2 | – | – | – | – | x |
| Diphenyl (Biphenyl) | 92-52-4 | 0.2 | 1 | – | – | – | – | – |
| Diphenylamine | 122-39-4 | – | 10 | – | – | – | – | – |
| Diphenylmethane diisocyanate; see Methylene bisphenyl isocyanate | | | | | | | | |
| Dipropylene glycol methyl ether | 34590-94-8 | 100 | 600 | 150 | 900 | – | – | x |
| Dipropyl ketone | 123-19-3 | 50 | 235 | – | – | – | – | – |
| Diquat | 2768-72-9 | – | 0.5 | – | – | – | – | – |
| Di-sec-octyl phthalate [Di(2-ethylhexyl) phthalate] | 117-81-7 | – | 5 | – | 10 | – | – | – |
| Disulfiram | 97-77-8 | – | 2 | – | – | – | – | – |
| Disulfoton | 298-04-4 | – | 0.1 | – | – | – | – | x |
| 2,6-Di-tert-butyl-p-cresol (Butylated hydroxytoluene) | 128-37-0 | – | 10 | – | – | – | – | – |
| Diuron | 330-54-1 | – | 10 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Divinyl benzene | 1321-74-0 | 10 | 50 | – | – | – | – | – |
| Emery, Respirable dust Total dust | 1302-74-5 | – – | 5 10 | – – | – – | – – | – – | – – |
| Endosulfan | 115-29-7 | – | 0.1 | – | – | – | – | x |
| Endrin | 72-20-8 | – | 0.1 | – | – | – | – | x |
| Epichlorohydrin | 106-89-8 | 2 | 8 | – | – | – | – | x |
| EPN | 2104-64-5 | – | 0.5 | – | – | – | – | x |
| 1,2-Epoxypropane; see Propylene oxide | | | | | | | | |
| 2,3-Epoxy-1-propanol; see Glycidol | | | | | | | | |
| Ethanethiol; see Ethyl mercaptan | | | | | | | | |
| Ethanolamine | 141-43-5 | 3 | 8 | 6 | 15 | – | – | – |
| Ethion | 563-12-2 | – | 0.4 | – | – | – | – | x |
| 2-Ethoxyethanol (EGEE) | 110-80-5 | 200 | 740 | – | – | – | – | x |
| 2-Ethoxyethyl acetate (Cellosolve acetate) | 111-15-9 | 100 | 540 | – | – | – | – | x |
| Ethyl acetate | 141-78-6 | 400 | 1400 | – | – | – | – | – |
| Ethyl acrylate | 140-88-5 | 5 | 20 | 25 | 100 | – | – | x |
| Ethyl alcohol (Ethanol) | 64-17-5 | 1000 | 1900 | – | – | – | – | – |
| Ethylamine | 75-04-7 | 10 | 18 | – | – | – | – | – |
| Ethyl amyl ketone (5-Methyl-3-heptanone) | 541-85-5 | 25 | 130 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Ethyl benzene | 100-41-4 | 100 | 435 | 125 | 545 | – | – | – |
| Ethyl bromide | 74-96-4 | 200 | 890 | 250 | 1100 | – | – | – |
| Ethyl butyl ketone (3-Heptanone) | 106-35-4 | 50 | 230 | – | – | – | – | – |
| Ethyl chloride | 75-00-3 | 1000 | 2600 | – | – | – | – | – |
| Ethyl ether | 60-29-7 | 400 | 1200 | 500 | 1500 | – | – | – |
| Ethyl formate | 109-94-4 | 100 | 300 | – | – | – | – | – |
| Ethyl mercaptan | 75-08-1 | 0.5 | 1 | – | – | – | – | – |
| Ethyl silicate | 78-10-4 | 10 | 85 | – | – | – | – | – |
| Ethylene chlorohydrin | 107-07-3 | – | – | – | – | 1 | 3 | x |
| Ethylenediamine | 107-15-3 | 10 | 25 | – | – | – | – | – |
| Ethylene dibromide | 106-93-4 | See table G-2 | | | | | | |
| Ethylene dichloride | 107-06-2 | 1 | 4 | 2 | 8 | – | – | – |
| Ethylene glycol | 107-21-1 | – | – | – | – | 50 | 125 | – |
| Ethylene glycol dinitrate (EGDN) | 628-96-6 | – | – | – | 0.1 | – | – | x |
| Ethylene glycol methyl acetate (EGME); see Methyl cellosolve acetate | | | | | | | | |
| Ethyleneimine; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011^F | 151-56-4 | | | | | | | |
| Ethylene oxide; see GI & CS Part 304. Ethylene Oxide^F OH Part 304, R 325.51151 to R 325.51177^F | 75-21-8 | 1 | 1.8 | 5 | 9.0 | - | - | - |
| Ethylidene chloride; see 1,1-Dichloroethane | | | | | | | | |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Ethylidene norbornene | 16219-75-3 | – | – | – | – | 5 | 25 | – |
| N-Ethylmorpholine | 100-74-3 | 5 | 23 | – | – | – | – | x |
| Fenamiphos | 22224-92-6 | – | 0.1 | – | – | – | – | x |
| Fensulfothion (Dasanit) | 115-90-2 | – | 0.1 | – | – | – | – | – |
| Fenthion | 55-38-9 | – | 0.2 | – | – | – | – | x |
| Ferbam, Dust | 14484-64-1 | – | 10 | – | – | – | – | – |
| Ferrovandium dust | 12604-58-9 | – | 1 | – | 3 | – | – | – |
| Fluorides (as F) | Varies with compound | – | 2.5 | – | – | – | – | – |
| Fluorine | 7782-41-4 | 0.1 | 0.2 | – | – | – | – | – |
| Fluorotrichloromethane (Trichlorofluoromethane) | 75-69-4 | – | – | – | – | 1000 | 5600 | – |
| Fonofos | 944-22-9 | – | 0.1 | – | – | – | – | x |
| Formaldehyde; see GI & CS Part 306. Formaldehyde^F OH Part 306, R-325.51451 to R-325.51477^F | 50-00-0 | 0.75 | 0.9 | 2 | 2.5 | | | |
| Formamide | 75-12-7 | 20 | 30 | 30 | 45 | – | – | – |
| Formic acid | 64-18-6 | 5 | 9 | – | – | – | – | – |
| Furfural | 98-01-1 | 2 | 8 | – | – | – | – | x |
| Furfuryl alcohol | 98-00-0 | 10 | 40 | 15 | 60 | – | – | x |
| Gasoline | 8006-61-9 | 300 | 900 | 500 | 1500 | – | – | – |
| Germanium tetrahydride | 7782-65-2 | 0.2 | 0.6 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Glutaraldehyde | 111-30-8 | – | – | – | – | 0.2 | 0.8 | – |
