

The statement of scope for this rule, SS 116-20, was approved by the Governor on August 13, 2020, published in Register No. 776A4 on August 24, 2020, and approved by the Natural Resources Board on October 28, 2020. This rule was approved by the Governor on February 10, 2022.

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING, RENUMBERING, RENUMBERING AND AMENDING, AMENDING, REPEALING
AND RECREATING AND CREATING RULES

The Wisconsin Natural Resources Board adopts an order to **repeal** NR 438.04 (1) (Note), (2) (c), (e), (g), (h) and (6); to **renumber** NR 438.02 (1); to **amend** NR 438 (title), 438.01 (2), 438.03 (title), (1) (a), (am) 1., (b), Table 1, (c), (d), (2), (3), (4), (5) (title), (a), (b), (c), and (6), 438.04 (1), (2) (intro.), (b) and (f), 484.06 (4) Table 4D Row (a); to **repeal and recreate** NR 438.02 (2), 438.04 (2) (d), (3), (4), and (5); and to **create** NR 400.03 (4) (jp), 438.02 (1a), (1g), (1i), (1k), (1m), (1o), (1q), (1s), (1u), (3), and (4), 438.03 (1) (af), (am) 3. and 4., and (5) (a) (Note), relating to the incorporation of a PM_{2.5} emissions reporting requirement, alignment of state and federal emissions reporting terminology, updates to reflect current emissions reporting procedure, and affecting small business.

AM-31-19

Analysis Prepared by the Department of Natural Resources

- 1. Statute Interpreted:** Sections 285.11(11), 285.17, 299.15, Stats. The State Implementation Plan developed under s. 285.11(6), Stats., is revised.
- 2. Statutory Authority:** Sections 285.17, 299.15, Stats.
- 3. Explanation of Agency Authority:** The Department of Natural Resources (the department) is required to promulgate by rule the classification of air contaminant sources which may cause or contribute to air pollution and require by rule those discharging air contaminants to report the manner used, amount used and amount discharged for each such contaminant. The department is also required to coordinate the reporting requirements to prevent duplication of reporting requirements.
- 4. Related Statutes or Rules:** Section 299.15, Stats., requires the department to promulgate rules implementing reporting requirements for sources of air contaminants in the state. The proposed rule revisions correspond to the incorporation of an acronym definition in s. NR 400.03, Wis. Adm. Code, and emissions reporting requirements contained in ch. NR 438, Wis. Adm. Code. Additional proposed revisions in s. NR 484.06 *Other government organizations* align ch. NR 484, Wis. Adm. Code, with proposed revisions in ch. NR 438, Wis. Adm. Code.
- 5. Plain Language Analysis:** In 2015 the U.S. Environmental Protection Agency (EPA) finalized amendments to the Air Emissions Reporting Requirements (AERR) rule (40 CFR 51, subpart A, and 40 CFR 51.122). This rule updated requirements for state and local agencies to collect and submit emissions data to the EPA. Currently, some inconsistencies exist between Wisconsin's air emissions reporting requirements codified in ch. NR 438, Wis. Adm. Code, and the AERR rule. The department is proposing to revise ch. NR 438, Wis. Adm. Code, to meet federal requirements in the AERR rule. Updating ch. NR 438, Wis. Adm. Code, will ensure the state has a legally sufficient state implementation plan (SIP), required under Section 110(a)(2) of the federal Clean Air Act (CAA).

The department is proposing to add an emissions reporting requirement for sources that directly emit particulate matter with an aerodynamic diameter of equal to or less than 2.5 µm (PM_{2.5}), which ensures compliance with the AERR rule and maintains an approvable SIP. Related changes include specifying

that state reporting requirements for particulate matter apply to primary emissions, where primary emissions are directly emitted to the atmosphere, rather than particulate matter formed through atmospheric chemical reactions ('secondary' emissions). Further, primary particulate emissions are being distinguished from filterable and condensable particulate emissions, which sum to equal the primary particulate emissions. Emissions reporting requirements are included for these filterable and condensable components of primary PM_{2.5} and primary particulate matter with an aerodynamic diameter of equal to or less than 10 µm (PM₁₀). The proposed rule also addresses a deficiency in ch. NR 438, Wis. Adm. Code, identified by EPA which requires (1) major sources in nonattainment areas, (2) sources with the potential to emit equal to or greater than 100 tons per year of criteria air pollutants or ammonia, and (3) sources with actual emissions of equal to or greater than 0.5 ton per year of lead to report annual emissions of all criteria air pollutants and ammonia regardless of emissions amount. These proposed changes will ensure ch. NR 438, Wis. Adm. Code, meets federal requirements in the AERR rule (40 CFR 51, subpart A).

Additionally, the department is proposing to make other revisions to ch. NR 438, Wis. Adm. Code, to (1) align state code language with federal emissions reporting terminology, (2) revise outdated ch. NR 438, Wis. Adm. Code, language and make corresponding updates to ch. NR 484, Wis. Adm. Code, to reflect the department's current emissions inventory process, and (3) create a list of emission units, operations or activities that a facility may exclude from the annual emission inventory. These proposed changes will clarify and modernize the emissions reporting rule language in ch. NR 438, Wis. Adm. Code. The specific proposed rule changes are described below.

Alignment of state and federal emissions reporting requirements

SECTIONS 8 and 12 require the owner or operator of a facility to report annual primary PM, primary PM_{2.5}, primary PM₁₀, filterable PM_{2.5}, filterable PM₁₀, and condensable PM emissions if the facility's emissions exceed the reporting threshold in Table 1.

SECTION 9 addresses a deficiency identified by EPA which requires applicable sources under subpart A of 40 CFR 51 to report annual emissions of all criteria air pollutants and ammonia.