| Glycerin, Respirable mist Total mist | 56-81-5 | – – | 5 10 | – – | – – | – – | – – | – – |
| Glycidol | 556-52-5 | 25 | 75 | – | – | – | – | – |
| Glycol monoethyl ether; see 2-Ethoxyethanol | | | | | | | | |
| Grain dust (Oat, wheat, barley) | – | – | 10 | – | – | – | – | – |
| Graphite, natural Respirable dust | 7782-42-5 | – | 2.5 | – | – | – | – | – |
| Graphite, synthetic, Respirable dust Total dust | – | – – | 5 10 | – – | – – | – – | – – | – – |
| Guthion ^R ; see Azinphos methyl | | | | | | | | |
| Gypsum, Respirable dust Total dust | 13397-24-5 | – – | 5 15 | – – | – – | – – | – – | – – |
| Hafnium | 7440-58-6 | – | 0.5 | – | – | – | – | – |
| Heptachlor | 76-44-8 | – | 0.5 | – | – | – | – | x |
| Heptane (n-Heptane) | 142-82-5 | 400 | 1600 | 500 | 2000 | – | – | – |
| Hexachlorobutadiene | 87-68-3 | – | 0.02 | 0.24 | – | – | – | – |
| Hexachlorocyclopentadiene | 77-47-4 | 0.01 | 0.1 | – | – | – | – | – |
| Hexachloroethane | 67-72-1 | 1 | 10 | – | – | – | – | x |
| Hexachloronaphthalene | 1335-87-1 | – | 0.2 | – | – | – | – | x |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|------------------------------------|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Hexafluoroacetone | 684-16-2 | 0.1 | 0.7 | – | – | – | – | x |
| n-Hexane | 110-54-3 | 50 | 180 | – | – | – | – | – |
| Hexane isomers | Varies with compound | 500 | 1800 | 1000 | 3600 | – | – | – |
| 2-Hexanone (Methyl n-butyl ketone) | 591-78-6 | 5 | 20 | – | – | – | – | – |
| Hexone (Methyl isobutyl ketone) | 108-10-1 | 50 | 205 | 75 | 300 | – | – | – |
| sec-Hexyl acetate | 108-84-9 | 50 | 300 | – | – | – | – | – |
| Hexylene glycol | 107-41-5 | – | – | – | – | 25 | 125 | – |
| Hydrazine | 302-01-2 | 0.1 | 0.1 | – | – | – | – | x |
| Hydrogenated terphenyls | 61788-32-7 | 0.5 | 5 | – | – | – | – | – |
| Hydrogen bromide | 10035-10-6 | – | – | – | – | 3 | 10 | – |
| Hydrogen chloride | 7647-01-0 | – | – | – | – | 5 | 7 | – |
| Hydrogen cyanide | 74-90-8 | – | – | 4.7 | 5 | – | – | x |
| Hydrogen fluoride (as F) | 7664-39-3 | 3 | – | 6 | – | – | – | – |
| Hydrogen peroxide | 7722-84-1 | 1 | 1.4 | – | – | – | – | – |
| Hydrogen selenide (as Se) | 7783-07-5 | 0.05 | 0.2 | – | – | – | – | – |
| Hydrogen sulfide | 7783-06-4 | 10 | 14 | 15 | 21 | – | – | – |
| Hydroquinone | 123-31-9 | – | 2 | – | – | – | – | – |
| 2-Hydroxypropyl acrylate | 999-61-1 | 0.5 | 3 | – | – | – | – | x |
| Indene | 95-13-6 | 10 | 45 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Indium and compounds (as In) | 7440-74-6 | – | 0.1 | – | – | – | – | – |
| Iodine | 7553-56-2 | – | – | – | – | 0.1 | 1 | – |
| Iodoform | 75-47-8 | 0.6 | 10 | – | – | – | – | – |
| Iron oxide fume | 1309-37-1 | – | 10 | – | – | – | – | – |
| Iron pentacarbonyl (as Fe) | 13463-40-6 | 0.1 | 0.8 | 0.2 | 1.6 | – | – | – |
| Iron salts (soluble) (as Fe) | Varies with compound | – | 1 | – | – | – | – | – |
| Isoamyl acetate | 123-92-2 | 100 | 525 | – | – | – | – | – |
| Isoamyl alcohol (primary and secondary) | 123-51-3 | 100 | 360 | 125 | 450 | – | – | – |
| Isobutyl acetate | 110-19-0 | 150 | 700 | – | – | – | – | – |
| Isobutyl alcohol | 78-83-1 | 50 | 150 | – | – | – | – | – |
| Isooctyl alcohol | 26952-21-6 | 50 | 270 | – | – | – | – | x |
| Isophorone | 78-59-1 | 4 | 23 | – | – | – | – | – |
| Isophorone diisocyanate (IPDI) | 4098-71-9 | 0.005 | – | 0.02 | – | – | – | x |
| 2-Isopropoxyethanol | 109-59-1 | 25 | 105 | – | – | – | – | – |
| Isopropyl acetate | 108-21-4 | 250 | 950 | 310 | 1185 | – | – | – |
| Isopropyl alcohol | 67-63-0 | 400 | 980 | 500 | 1225 | – | – | – |
| Isopropylamine | 75-31-0 | 5 | 12 | 10 | 24 | – | – | – |
| N-Isopropylaniline | 768-52-5 | 2 | 10 | – | – | – | – | x |
| Isopropyl ether | 108-20-3 | 500 | 2100 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Isopropyl glycidyl ether (IGE) | 4016-14-2 | 50 | 240 | 75 | 360 | – | – | – |
| Kaolin, Respirable dust | – | – | 5 | – | – | – | – | – |
| Total dust | – | – | 10 | – | – | – | – | – |
| Ketene | 463-51-4 | 0.5 | 0.9 | 1.5 | 3 | – | – | – |
| Lead inorganic (as Pb); see GI Part 310. Lead in General Industry^F OH Part 310, R-325.51901 to R-325.51958^F | 7439-92-1 | – | 0.05 (50 µg/m ³) (50 µg·m ³) | – | – | – | – | – |
| Limestone, (calcium carbonate) Respirable dust | 1317-65-3 | – | 5 | – | – | – | – | – |
| Total dust | – | – | 15 | – | – | – | – | – |
| Lindane | 58-89-9 | – | 0.5 | – | – | – | – | x |
| Lithium hydride | 7580-67-8 | – | 0.025 | – | – | – | – | – |
| L.P.G. (Liquified petroleum gas) | 68476-85-7 | 1000 | 1800 | – | – | – | – | – |
| Magnesite, Respirable dust | 546-93-0 | – | 5 | – | – | – | – | – |
| Total dust | – | – | 15 | – | – | – | – | – |
| Magnesium oxide fume, Total particulate | 1309-48-4 | – | 10 | – | – | – | – | – |
| Malathion dust | 121-75-5 | – | 10 | – | – | – | – | x |
| Maleic anhydride | 108-31-6 | 1 | – | – | – | – | – | – |
| Manganese, Compounds (as Mn) | 7439-96-5 | – | – | – | – | – | 5 | – |
| Fume (as Mn) | – | – | 1 | – | 3 | – | – | – |
| Manganese cyclopentadienyl tricarbonyl (as Mn) | 12079-65-1 | – | 0.1 | – | – | – | – | x |
| Manganese tetroxide (as Mn) | 1317-35-7 | – | 1 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Marble (calcium carbonate), Respirable dust Total dust | 1317-65-3 | – | 5 15 | – | – | – | – | – |
| Mercury Inorganic and aryl compounds (As Hg) Organic compounds (as Hg) Vapor (as Hg) | 7439-97-6 | – | – 0.01 0.05 | – | – 0.03 – | – | 0.1 – – | x x x |
| Mesityl oxide | 141-79-7 | 15 | 60 | 25 | 100 | – | – | – |
| Methacrylic acid | 79-41-4 | 20 | 70 | – | – | – | – | x |
| Methanethiol; see Methyl mercaptan | | | | | | | | |
| Methomyl (Lannate) | 16752-77-5 | – | 2.5 | – | – | – | – | – |
| Methoxychlor dust | 72-43-5 | – | 10 | – | – | – | – | – |
| 2-Methoxyethanol; see Methyl cellosolve | | | | | | | | |
| 4-Methoxyphenol | 150-76-5 | – | 5 | – | – | – | – | – |
| Methyl acetate | 79-20-9 | 200 | 610 | 250 | 760 | – | – | – |
| Methyl acetylene (Propyne) | 74-99-7 | 1000 | 1650 | – | – | – | – | – |
| Methyl acetylene-propadiene mixture (MAPP) | – | 1000 | 1800 | 1250 | 2250 | – | – | – |
| Methyl acrylate | 96-33-3 | 10 | 35 | – | – | – | – | x |
| Methylacrylonitrile | 126-98-7 | 1 | 3 | – | – | – | – | x |
| Methylal (Dimethoxymethane) | 109-87-5 | 1000 | 3100 | – | – | – | – | – |
| Methyl alcohol | 67-56-1 | 200 | 260 | 250 | 325 | – | – | x |
| Methylamine | 74-89-5 | 10 | 12 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Methyl amyl alcohol; see Methyl isobutyl carbinol | | | | | | | | |
| Methyl n-amyl ketone | 110-43-0 | 100 | 465 | – | – | – | – | – |
| Methyl bromide | 74-83-9 | 5 | 20 | – | – | – | – | x |
| Methyl n-butyl ketone; see 2-Hexanone | | | | | | | | |
| Methyl cellosolve (2-Methoxyethanol) | 109-86-4 | 25 | 80 | – | – | – | – | x |
| Methyl cellosolve acetate (2-Methoxyethyl acetate) | 110-49-6 | 25 | 120 | – | – | – | – | x |
| Methyl chloride | 74-87-3 | 50 | 105 | 100 | 210 | – | – | – |
| Methyl chloroform (1,1,1-Trichloroethane) | 71-55-6 | 350 | 1900 | 450 | 2450 | – | – | – |
| Methyl 2-cyanoacrylate | 137-05-3 | 2 | 8 | 4 | 16 | – | – | – |
| Methylcyclohexane | 108-87-2 | 400 | 1600 | – | – | – | – | – |
| Methylcyclohexanol | 25639-42-3 | 50 | 235 | – | – | – | – | – |
| o-Methylcyclohexanone | 583-60-8 | 50 | 230 | 75 | 345 | – | – | x |
| Methylcyclopentadienyl manganese tricarbonyl (as Mn) | 12108-13-3 | – | 0.2 | – | – | – | – | x |
| Methyl demeton | 8022-00-2 | – | 0.5 | – | – | – | – | x |
| 4,4'-Methylene bis(2-chloroaniline) (MBOCA) | 101-14-4 | 0.02 | 0.22 | – | – | – | – | x |
| Methylene bis(4-cyclohexylisocyanate) (MCBI) | 5124-30-1 | – | – | – | – | 0.01 | 0.11 | – |
| Methylene bisphenyl isocyanate (MDI) | 101-68-8 | – | – | – | – | 0.02 | 0.2 | – |
| Methylene chloride, see OH Part 313. Methylene Chloride^F , R 325.51651 to R 325.51652 ^F | 75-09-2 | 25 | 87 | 125 | 434 | | | |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|---|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Methylenedianiline (MDA); see GI Part 303. Methylenedianiline (MDA) in General Industry^F OH Part 303, R-325.50051 to R-325.50076^F | 101-77-9 | 10 ppb** | 0.08 mg/m ³ mg·m ³ | 100 ppb** | 0.8 mg/m ³ mg·m ³ | – | – | – |
| Methyl ethyl ketone (MEK); see 2-Butanone | | | | | | | | |
| Methyl ethyl ketone peroxide (MEKP) | 1338-23-4 | – | – | – | – | 0.7 | 5 | – |
| Methyl formate | 107-31-3 | 100 | 250 | 150 | 375 | – | – | – |
| Methyl hydrazine | 60-34-4 | – | – | – | – | 0.2 | 0.35 | x |
| Methyl iodide | 74-88-4 | 2 | 10 | – | – | – | – | x |
| Methyl isoamyl ketone | 110-12-3 | 50 | 240 | – | – | – | – | – |
| Methyl isobutyl carbinol | 108-11-2 | 25 | 100 | 40 | 165 | – | – | x |
| Methyl isobutyl ketone; see Hexone | | | | | | | | |
| Methyl isocyanate (MIC) | 624-83-9 | 0.02 | 0.05 | – | – | – | – | x |
| Methyl isopropyl ketone | 563-80-4 | 200 | 705 | – | – | – | – | – |
| Methyl mercaptan | 74-93-1 | 0.5 | 1 | – | – | – | – | – |
| Methyl methacrylate | 80-62-6 | 100 | 410 | – | – | – | – | – |