Alignment of state and federal emissions reporting terminology

SECTIONS 4-7 renumber or incorporate definitions for terms related to particulate matter and emissions reporting that only apply in ch. NR 438. Although several terms defined in SECTION 5 are currently defined in ch. NR 400, the proposed SECTION 5 definitions are being incorporated to ensure consistency with the definitions in the AERR rule.

Revision to outdated state code language

SECTIONS 1-3, 10, 12-25 align emissions reporting rule language to reflect the department's current emissions inventory process, and reference the specific information requested by the department's web-based air emissions inventory reporting program.

SECTIONS 6, 12, and 25 remove cross references between ss. NR 438.02 (2) and 438.03 (5) (a) and EPA's outdated FIRE emissions factor database (s. NR 484.06 (4) (a)).

Addition of emissions reporting exemption list

SECTION 11 creates a list of emission units, operations or activities that a facility may exclude from the annual emission inventory reported to the department. Sources are not required to quantify emissions from the proposed emissions reporting exclusion list if they are units, operations, or activities that the department has determined are difficult to quantify and emit de minimis amounts of air contaminants.

6. Summary of, and Comparison with, Existing or Proposed Federal Statutes and Regulations:

The revisions to ch. NR 438, Wis. Adm. Code, are being proposed to meet federal requirements in the AERR rule (40 CFR 51, subpart A, and 40 CFR 51.122). This federal rule requires state and local agencies to collect and submit emissions data to the EPA. This rulemaking will satisfy federal emissions reporting requirements and resolve inconsistencies between state and federal emissions inventory reporting.

7. Summary of Comments Received on the Statement of Scope and How the Agency Took Those Comments into Account in Drafting the Proposed Rule: A preliminary public hearing was requested by the Joint Committee for the Review of Administrative Rules on August 27, 2020 and was held on October 1, 2020. No public comments were received during the preliminary public hearing and comment period on the statement of scope of the proposed rule.

8. Comparison with Similar Rules in Adjacent States: The States of Illinois, Iowa, Michigan, and Minnesota have incorporated PM_{2.5} emissions reporting requirements into their administrative codes.

9. Summary of Factual Data and Analytical Methodologies Used and How Any Related Findings Support the Regulatory Approach Chosen: In 2008, EPA promulgated the AERR rule (40 CFR part 51, subpart A) to coordinate and streamline emissions inventory reporting requirements with existing requirements of the CAA and 1990 Amendments. Under the AERR rule, states and local air pollution control agencies are required to submit emissions inventories for criteria pollutants to EPA. The EPA uses these submittals to build the national inventory of air pollutant emissions (National Emissions Inventory; NEI). A comprehensive inventory updated at regular intervals is essential to allow EPA to fulfill its mandate to monitor and plan for the attainment and maintenance of the national ambient air quality standards established for criteria pollutants.

In 2015, EPA finalized amendments to the AERR rule (40 CFR 51, subpart A, and 40 CFR 51.122). The rule's updated requirements improved consistency and clarity with other federal rules and better reflects current inventory technologies and practices. The department must ensure that state reporting requirements align with those established in federal code in order to keep Wisconsin's SIP current. Section 285.14 (1), Stats., requires SIP submittals resulting in regulatory requirements to be promulgated by rule. There are no policy alternatives available for the proposed rules because the proposed actions are required under state and federal law.

Information and materials developed by EPA in support of the AERR rule amendments can be found on EPA's website at <https://www.epa.gov/air-emissions-inventories/air-emissions-reporting-requirements-aerr#additional-resources> and in the regulatory docket (EPA-HQ-OAR-2004-0489) associated with the 2015 amended rule (80 FR 8787). This information is applicable also to the adoption of the amended AERR requirements into the Wisconsin Administrative Code.

10. Analysis and Supporting Documents Used to Determine the Effect on Small Business or in Preparation of an Economic Impact Report: The department estimates that the economic impact of implementing the revised reporting requirements in Wisconsin will be minimal (\$0-\$50,000). The proposed changes will not involve an emission fee increase for sources and will not require sources to install new emissions monitoring equipment or reporting systems. The proposed rule will result in a small administrative impact to sources in the form of time required to report and certify annual PM_{2.5} emissions if a source's emissions exceed the reporting threshold or to report and certify all criteria air pollutant and ammonia emissions for an applicable source under subpart A of 40 CFR 51.

To minimize administrative time associated with annual emissions reporting, the department's web-based

air emissions inventory reporting program provides information (i.e., emission factors) and an emissions calculator, which the owner or operator of a facility can use to estimate emissions. The program currently includes emission factors for sources to calculate their filterable and condensable PM_{2.5} emissions. Furthermore, the department expects that sources required to report PM_{2.5} emissions under the proposed rule are already familiar with the emissions calculations, since many of these sources likely already report other pollutant emissions under current ch. NR 438, Wis. Adm. Code, requirements.

In addition, the department has streamlined reporting requirements by creating a proposed list of excluded units, operations and activities to reduce the emissions reporting burden on sources. The department expects the proposed changes will improve the clarity of Wisconsin's emissions reporting requirements by synchronizing the emissions reporting language between ch. NR 438, Wis. Adm. Code, the department's web-based air emissions inventory reporting program, and the federal AERR rule.

The department does not anticipate that local governments, utility rate payers, public entities, or the state's economy will be economically impacted by the implementation of the proposed rules. The proposed rules will not require additional state staff to implement or affect state revenues.

11. Effect on Small Business (initial regulatory flexibility analysis): The AERR rule amendments state that the updated reporting requirements “will not have a significant economic impact on a substantial number of small entities under the RFA [Regulatory Flexibility Act]. This action will not impose any new requirements on small entities. This action corrects and clarifies emissions reporting requirements and provides states with additional flexibility in how they collect and report their emissions data, thereby reducing overall collection and reporting burdens and their associated costs.” (80 FR 8794).