| Methyl parathion | 298-00-0 | – | 0.2 | – | – | – | – | x |
| Methyl propyl ketone; see 2-Pentanone | | | | | | | | |
| Methyl silicate | 681-84-5 | 1 | 6 | – | – | 5 | 30 | – |
| alpha-Methyl styrene | 98-83-9 | 50 | 240 | 100 | 485 | – | – | – |
| Metribuzin | 21087-64-9 | – | 5 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Mica; see Silicates | | | | | | | | |
| Molybdenum, (as Mo) | | | | | | | | |
| Insoluble compounds | 7439-98-7 | – | 10 | – | – | – | – | – |
| Soluble compounds | | – | 5 | – | – | – | – | – |
| Monocrotophos (Azodrin ^R) | 6923-22-4 | – | 0.25 | – | – | – | – | – |
| Monomethyl aniline | 100-61-8 | 0.5 | 2 | – | – | – | – | x |
| Morpholine | 110-91-8 | 20 | 70 | 30 | 105 | – | – | x |
| Naphtha (Coal tar) | 8030-30-6 | 100 | 400 | – | – | – | – | – |
| Naphthalene | 91-20-3 | 10 | 50 | 15 | 75 | – | – | – |
| alpha-Naphthylamine; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011^F | 134-32-7 | | | | | | | |
| beta-Naphthylamine; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011^F | 91-59-8 | | | | | | | |
| Nickel carbonyl (as Ni) | 13463-39-3 | 0.001 | 0.007 | – | – | – | – | – |
| Nickel, | | | | | | | | |
| Metal and insoluble compounds (as Ni) | 7440-02-0 | – | 1 | – | – | – | – | – |
| Soluble compounds (as Ni) | | – | 0.1 | – | – | – | – | – |
| Nicotine | 54-11-5 | – | 0.5 | – | – | – | – | x |
| Nitric acid | 7697-37-2 | 2 | 5 | 4 | 10 | – | – | – |
| Nitric oxide | 10102-43-9 | 25 | 30 | – | – | – | – | – |
| p-Nitroaniline | 100-01-6 | – | 3 | – | – | – | – | x |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Nitrobenzene | 98-95-3 | 1 | 5 | – | – | – | – | x |
| p-Nitrochlorobenzene | 100-00-5 | – | 1 | – | – | – | – | x |
| 4-Nitrodiphenyl; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011^F | 92-93-3 | | | | | | | |
| Nitroethane | 79-24-3 | 100 | 310 | – | – | – | – | – |
| Nitrogen dioxide | 10102-44-0 | – | – | 1 | 1.8 | – | – | – |
| Nitrogen trifluoride | 7783-54-2 | 10 | 29 | – | – | – | – | – |
| Nitroglycerin | 55-63-0 | – | – | – | 0.1 | – | – | x |
| Nitromethane | 75-52-5 | 100 | 250 | – | – | – | – | – |
| 1-Nitropropane | 108-03-2 | 25 | 90 | – | – | – | – | – |
| 2-Nitropropane | 79-46-9 | 10 | 35 | – | – | – | – | – |
| N-Nitrosodimethylamine; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011^F | 62-75-9 | | | | | | | |
| Nitrotoluene (o-,m-,p-isomers) | 99-08-1 | 2 | 11 | – | – | – | – | x |
| Nitrotrichloromethane; see Chloropicrin | | | | | | | | |
| Nonane | 111-84-2 | 200 | 1050 | – | – | – | – | – |
| Octachloronaphthalene | 2234-13-1 | – | 0.1 | – | 0.3 | – | – | x |
| Octane | 111-65-9 | 300 | 1450 | 375 | 1800 | – | – | – |
| Oil mist, mineral | 8012-95-1 | – | 5 | – | – | – | – | – |
| Osmium tetroxide (as Os) | 20816-12-0 | – | 0.002 | – | 0.006 | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|-------------------------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Oxalic acid | 144-62-7 | – | 1 | – | 2 | – | – | – |
| Oxygen difluoride | 7783-41-7 | – | – | – | – | 0.05 | 0.1 | – |
| Ozone | 10028-15-6 | 0.1 | 0.2 | 0.3 | 0.6 | – | – | – |
| Paraffin wax fume | 8002-74-2 | – | 2 | – | – | – | – | – |
| Paraquat, respirable dust | 1910-42-5 2074-50-2 4685-14-7 | – | 0.1 | – | – | – | – | x |
| Parathion | 56-38-2 | – | 0.1 | – | – | – | – | x |
| Particulates not otherwise regulated, Respirable dust | – | – | 5 | – | – | – | – | – |
| Total dust | – | – | 15 | – | – | – | – | – |
| Pentaborane | 19624-22-7 | 0.005 | 0.01 | 0.015 | 0.03 | – | – | – |
| Pentachloronaphthalene | 1321-64-8 | – | 0.5 | – | – | – | – | x |
| Pentachlorophenol | 87-86-5 | – | 0.5 | – | – | – | – | x |
| Pentaerythritol, Respirable dust | 115-77-5 | – | 5 | – | – | – | – | – |
| Total dust | – | – | 10 | – | – | – | – | – |
| Pentane | 109-66-0 | 600 | 1800 | 750 | 2250 | – | – | – |
| 2-Pentanone (Methyl propyl ketone) | 107-87-9 | 200 | 700 | 250 | 875 | – | – | – |
| Perchloroethylene (Tetrachloroethylene) | 127-18-4 | 25 | 170 | – | – | – | – | – |
| Perchloromethyl mercaptan | 594-42-3 | 0.1 | 0.8 | – | – | – | – | – |
| Perchloryl fluoride | 7616-94-6 | 3 | 14 | 6 | 28 | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| | | TWA | | STEL ^D | | Ceiling | | |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| Substance | CAS No. ^A | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | Skin Designation |
| Perlite | | | | | | | | |
| Respirable dust | 93763-70-3 | – | 5 | – | – | – | – | – |
| Total dust | | – | 15 | – | – | – | – | – |
| Petroleum distillates (Naphtha) (Rubber solvent) | | 400 | 1600 | – | – | – | – | – |
| Phenol | 108-95-2 | 5 | 19 | – | – | – | – | x |
| Phenothiazine | 92-84-2 | – | 5 | – | – | – | – | x |
| p-Phenylenediamine | 106-50-3 | – | 0.1 | – | – | – | – | x |
| Phenyl ether, vapor | 101-84-8 | 1 | 7 | – | – | – | – | – |
| Phenyl ether-biphenyl mixture, vapor | – | 1 | 7 | – | – | – | – | – |
| Phenylethylene; see Styrene | | | | | | | | |
| Phenyl glycidyl ether (PGE) | 122-60-1 | 1 | 6 | – | – | – | – | – |
| Phenylhydrazine | 100-63-0 | 5 | 20 | 10 | 45 | – | – | x |
| Phenyl mercaptan | 108-98-5 | 0.5 | 2 | – | – | – | – | – |
| Phenylphosphine | 638-21-1 | – | – | – | – | 0.05 | 0.25 | – |
| Phorate | 298-02-2 | – | 0.05 | – | 0.2 | – | – | x |
| Phosdrin (Mevinphos ^R) | 7786-34-7 | – | 0.1 | – | 0.3 | – | – | x |
| Phosgene (Carbonyl chloride) | 75-44-5 | 0.1 | 0.4 | – | – | – | – | – |
| Phosphine | 7803-51-2 | 0.3 | 0.4 | 1 | 1 | – | – | – |
| Phosphoric acid | 7664-38-2 | – | 1 | – | 3 | – | – | – |
| Phosphorus (yellow) | 7723-14-0 | – | 0.1 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Phosphorus oxychloride | 10025-87-3 | 0.1 | 0.6 | – | – | – | – | – |
| Phosphorus pentachloride | 10026-13-8 | – | 1 | – | – | – | – | – |
| Phosphorus pentasulfide | 1314-80-3 | – | 1 | – | 3 | – | – | – |
| Phosphorus trichloride | 7719-12-2 | 0.2 | 1.5 | 0.5 | 3 | – | – | – |
| Phthalic anhydride | 85-44-9 | 1 | 6 | – | – | – | – | – |
| m-Phthalodinitrile | 626-17-5 | – | 5 | – | – | – | – | – |
| Picloram, Respirable dust Total dust | 1918-02-1 | – – | 5 10 | – – | – – | – – | – – | – – |
| Picric acid | 88-89-1 | – | 0.1 | – | – | – | – | x |
| Piperazine dihydrochloride | 142-64-3 | – | 5 | – | – | – | – | – |
| Pindone (2-Pivalyl-1,3-indandione) | 83-26-1 | – | 0.1 | – | – | – | – | – |
| Plaster of Paris (Calcium sulfate), Respirable dust Total dust | 26499-65-0 | – – | 5 15 | – – | – – | – – | – – | – – |
| Platinum (as Pt) Metal Soluble salts | 7440-06-4 | – – | 1 0.002 | – – | – – | – – | – – | – – |
| Portland cement, Respirable dust Total dust | 65997-15-1 | – – | 5 10 | – – | – – | – – | – – | – – |
| Potassium hydroxide | 1310-58-3 | – | – | – | – | – | 2 | – |
| Propane | 74-98-6 | 1000 | 1800 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Propargyl alcohol | 107-19-7 | 1 | 2 | – | – | – | – | x |
| beta-Propriolactone; see GI Part 350. Carcinogens^F OH Part 350, R 325.35001 to R 325.35011 ^F | 57-57-8 | | | | | | | |
| Propionic acid | 79-09-4 | 10 | 30 | – | – | – | – | – |
| Propoxur (Baygon) | 114-26-1 | – | 0.5 | – | – | – | – | – |
| n-Propyl acetate | 109-60-4 | 200 | 840 | 250 | 1050 | – | – | – |
| n-Propyl alcohol | 71-23-8 | 200 | 500 | 250 | 625 | – | – | – |
| n-Propyl nitrate | 627-13-4 | 25 | 105 | 40 | 170 | – | – | – |
| Propylene dichloride | 78-87-5 | 75 | 350 | 110 | 510 | – | – | – |
| Propylene glycol dinitrate | 6423-43-4 | 0.05 | 0.3 | – | – | – | – | – |
| Propylene glycol monomethyl ether | 107-98-2 | 100 | 360 | 150 | 540 | – | – | – |
| Propylene imine | 75-55-8 | 2 | 5 | – | – | – | – | x |
| Propylene oxide | 75-56-9 | 20 | 50 | – | – | – | – | – |
| Propyne; see Methyl acetylene | | | | | | | | |
| Pyrethrum | 8003-34-7 | – | 5 | – | – | – | – | – |
| Pyridine | 110-86-1 | 5 | 15 | – | – | – | – | – |
| Quinone | 106-51-4 | 0.1 | 0.4 | – | – | – | – | – |
| Resorcinol | 108-46-3 | 10 | 45 | 20 | 90 | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| | | TWA | | STEL ^D | | Ceiling | | |
|--|--|------------------|--|-------------------|--|------------------|--|------------------|
| Substance | CAS No. ^A | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | Skin Designation |
| Rhodium, Insoluble compounds (as Rh) | 7440-16-6 | – | 0.1 | – | – | – | – | – |
| Metal fume (as Rh) | | – | 0.1 | – | – | – | – | – |
| Soluble compounds (as Rh) | | – | 0.001 | – | – | – | – | – |
| Ronnel | 299-84-3 | – | 10 | – | – | – | – | – |
| Rosin core solder pyrolysis products, as formaldehyde | – | – | 0.1 | – | – | – | – | – |
| Rotenone | 83-79-4 | – | 5 | – | – | – | – | – |
| Rouge, Respirable dust | – | – | 5 | – | – | – | – | – |
| Total dust | | – | 10 | – | – | – | – | – |
| Selenium compounds (as Se) | 7782-49-2 | – | 0.2 | – | – | – | – | – |
| Selenium hexafluoride (as Se) | 7783-79-1 | 0.05 | 0.4 | – | – | – | – | – |
| Silica, crystalline, respirable dust | See OH 590 Silica in General Industry | | | | | | | |
| Silica, amorphous, precipitated and gel | 112926-00-8 | – | 6 | – | – | – | – | – |
| Silica, amorphous, diatomaceous earth, containing less than 1% crystalline silica | 61790-53-2 | – | 6 | – | – | – | – | – |