The department expects that few, if any, small businesses will be required to report PM_{2.5} emissions under the proposed rule since source applicability is determined by a five ton per year emission threshold. If applicable, the proposed rule changes would have a small administrative impact on the small businesses; there would be no economic impact. Furthermore, the department expects that if there are any small businesses required to report PM_{2.5} emissions under the proposed rule that they are already familiar with the emissions calculations, since these sources likely already report other pollutant emissions under current ch. NR 438, Wis. Adm. Code, requirements. As mentioned in #10 above, the department has taken steps to minimize administrative time associated with annual emissions reporting, including providing an emissions calculator directly on the department's web-based air emissions inventory reporting program and providing a list of emission units, operations, and activities that a facility may exclude from the annual emission inventory.

12. Agency Contact Person: Olivia Salmon, Bureau of Air Management, Wisconsin Department of Natural Resources PO Box 7921, Madison, WI 53703; (608) 630-5264; OliviaE.Salmon@Wisconsin.gov.

13. Place where comments are to be submitted and deadline for submission: A public hearing was held on October 29, 2021. Written comments were accepted through November 5, 2021.

RULE TEXT

SECTION 1. NR 400.03 (4) (jp) is created to read:

NR 400.03 (4) (jp) “NAICS” — North American Industry Classification System

SECTION 2. NR 438 (title) is amended to read:

NR 438 (title) AIR CONTAMINANT ~~EMISSION~~EMISSIONS INVENTORY REPORTING REQUIREMENTS.

SECTION 3. NR 438.01 (2) is amended to read:

NR 438.01 (2) PURPOSE. The purpose of this chapter is to establish, pursuant to ss. 285.11, 285.13, 285.17, and 299.15 (1) and (2), Stats., requirements for submission of ~~reports~~emissions inventories for owners or operators of air contaminant sources.

SECTION 4. NR 438.02 (1) is renumbered (1e).

SECTION 5. NR 438.02 (1a), (1g), (1i), (1k), (1m), (1o), (1q), (1s), and (1u) are created to read:

NR 438.02 (1a) “Condensable PM” means a material that is vapor phase at stack conditions but that condenses or reacts upon cooling and dilution in the ambient air to form solid or liquid PM immediately after discharge from the stack.

Note: Condensable PM, if present from a source, is typically in the PM_{2.5} size fraction and, therefore, all of it is a component of both primary PM_{2.5} and primary PM₁₀.

(1g) “Filterable PM” means particles that have an aerodynamic diameter equal to or less than 100 micrometers that are directly emitted by a source as a solid or liquid at stack or release conditions and captured on the filter of a stack test train.

(1i) “Filterable PM_{2.5}” means particles that have an aerodynamic diameter equal to or less than 2.5 micrometers that are directly emitted by a source as a solid or liquid at stack or release conditions and captured on the filter of a stack test train.

(1k) “Filterable PM₁₀” means particles that have an aerodynamic diameter equal to or less than 10 micrometers that are directly emitted by a source as a solid or liquid at stack or release conditions and captured on the filter of a stack test train.

(1m) “Primary PM” means the sum of filterable PM and condensable PM.

(1o) “Primary PM_{2.5}” means the sum of filterable PM_{2.5} and condensable PM.

(1q) “Primary PM₁₀” means the sum of filterable PM₁₀ and condensable PM.

(1s) “Process” means an activity occurring at a unit device that generates emissions, controls emissions, or discharges emissions.

Note: Examples of processes include combustion, coating, controlling, crushing, or discharging.

(1u) “Process type code” means a brief descriptor of the process type.

SECTION 6. NR 438.02 (2) is repealed and recreated to read:

NR 438.02 (2) “Source classification code” means a process-level code that describes the equipment or operation that is emitting a pollutant.

Note: Source classification codes are available as set forth by EPA’s Emissions Inventory System, which is an information system for storing all current and historical emissions inventory data.

SECTION 7. NR 438.02 (3), and (4) are created to read:

NR 438.02 (3) “Unit device” means the physical equipment or equipment line where a process occurs.

Note: Examples of unit devices include boilers, coating lines, baghouses, and stacks.

(4) “Unit device type code” means a brief descriptor of the unit device type.

SECTION 8. NR 438.03 (title) and (1) (a) are amended to read:

NR 438.03 Required ~~emission inventory reports~~ emissions inventories. (1) REPORTABLE AIR CONTAMINANTS AND LEVELS. (a) Except as provided ~~in~~ under par. (am), any person owning or operating a facility that emits an air contaminant in quantities above applicable reporting levels, except indirect sources of air pollution, shall annually submit to the department an ~~emission~~ emissions inventory ~~report~~ of annual, actual emissions or, for primary particulate matter, primary PM₁₀, primary PM_{2.5}, sulfur dioxide, nitrogen oxides, carbon monoxide and volatile organic compounds, throughput information sufficient for the department to calculate its annual, actual emissions. The reportable air contaminants and applicable reporting levels are listed in Table 1 in this chapter.

SECTION 9. NR 438.03 (1) (af) is created to read:

NR 438.03 (1) (af) The owner or operator of a facility shall annually submit to the department an emissions inventory for sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, primary PM₁₀, primary PM_{2.5}, ammonia, and lead and lead compounds, if the facility meets any of the following:

1. The facility is a Part 70 major source, as defined under 40 CFR 70.2.
2. The facility is a nonattainment area major source, as defined in s. NR 408.02 (21).
3. The facility has the potential to emit equal to or greater than 100 tons per year of ammonia.
4. The facility has actual emissions equal to or greater than 0.5 ton per year of lead.