| Silica, crystalline, respirable dust | See GI Part 590. Silica in General Industry | | | | | | | |
| Cristobalite Silica, crystalline cristobalite, Respirable dust | 14464-46-1 | – | 0.05 | – | – | – | – | – |
| Quartz Silica, crystalline quartz, Respirable dust | 14808-60-7 | – | 0.05 | – | – | – | – | – |
| Tridymite Silica, crystalline tridymite, Respirable dust | 15468-32-3 | – | 0.05 | – | – | – | – | – |
| Tripoli (as quartz) Silica, crystalline tripoli, Respirable dust | 1317-95-9 | – | 0.05 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| | | TWA | | STEL ^D | | Ceiling | | |
|--|----------------------|--|--|-------------------|--|------------------|--|------------------|
| Substance | CAS No. ^A | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | Skin Designation |
| Silica, fused, Respirable dust | 60676-86-0 | – | 0.1 | – | – | – | – | – |
| Silicates (less than 1% crystalline silica) | | | | | | | | |
| Mica, respirable dust | 12001-26-2 | – | 3 | – | – | – | – | – |
| Soapstone, respirable dust | – | – | 3 | – | – | – | – | – |
| Soapstone, total dust | – | – | 6 | – | – | – | – | – |
| Talc (containing asbestos); use asbestos limit | – | OH Part 305 “Asbestos for General Industry,” R 325.51311 to R 325.51312 | | | | | | |
| Talc (containing no asbestos), respirable dust | 14807-96-6 | – | 2 | – | – | – | – | – |
| Tremolite | – | OH Part 305 “Asbestos for General Industry,” R 325.51311 to R 325.51312 | | | | | | |
| Silicon, Respirable dust | 7440-21-3 | – | 5 | – | – | – | – | – |
| Total dust | | – | 10 | – | – | – | – | – |
| Silicon carbide, Respirable dust | 409-21-2 | – | 5 | – | – | – | – | – |
| Total dust | | – | 10 | – | – | – | – | – |
| Silicon tetrahydride | 7803-62-5 | 5 | 7 | – | – | – | – | – |
| Silver, metal and soluble compounds (as Ag) | 7440-22-4 | – | 0.01 | – | – | – | – | – |
| Soapstone; see Silicates | | | | | | | | |
| Sodium azide (as HN ₃) | 26628-22-8 | – | – | – | – | 0.1 | – | x |
| (as NaN ₃) | | – | – | – | – | – | 0.3 | x |
| Sodium bisulfite | 7631-90-5 | – | 5 | – | – | – | – | – |
| Sodium fluoroacetate | 62-74-8 | – | 0.05 | – | 0.15 | – | – | x |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | |
| Sodium hydroxide | 1310-73-2 | – | – | – | – | – | 2 | – |
| Sodium metabisulfite | 7681-57-4 | – | 5 | – | – | – | – | – |
| Starch, Respirable dust Total dust | 9005-25-8 | – – | 5 15 | – – | – – | – – | – – | – – |
| Stibine | 7803-52-3 | 0.1 | 0.5 | – | – | – | – | – |
| Stoddard solvent | 8052-41-3 | 100 | 525 | – | – | – | – | – |
| Strychnine | 57-24-9 | – | 0.15 | – | – | – | – | – |
| Styrene | 100-42-5 | 50 | 215 | 100 | 425 | – | – | – |
| Subtilisins (Proteolytic enzymes) | 9014-01-1 | – | – | – | 0.00006 (60 min.) | – | – | – |
| Sucrose, Respirable dust Total dust | 57-50-1 | – – | 5 15 | – – | – – | – – | – – | – – |
| Sulfur dioxide | 7446-09-5 | 2 | 5 | 5 | 10 | – | – | – |
| Sulfur hexafluoride | 2551-62-4 | 1000 | 6000 | – | – | – | – | – |
| Sulfuric acid | 7664-93-9 | – | 1 | – | – | – | – | – |
| Sulfur monochloride | 10025-67-9 | – | – | – | – | 1 | 6 | – |
| Sulfur pentafluoride | 5714-22-7 | – | – | – | – | 0.01 | 0.1 | – |
| Sulfur tetrafluoride | 7783-60-0 | – | – | – | – | 0.1 | 0.4 | – |
| Sulfuryl fluoride | 2699-79-8 | 5 | 20 | 10 | 40 | – | – | – |
| Sulprofos | 35400-43-2 | – | 1 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | |
| Systox ^R ; see Demeton | | | | | | | | |
| 2,4,5-T (2,4,5-trichlorophenoxyacetic acid) | 93-76-5 | – | 10 | – | – | – | – | – |
| Talc; see Silicates | | | | | | | | |
| Tantalum, metal and oxide dust | 7440-25-7 | – | 5 | – | – | – | – | – |
| TEDP (Sulfotep) | 3689-24-5 | – | 0.2 | – | – | – | – | x |
| Tellurium and compounds (as Te) | 13494-80-9 | – | 0.1 | – | – | – | – | – |
| Tellurium hexafluoride (as Te) | 7783-80-4 | 0.02 | 0.2 | – | – | – | – | – |
| Temephos, Respirable dust Total dust | 3383-96-8 | – – | 5 10 | – – | – – | – – | – – | – – |
| TEPP | 107-49-3 | – | 0.05 | – | – | – | – | x |
| Terphenyls | 26140-60-3 | – | – | – | – | 0.5 | 5 | – |
| 1,1,1,2-Tetrachloro-2, 2-difluoroethane | 76-11-9 | 500 | 4170 | – | – | – | – | – |
| 1,1,2,2-Tetrachloro-1, 2-difluoroethane | 76-12-0 | 500 | 4170 | – | – | – | – | – |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1 | 7 | – | – | – | – | x |
| Tetrachloroethylene; see Perchloroethylene | | | | | | | | |
| Tetrachloromethane; see Carbon tetrachloride | | | | | | | | |
| Tetrachloronaphthalene | 1335-88-2 | – | 2 | – | – | – | – | x |
| Tetraethyl lead (as Pb) | 78-00-2 | – | 0.075 | – | – | – | – | x |
| Tetrahydrofuran | 109-99-9 | 200 | 590 | 250 | 735 | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| | | TWA | | STEL ^D | | Ceiling | | |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| Substance | CAS No. ^A | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | ppm ^B | mg/m ^{3C} mg·m ^{3E} | Skin Designation |
| Tetramethyl lead (as Pb) | 75-74-1 | – | 0.075 | – | – | – | – | x |
| Tetramethyl succinonitrile | 3333-52-6 | 0.5 | 3 | – | – | – | – | x |
| Tetranitromethane | 509-14-8 | 1 | 8 | – | – | – | – | – |
| Tetrasodium pyrophosphate | 7722-88-5 | – | 5 | – | – | – | – | – |
| Tetryl (2,4,6-Trinitrophenylmethylnitramine) | 479-45-8 | – | 1.5 | – | – | – | – | x |
| Thallium, soluble compounds (as Tl) | 7440-28-0 | – | 0.1 | – | – | – | – | x |
| 4,4'-Thiobis(6-tert-butyl-m-cresol) | | | | | | | | |
| Respirable dust | 96-69-5 | – | 5 | – | – | – | – | – |
| Total dust | | – | 10 | – | – | – | – | – |
| Thioglycolic acid | 68-11-1 | 1 | 4 | – | – | – | – | x |
| Thionyl chloride | 7719-09-7 | – | – | – | – | 1 | 5 | – |
| Thiram | 137-26-8 | – | 5 | – | – | – | – | – |
| Tin, Inorganic compounds (except oxides) | | | | | | | | |
| (as Sn) | 7440-31-5 | – | 2 | – | – | – | – | – |
| Organic compounds (as Sn) | 7440-31-5 | – | 0.1 | – | – | – | – | x |
| Oxides (as Sn) | 21651-19-4 | – | 2 | – | – | – | – | – |
| Titanium dioxide Total dust | 13463-67-7 | – | 10 | – | – | – | – | – |
| Toluene | 108-88-3 | 100 | 375 | 150 | 560 | – | – | – |
| Toluene-2,4-diisocyanate (TDI) | 584-84-9 | 0.005 | 0.04 | 0.02 | 0.15 | – | – | – |
| m-Toluidine | 108-44-1 | 2 | 9 | – | – | – | – | x |
| o-Toluidine | 95-53-4 | 5 | 22 | – | – | – | – | x |
| p-Toluidine | 106-49-0 | 2 | 9 | – | – | – | – | x |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | |
| 2,4,6-Trinitrophenylmethylnitramine; see Tetryl | | | | | | | | |
| 2,4,6-Trinitrotoluene (TNT) | 118-96-7 | – | 0.5 | – | – | – | – | x |
| Triorthocresyl phosphate | 78-30-8 | – | 0.1 | – | – | – | – | x |
| Triphenyl amine | 603-34-9 | – | 5 | – | – | – | – | – |
| Triphenyl phosphate | 115-86-6 | – | 3 | – | – | – | – | – |
| Tungsten | | | | | | | | |
| Insoluble compounds (as W) | 7440-33-7 | – | 5 | – | 10 | – | – | – |
| Soluble compounds (as W) | | – | 1 | – | 3 | – | – | – |
| Turpentine | 8006-64-2 | 100 | 560 | – | – | – | – | – |
| Uranium (as U) | | | | | | | | |
| Insoluble compounds | 7440-61-1 | – | 0.2 | – | 0.6 | – | – | – |
| Soluble compounds | | – | 0.05 | – | - | – | – | – |
| n-Valeraldehyde | 110-62-3 | 50 | 175 | – | – | – | – | – |
| Vanadium pentoxide | | | | | | | | |
| Fume (as V ₂ O ₅) | 1314-62-1 | – | 0.05 | – | – | – | – | – |
| Respirable dust (as V ₂ O ₅) | | – | 0.05 | – | – | – | – | – |
| Vegetable oil mists | | | | | | | | |
| Respirable mist | – | – | 5 | – | – | – | – | – |
| Total mist | | – | 15 | – | – | – | – | – |
| Vinyl acetate | 108-05-4 | 10 | 30 | 20 | 60 | – | – | – |
| Vinyl benzene; see Styrene | | | | | | | | |
| Vinyl bromide | 593-60-2 | 5 | 20 | – | – | – | – | – |
| Vinyl chloride; see GI Part 302. Vinyl Chloride^F OH Part 302, R-325.51401 to R-325.51414^F | 75-01-4 | 1 | 2.5 | 5 | 12.8 | | | |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|---|----------------------|------------------|---|-------------------|--|------------------|--|------------------|
| | | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | |
| Vinyl cyanide; see Acrylonitrile | | | | | | | | |
| Vinyl cyclohexene dioxide | 106-87-6 | 10 | 60 | – | – | – | – | x |
| Vinylidene chloride (1,1-Dichloroethylene) | 75-35-4 | 1 | 4 | – | – | – | – | – |
| Vinyl toluene | 25013-15-4 | 100 | 480 | – | – | – | – | – |
| VM & P Naphtha | 8032-32-4 | 300 | 1350 | 400 | 1800 | – | – | – |
| Warfarin | 81-81-2 | – | 0.1 | – | – | – | – | – |
| Welding fumes (Total particulate)* | – | – | 5 | – | – | – | – | – |
| Wood dust, all soft and hard woods (except Western red cedar) | – | – | 5 | – | 10 | – | – | – |
| Wood dust, Western red cedar | – | – | 2.5 | – | – | – | – | – |
| Xylene (o-,m-,p-isomers) (Dimethyl benzene) | 1330-20-7 | 100 | 435 | 150 | 655 | – | – | – |
| m-Xylene-alpha, alpha'-diamine | 1477-55-0 | – | – | – | – | – | 0.1 | x |
| Xylidine | 1300-73-8 | 2 | 10 | – | – | – | – | x |
| Yttrium | 7440-65-5 | – | 1 | – | – | – | – | – |
| Zinc chloride fume | 7646-85-7 | – | 1 | – | 2 | – | – | – |
| Zinc chromates (as Cr+6); see OH Part 315. Chromium (VI) in General Industry^{F,G} , R 325.50141 to R 325.50143 ^{F,G} | Varies with compound | – | 0.005 (5 µg/m ³) (5 µg÷m ³) | – | – | – | – | – |