SECTION 10. NR 438.03 (1) (am) 1. is amended to read:

(am) 1. The owner or operator of a facility described by ~~a standard industrial classification~~ an SIC code listed in Table D of s. NR 445.11, or that has annual actual emissions of less than 5 tons of particulate matter and less than 3 tons of volatile organic compounds, may limit the information on hazardous air contaminants included in the annual ~~emission-emissions~~ emissions inventory ~~report~~ to those contaminants identified under s. NR 445.11 (1) (a) or (b).

SECTION 11. NR 438.03 (1) (am) 3. and 4. are created to read:

NR 438.03 (1) (am) 3. The owner or operator of a facility may exclude from the annual emissions inventory, emissions from any of the following emissions units, operations, or activities:

- a. Maintenance of grounds, equipment, and buildings, including lawn care, pest control, grinding, cutting, welding, painting, woodworking, general repairs, and cleaning, but not including use of organic compounds as clean-up solvents.
- b. Boiler, turbine, generator, heating, and air conditioning maintenance.
- c. Pollution control equipment maintenance.
- d. Fire control equipment.
- e. Janitorial activities.
- f. Office activities.

- g. Convenience water heating.
 - h. Convenience space heating units with combined heat input capacity of less than 5 million Btu per hour that burn gaseous fuels or liquid fuels.
 - i. Fuel oil storage tanks with a combined capacity of 10,000 gallons or less.
 - j. Stockpiled contaminated soils.
 - k. Demineralization and oxygen scavenging of water for boilers.
 - L. Purging of natural gas lines.
4. The owner or operator of a facility with emissions exceeding the reporting thresholds in this section shall include all emission units, operations, or activities in the annual emissions inventory. The owner or operator of a facility may exclude emissions information required under s. NR 438.04 (3) (d) for any emissions unit, operation, or activity that meets the criteria under s. NR 407.05 (4) (c) 9. a. If the department determines that an emission unit, operation, or activity does not meet the criteria under s. NR 407.05 (4) (c) 9. a., the owner or operator shall include the emissions in the annual emissions inventory.

SECTION 12. NR 438.03 (1) (b), Table 1, (c), (d), (2), (3), (4) and (5) (title) and (a) are amended to read [Note to LRB: Please move Table 1 to end of chapter]:

NR 438.03 (1) (b) When preparing an ~~emission~~emissions inventory~~report~~, the owner or operator of a facility may rely on information in an approved ~~material~~-safety data sheet. Trace contaminants need not be reported if they constitute less than 1% percent (10,000 parts per million) of the material, or 0.1% percent (1,000 parts per million) of the material if the air contaminant is listed with a control requirement ~~in~~under column (i) of Table A, B or C ~~or~~of s. NR 445.07, unless a hazardous air contaminant is formed in processing the material.

**Table 1
Reporting Levels for Calendar Years 2004 and Later**

Air Contaminant Name	CAS Number ¹	Reporting Level (lbs/yr)
Acetaldehyde.....	75-07-0	404
Acetamide.....	60-35-5	6,000

Acetic acid	64-19-7	5,774
Acetic anhydride.....	108-24-7	4,912
Acetone.....	67-64-1	100,000
Acetonitrile.....	75-05-8	6,000
Acetophenone.....	98-86-2	6,000
2-Acetylaminofluorene.....	53-96-3	6,000
Acrolein	107-02-8	75
Acrylamide	79-06-1	0.683
Acrylic acid	79-10-7	88.8
Acrylonitrile	107-13-1	13.1
Adipic acid	124-04-9	1,176
Adiponitrile	111-69-3	2,080
Adriamycin.....	23214-92-8	1.22
Aflatoxins	1402-68-2	1.22
Aldrin.....	309-00-2	58.8
Allyl alcohol.....	107-18-6	279
Allyl chloride.....	107-05-1	736
Allyl glycidyl ether.....	106-92-3	1,098
Aluminum alkyls and soluble salts, as Al.....	7429-90-5 ²	471
Aluminum pyro powders, as Al.....	7429-90-5 ²	1,176
o-Aminoazotoluene (2-Aminoazotoluene).....	97-56-3	0.808
4-Aminobiphenyl.....	92-67-1	0.148
Amitrole.....	61-82-5	3.29
³ Ammonia.....	7664-41-7	4,097
Ammonium perfluorooctanoate	3825-26-1	2.35
Aniline	62-53-3	1,792
o-Anisidine and o-anisidine hydrochloride (mixtures and isomers)	29191-52-4 ²	22.2
Antimony & compounds, as Sb.....	7440-36-0 ²	118
Antimony trioxide	1309-64-4	17.8

ANTU.....	86-88-4	70.6
Arsenic, elemental and inorganic compounds, as As.....	7440-38-2 ²	0.207
³ Arsine.....	7784-42-1	4.44
Asbestos, all forms	1332-21-4 ²	1.22
Atrazine.....	1912-24-9	1,176
Azathioprine.....	446-86-6	1.74
Azinphos-methyl.....	86-50-0	47.1
Barium, soluble compounds, as Ba	7440-39-3 ²	118
Benomyl.....	17804-35-2	2,353
Benz(a)anthracene	56-55-3	8.08
Benzene	71-43-2	114
Benzidine.....	92-87-5	0.0133
Benzo(a)phenanthrene (Chrysene).....	218-01-9	12
Benzo(j,k)fluorene.....	206-44-0	12
Benzo(b)fluoranthene.....	205-99-2	1.22
Benzo(j)phenanthrene	205-82-3	1.22
Benzo(k)fluoranthene.....	207-08-9	1.22
Benzo(a)pyrene	50-32-8	0.808
Benzotrichloride	98-07-7	1.22
Benzoyl chloride.....	98-88-4	940
Benzoyl peroxide.....	94-36-0	1,176
Benzyl acetate.....	140-11-4	6,000
Benzyl chloride.....	100-44-7	1,218
Beryllium and beryllium compounds, as Be	7440-41-7 ²	0.37
Biphenyl.....	92-52-4	297
Bis(chloroethyl) nitrosourea	154-93-8	1.22
N,N-Bis (2-chloroethyl)-2-naphthylamine (Chlornaphazine).....	494-03-1	1.22
Bis(chloromethyl) ether (BCME) and technical grade.....	542-88-1	1.22
Bis(2-dimethylaminoethyl) ether (DMAEE).....	3033-62-3	77.1

Bismuth telluride, as BI ₂ Te ₃ : Se-doped	1304-82-1	1,176
Borates, tetra, sodium salts, decahydrate	1303-96-4 ²	1,176
Borates, tetra, sodium salts, pentahydrate	1303-96-4 ²	235
Boron tribromide	10294-33-4	3,352
³ Boron trifluoride	7637-07-2	907
Bromacil	314-40-9	2,353
³ Bromine	7726-95-6	154
³ Bromine pentafluoride	7789-30-2	168
Bromodichloromethane	75-27-4	24
Bromoform	75-25-2	1,216
1,3-Butadiene	106-99-0	3.17
sec-Butanol	78-92-2	100,000
tert-Butanol	75-65-0	100,000
⁴ 2-Butoxyethanol (Ethylene glycol monobutyl ether; EGBE; Butyl cellosolve)	111-76-2	6,000
n-Butyl alcohol (n-Butanol)	71-36-3	6,000
n-Butyl acetate	123-86-4	100,000
t-Butyl acetate	540-88-5	see footnote 7
n-Butyl acrylate	141-32-2	2,467
n-Butylamine	109-73-9	4,892
Butylated hydroxy anisole (BHA)	25013-16-5	6,000
tert-Butyl chromate, as Cr	1189-85-1	0.074
n-Butyl glycidyl ether (BGE)	2426-08-6	6,000
n-Butyl lactate	138-22-7	6,000
o-sec-Butylphenol	89-72-5	6,000
p-tert-Butyltoluene	98-51-1	1,426
C.I. Basic Red 9 monohydrochloride	569-61-9	12.5
Cadmium and cadmium compounds, as Cd	7440-43-9 ²	0.494
Calcium cyanamide	156-62-7	118
Calcium hydroxide	1305-62-0	1,176
Calcium oxide	1305-78-8	471

Camphor (synthetic).....	76-22-2	2,930
Caprolactam (aerosol and vapor).....	105-60-2	5,444
Captafol.....	2425-06-1	23.5
Captan.....	133-06-2	1,176
Carbaryl.....	63-25-2	1,176
Carbofuran.....	1563-66-2	23.5
Carbon dioxide	124-38-9	100,000 tons
Carbon monoxide	630-08-0	10,000
Carbon black.....	1333-86-4	823
Carbon disulfide	75-15-0	6,000
Carbon tetrabromide.....	558-13-4	319
Carbon tetrachloride	56-23-5	59.2
Carbonyl fluoride	353-50-4	1,270
Carbonyl sulfide	463-58-1	6,000
Catechol (Pyrocatechol)	120-80-9	5,298
Refractory Ceramic Fibers (respirable size).....	2	1.22
Cesium hydroxide.....	21351-79-1	471
Chloramben	133-90-4	6,000
Chlorambucil	305-03-3	0.00683
Chlordane	57-74-9	118
Chlorendic acid	115-28-6	34.2
Chlorinated camphene (Toxaphene)	8001-35-2	2.78
Chlorinated diphenyl oxide	55720-99-5	118
Chlorinated paraffins (C12; 60% chlorine)	108171-26-2	35.5
³ Chlorine.....	7782-50-5	341
³ Chlorine dioxide.....	10049-04-4	64.9
³ Chlorine trifluoride	7790-91-2	124
Chloroacetic acid	79-11-8	6,000
2-Chloroacetophenone.....	532-27-4	74.4

Chlorobenzene (Monochlorobenzene)	108-90-7	6,000
Chlorobenzilate	510-15-6	6,000
o- Chlorobenzylidene malononitrile.....	2698-41-1	126
Chlorobromomethane	74-97-5	100,000
³ 1-Chloro-1, 1-difluoroethane (Hydrochlorofluorocarbon-142b; HCFC-142b; R-142b) ...	75-68-3	6,000
³ Chlorodifluoromethane (Hydrochlorofluorocarbon-22; HCFC-22; R-22)	75-45-6	6,000
1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU).....	13010-47-4	1.22
³ Chlorofluorocarbon-11 (CFC-11; R-11; Trichlorofluoromethane)	75-69-4	6,000
³ Chlorofluorocarbon-111 (CFC-111)	954-56-3	6,000
³ Chlorofluorocarbon-112 (CFC-112)	76-12-0	6,000
³ Chlorofluorocarbon-113 (CFC-113; R-113; Trichlorotrifluoroethane)	76-13-1	6,000
³ Chlorofluorocarbon-114 (CFC-114; R-114; Dichlorotetrafluoroethane)	76-14-2	6,000
³ Chlorofluorocarbon-115 (CFC-115; R-115; Monochloropentafluoroethane).....	76-15-3	6,000
³ Chlorofluorocarbon-12 (CFC-12; R-12; Dichlorodifluoromethane)	75-71-8	6,000
³ Chlorofluorocarbon-13 (CFC-13; R-13; Chlorotrifluoromethane).....	75-72-9	6,000
³ Chlorofluorocarbon-211 (CFC-211; R-211)	422-78-6	6,000
³ Chlorofluorocarbon-212 (CFC-212; R-212)	3182-26-1	6,000
³ Chlorofluorocarbon-213 (CFC-213; R-213)	165-97-7	6,000
³ Chlorofluorocarbon-214 (CFC-214; R-214)	29255-31-0	6,000
³ Chlorofluorocarbon-215 (CFC-215; R-215)	4259-43-2	6,000
³ Chlorofluorocarbon-216 (CFC-216; R-216)	661-97-2	6,000
³ Chlorofluorocarbon-217 (CFC-217; R-217)	422-86-6	6,000
Chloroform	67-66-3	38.6
Chloromethyl methyl ether (CMME).....	107-30-2	1.22
1-Chloro-1-nitropropane	600-25-9	2,378
Chloropicrin (Trichloronitromethane).....	76-06-2	158
β-Chloroprene	126-99-8	1.22
o-Chlorostyrene.....	2039-87-4	6,000
o-Chlorotoluene.....	95-49-8	6,000