| Zinc oxide fume | 1314-13-2 | – | 5 | – | 10 | – | – | – |
| Zinc oxide, Respirable dust | 1314-13-2 | – | 5 | – | – | – | – | – |
| Total dust | | – | 10 | – | – | – | – | – |

TABLE G-1-A. EXPOSURE LIMITS FOR AIR CONTAMINANTS

| Substance | | CAS No. ^A | TWA | | STEL ^D | | Ceiling | | Skin Designation |
|--|---|----------------------|------------------|--|-------------------|--|------------------|--|------------------|
| | | | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | ppm ^B | mg/m ^{3C} mg÷m ^{3E} | |
| Zinc stearate | | 557-05-1 | | | | | | | |
| Respirable dust | | | – | 5 | – | – | – | – | – |
| Total dust | | | – | 10 | – | – | – | – | – |
| Zirconium compounds (as Zr) | | 7440-67-7 | – | 5 | – | 10 | – | – | – |
| All MIOSHA Standards shown in this table are referenced in R 325.51101. | | | | | | | | | |
| * | As determined from breathing-zone air samples. | | | | | | | | |
| ** | Parts per billion. | | | | | | | | |
| A | The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than 1 metal compound measured as the metal, the CAS number for the metal is given - not the CAS number for the individual compounds. | | | | | | | | |
| B | Parts of vapor or gas per million parts of contaminated air by volume at 25 °C and 760 Torr. | | | | | | | | |
| C | Approximate milligrams of substance per cubic meter of air. | | | | | | | | |
| D | Duration is for 15 minutes, unless otherwise noted. | | | | | | | | |
| E | The GI & CS Part 311. “Benzene” standard applies to all occupational exposures to benzene, except some sub-segments of industry where exposures are consistently under the action level. These sub-segments include the distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures. For the excepted sub-segments, the benzene limits in table G-2 apply. | | | | | | | | |
| F | Caution--this rule contains extensive requirements for exposure to these substances. | | | | | | | | |
| G | If the exposure limit in OH Part 315. “Chromium (VI) in General Industry” is stayed or is otherwise not in effect, the exposure limit is a ceiling of 0.1 mg/m³. | | | | | | | | |

TABLE G-2. EXPOSURE LIMITS FOR AIR CONTAMINATES

| Substance | 8-hour, time-weighted average | Acceptable ceiling concentration | Acceptable maximum peak above the acceptable ceiling concentration for an 8-hour workshift. | |
|---|--|----------------------------------|---|------------------|
| | | | Concentration | Maximum duration |
| S Benzene ^{E,F} | 10 ppm | 25 ppm | 50 ppm | 10 minutes |
| Beryllium and beryllium compounds | 2 $\mu\text{g}\cdot\text{m}^3$ | 5 $\mu\text{g}\cdot\text{m}^3$ | 25 $\mu\text{g}\cdot\text{m}^3$ | 30 minutes |
| S Ethylene dibromide | 20 ppm | 30 ppm | 50 ppm | 5 minutes |
| Note: S above signifies that skin contact shall not be allowed. | | | | |
| E | The GI & CS Part 311. "Benzene" standard applies to all occupational exposures to benzene, except some sub-segments of industry where exposures are consistently under the action level. These sub-segments include the distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures. For the excepted sub-segments, the benzene limits in this table apply. | | | |
| F | Caution--this rule contains extensive requirements for exposure to these substances. | | | |

| | |
|----|---|
| * | As determined from breathing zone air samples. |
| ** | Parts per billion. |
| A | The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than 1 metal compound measured as the metal, the CAS number for the metal is given not the CAS number for the individual compounds. |
| B | Parts of vapor or gas per million parts of contaminated air by volume at 25°C and 760 torr. |
| C | Approximate milligrams of substance per cubic meter of air. |
| D | Duration is for 15 minutes, unless otherwise noted. |
| E | The final benzene standard in OH Part 311, R 325.77101 to R 325.77115 applies to all occupational exposures to benzene, except some subsegments of industry where exposures are consistently under the action level. These subsegments include the distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures. For the excepted subsegments, the benzene limits in table G-2 apply. |
| F | Caution this rule contains extensive requirements for exposure to these substances. |
| G | If the exposure limit in §1910.1026 (adopted by reference in OH Part 315, R 325.50141 to R 325.50143) is stayed or is otherwise not in effect, the exposure limit is a ceiling of 0.1 $\text{mg}\cdot\text{m}^3$. |