Chlorpyrifos.....	2921-88-2	47.1
Chromium (metal) and compounds other than chromium (VI) ...	7440-47-3 ²	118
Chromium (VI): Chromic acid mists and dissolved Cr (VI) aerosols, as Cr	7440-47-3 ²	0.074
Chromium (VI) compounds and particulates	7440-47-3 ²	0.074
Chromyl chloride, as Cr	14977-61-8	0.074
Cobalt, elemental, and inorganic compounds, as Co	7440-48-4 ²	4.71
³ Coke oven emissions.....	2	1.43
Copper and compounds, fume, as Cu.....	7440-50-8 ²	47.1
Copper and compounds, dust & mists, as Cu.....	7440-50-8 ²	235
p-Cresidine	120-71-8	20.7
Cresol (mixtures and isomers).....	1319-77-3 ²	5,203
Crotonaldehyde	4170-30-3 ²	281
Crufomate.....	299-86-5	1,176
Cumene (Isopropyl benzene).....	98-82-8	6,000
Cyanamide.....	420-04-2	471
Cyanides, (inorganics), as CN.....	143-33-9 ²	1,635
Cyanogen.....	460-19-5	5,008
Cyanogen chloride.....	506-77-4	247
Cyclohexanol.....	108-93-0	6,000
Cyclohexanone	108-94-1	6,000
Cyclohexylamine.....	108-91-8	6,000
Cyclonite	121-82-4	118
Cyclopentadiene	542-92-7	6,000
Cyclophosphamide	50-18-0	5.23
Cyhexatin.....	13121-70-5	1,176
2,4-D, salts and esters.....	94-75-7	6,000
Dacarbazine	4342-03-4	0.0635
DDE.....	72-55-9	6,000
Demeton	8065-48-3	24.9

Diacetone alcohol	123-42-2	6,000
2,4-Diaminoanisol sulfate	39156-41-7	240
2,4-Diaminotoluene (Toluene-2,4-diamine)	95-80-7 ²	0.808
Diazinon	333-41-5	23.5
Diazomethane	334-88-3	80.9
Dibenz(a,h)acridine	226-36-8	8.08
Dibenz(a,j)acridine	224-42-0	8.08
Dibenz(a,h)anthracene	53-70-3	0.74
7H-Dibenzo(c,g)carbazole	194-59-2	0.808
Dibenzofurans	132-64-9 ²	6,000
Dibenzo(a,e)pyrene	192-65-4	0.808
Dibenzo(a,h)pyrene	189-64-0	0.0808
Dibenzo(a,i)pyrene	189-55-9	0.0808
Dibenzo(a,l)pyrene	191-30-0	0.0808
³ Diborane	19287-45-7	26.6
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.468
1,2-Dibromoethane (Ethylene Dibromide; EDB)	106-93-4	4.04
2-N-Dibutylaminoethanol	102-81-8	834
Dibutylphenyl phosphate	2528-36-1	826
Dibutyl phthalate (Di-n-butyl phthalate)	84-74-2	1,176
o-Dichlorobenzene (1,2-Dichlorobenzene)	95-50-1	6,000
p-Dichlorobenzene (1,4-Dichlorobenzene)	106-46-7	80.8
3,3'-Dichlorobenzidine	91-94-1	2.61
1,3-Dichloro-5,5-dimethyl hydantoin	118-52-5	47.1
Dichlorodiphenyltrichloroethane (DDT)	50-29-3	9.16
1,1-Dichloroethane (Ethylidene dichloride)	75-34-3	6,000
1,2-Dichloroethane (Ethylene dichloride; EDC)	107-06-2	34.2
Dichloroethyl ether (Bis(2-chloroethyl)ether)	111-44-4	6,000
1,2-Dichloroethylene	540-59-0	6,000

1,1-Dichloro-1-nitroethane.....	594-72-9	2,771
1,3-Dichloropropene.....	542-75-6	222
2,2-Dichloropropionic acid	75-99-0	1,176
Dichlorvos	62-73-7	44.4
Dicrotophos	141-66-2	58.8
Dicyclopentadiene.....	77-73-6	6,000
Dieldrin.....	60-57-1	58.8
Diethanolamine	111-42-2	471
Diethylamine	109-89-7	3,519
2-Diethylaminoethanol.....	100-37-8	2,255
Diethylene triamine	111-40-0	993
Diethyl hexyl phthalate (Bis(2-ethyl hexyl) phthalate; Di-sec-octyl phthalate; DEHP).....	117-81-7	1,176
Diethyl phthalate	84-66-2	1,176
Diethylstilbestrol (DES).....	56-53-1	0.00888
Diethyl sulfate.....	64-67-5	1.22
Diethyl ketone.....	96-22-0	100,000
1,1-Difluoroethane	75-37-6	6,000
Diglycidyl ether (DGE).....	2238-07-5	125
Diglycidyl resorcinol ether.....	101-90-6	1.81
1,8-Dihydroxyanthroquinone (Danthron).....	117-10-2	40.4
Diisobutyl ketone	108-83-8	6,000
Diisopropylamine	108-18-9	4,869
N,N-Dimethyl acetamide.....	127-19-5	6,000
Dimethylamine	124-40-3	2,169
4-Dimethylaminoazobenzene.....	60-11-7	0.683
Dimethylaniline (N,N-Dimethylaniline)	121-69-7	5,830
3,3'-Dimethylbenzidine (o-Tolidine)	119-93-7	1.22
Dimethyl carbamoyl chloride	79-44-7	0.24
Dimethylthoxy silane.....	14857-34-2	501

N,N-Dimethylformamide	68-12-2	2,665
1,1-Dimethylhydrazine.....	57-14-7	1.22
Dimethylphthalate.....	131-11-3	1,176
Dimethyl sulfate.....	77-78-1	1.22
Dinitolmide.....	148-01-6	1,176
Dinitrobenzene (mixtures and isomers)	528-29-0 ²	243
Dinitro-o-cresol (4,6-Dinitro-o-cresol)	534-52-1	47.1
2,4-Dinitrophenol.....	51-28-5	6,000
Dinitrotoluene (mixtures and isomers).....	25321-14-6 ²	47.1
n-Dioctylphthalate.....	117-84-0	6,000
1,4-Dioxane (1,4-Diethylene oxide).....	123-91-1	115
Dioxathion	78-34-2	47.1
Diquat, respirable dust (various compounds) (Diquat dibromide).....	2764-72-9 ²	23.5
Diquat, total dust (various compounds) (Diquat dibromide)	2764-72-9 ²	118
Direct black 38 (Benzidine-based dye)	1937-37-7	0.423
Direct blue 6 (Benzidine-based dye).....	2602-46-2	0.423
Disperse Blue 1	2475-45-8	683
Disulfiram.....	97-77-8	471
Disulfoton.....	298-04-4	23.5
Divinyl benzene (mixtures and isomers).....	1321-74-0 ²	6,000
Endosulfan.....	115-29-7	23.5
Endrin	72-20-8	23.5
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106-89-8	88.8
EPN	2104-64-5	23.5
1,2-Epoxybutane (1,2-Butylene oxide)	106-88-7	1,777
Ethanolamine.....	141-43-5	1,763
Ethion	563-12-2	94.1
⁴ 2-Ethoxyethanol (Ethylene glycol monoethyl ether; EGEE; Cellosolve)	110-80-5	4,336
⁴ 2-Ethoxyethyl acetate (Ethylene glycol monoethyl ether acetate; EGEEA; Cellosolve acetate)	111-15-9	6,000

Ethyl acetate.....	141-78-6	100,000
Ethyl acrylate.....	140-88-5	4,817
Ethylamine (Ethanamine).....	75-04-7	2,169
Ethyl amyl ketone.....	541-85-5	6,000
Ethyl benzene.....	100-41-4	6,000
Ethyl bromide.....	74-96-4	5,243
Ethyl tert-butyl ether (ETBE).....	637-92-3	4,916
Ethyl butyl ketone	106-35-4	6,000
Ethyl chloride (Chloroethane)	75-00-3	6,000
Ethyl cyanoacrylate.....	7085-85-0	241
Ethylene chlorohydrin.....	107-07-3	1,077
Ethylenediamine	107-15-3	5,783
Ethylene glycol vapor and aerosol	107-21-1	6,000
Ethylene oxide	75-21-8	10.1
Ethylene thiourea.....	96-45-7	68.3
Ethylenimine (Aziridine).....	151-56-4	207
Ethylidene norbornene	16219-75-3	6,000
N-Ethylmorpholine.....	100-74-3	5,542
Ethyl silicate.....	78-10-4	6,000
Fenamiphos	22224-92-6	23.5
Fensulfothion.....	115-90-2	23.5
Fenthion.....	55-38-9	47.1
Fine mineral fibers (includes 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).....	2	6,000
Flour dust (inhalable fraction).....	2	118
Fluorides, (inorganics), as F.....	2	588
³ Fluorine	7782-41-4	366
Fonofos.....	944-22-9	23.5
Formaldehyde.....	50-00-0	68.3

Formamide.....	75-12-7	4,334
Formic acid.....	64-18-6	2,214
Furan.....	110-00-9	1.22
Furfural.....	98-01-1	1,849
Furfuryl alcohol.....	98-00-0	6,000
³ Germanium tetrahydride.....	7782-65-2	147
Glutaraldehyde.....	111-30-8	67
Glycidol.....	556-52-5	1.22
⁵ Glycol ethers.....	2	6,000
Graphite (all forms except graphite fiber).....	7782-42-5	471
³ Halon-1211 (Bromochlorodifluoromethane).....	353-59-3	6,000
³ Halon-1301 (Bromotrifluoromethane).....	75-63-8	6,000
³ Halon-2402 (Dibromotetrafluoroethane).....	124-73-2	6,000
Heptachlor and heptachlor epoxide.....	76-44-8	11.8
Hexachlorobenzene (HCB).....	118-74-1	0.471
Hexachlorobutadiene.....	87-68-3	50.2
Hexachlorocyclopentadiene.....	77-47-4	26.2
Hexachloroethane.....	67-72-1	222
Hexachloronaphthalene.....	1335-87-1	47.1
Hexamethyl phosphoramide.....	680-31-9	1.22
Hexamethylene-1,6-diisocyanate (HDI).....	822-06-0	0.888
n-Hexane.....	110-54-3	6,000
1,6- Hexanediamine.....	124-09-4	559
1-Hexene.....	592-41-6	6,000
sec-Hexyl acetate.....	108-84-9	6,000
Hexylene glycol.....	107-41-5	6,000
Hydrazine and hydrazine sulfate.....	302-01-2 ²	0.181
³ Hydrochlorofluorocarbon-121 (HCFC-121).....	2	6,000
³ Hydrochlorofluorocarbon-122 (HCFC-122).....	2	6,000

³ Hydrochlorofluorocarbon-123 (HCFC-123, R-123).....	306-83-2 ²	6,000
³ Hydrochlorofluorocarbon-124 (HCFC-124, R-124).....	63938-10-3 ²	6,000
³ Hydrochlorofluorocarbon-131 (HCFC-131).....	2	6,000
³ Hydrochlorofluorocarbon-132b (HCFC-132b).....	1649-08-7	6,000
³ Hydrochlorofluorocarbon-133a (HCFC-133a)	75-88-7	6,000
³ Hydrochlorofluorocarbon-141b (HCFC-141b, R-141b).....	1717-00-6	6,000
³ Hydrochlorofluorocarbon-21 (HCFC-21, Dichlorofluoromethane)	75-43-4	6,000
³ Hydrochlorofluorocarbon-221 (HCFC-221).....	2	6,000
³ Hydrochlorofluorocarbon-222 (HCFC-222).....	2	6,000
³ Hydrochlorofluorocarbon-223 (HCFC-223).....	2	6,000
³ Hydrochlorofluorocarbon-224 (HCFC-224).....	2	6,000
³ Hydrochlorofluorocarbon-225 ca (HCFC-225ca).....	422-56-0	6,000
³ Hydrochlorofluorocarbon-225 cb (HCFC-225cb)	507-55-1	6,000
³ Hydrochlorofluorocarbon-226 (HCFC-226).....	2	6,000
³ Hydrochlorofluorocarbon-231 (HCFC-231).....	2	6,000
³ Hydrochlorofluorocarbon-232 (HCFC-232).....	2	6,000
³ Hydrochlorofluorocarbon-233 (HCFC-233).....	2	6,000
³ Hydrochlorofluorocarbon-234 (HCFC-234).....	2	6,000
³ Hydrochlorofluorocarbon-235 (HCFC-235).....	2	6,000
³ Hydrochlorofluorocarbon-241 (HCFC-241).....	2	6,000
³ Hydrochlorofluorocarbon-242 (HCFC-242).....	2	6,000
³ Hydrochlorofluorocarbon-243 (HCFC-243).....	2	6,000
³ Hydrochlorofluorocarbon-244 (HCFC-244).....	2	6,000
³ Hydrochlorofluorocarbon-251 (HCFC-251).....	2	6,000
³ Hydrochlorofluorocarbon-252 (HCFC-252).....	2	6,000
³ Hydrochlorofluorocarbon-253 (HCFC-253).....	2	6,000
³ Hydrochlorofluorocarbon-261 (HCFC-261).....	2	6,000
³ Hydrochlorofluorocarbon-262 (HCFC-262).....	2	6,000
³ Hydrochlorofluorocarbon-271 (HCFC-271).....	2	6,000

³ Hydrochlorofluorocarbon-31 (HCFC-31; R-31; Chlorofluoromethane)	593-70-4	6,000
Hydrogenated terphenyls.....	61788-32-7	1,160
³ Hydrogen bromide	10035-10-6	3,247
³ Hydrogen chloride (Hydrochloric acid; Muriatic acid)	7647-01-0	1,777
³ Hydrogen cyanide	74-90-8	1,699
³ Hydrogen fluoride (Hydrofluoric acid).....	7664-39-3	803
³ Hydrogen peroxide.....	7722-84-1	327
³ Hydrogen sulfide.....	7783-06-4	3,279
Hydroquinone.....	123-31-9	471
2-Hydroxypropyl acrylate.....	999-61-1	626
Indeno(1,2,3-cd)pyrene.....	193-39-5	8.08
Indium	7440-74-6	23.5
³ Iodine	7553-56-2	340
Iron dextran complex.....	9004-66-4	1.22
Iron oxide dust and fume, as Fe	1309-37-1	1,176
Iron salts, soluble, as Fe	2	235
Isobutyl acetate.....	110-19-0	100,000
Isobutyl alcohol	78-83-1	6,000
Isooctyl alcohol	26952-21-6	6,000
Isophorone.....	78-59-1	6,000
Isophorone diisocyanate.....	4098-71-9	10.7
Isoprene.....	78-79-5	1.22
⁴ 2-Isopropoxy ethanol	109-59-1	6,000
Isopropyl amine.....	75-31-0	2,843
Isopropyl glycidyl ether.....	4016-14-2	6,000
N-Isopropylaniline.....	768-52-5	2,602
Kaolin	1332-58-7	471
Kepone (Chlordecone)	143-50-0	0.193
Ketene.....	463-51-4	202

Lead Acetate, as Pb	301-04-2	11.1
Lead compounds.....	7439-92-1 ²	400
Lead Phosphate, as Pb.....	7446-27-7	74
Lindane and other hexachlorocyclohexane isomers	58-89-9 ²	2.87
Maleic anhydride.....	108-31-6	94.4
Manganese, dust and inorganic compounds, as Mn.....	7439-96-5 ²	47.1
Melphalan	148-82-3	0.024
³ Mercury, as Hg, alkyl compounds	7439-97-6 ²	2.35
³ Mercury, as Hg, aryl compounds.....	7439-97-6 ²	23.5
³ Mercury, as Hg, inorganic forms including metallic mercury, ..	7439-97-6 ²	5.88
Mesityl oxide	141-79-7	6,000
Mestranol.....	72-33-3	1.22
Methacrylic acid	79-41-4	6,000
Methanol.....	67-56-1	6,000
Methomyl.....	16752-77-5	588
Methoxychlor	72-43-5	6,000
⁴ 2-Methoxyethanol (Methyl Cellosolve; EGME)	109-86-4	3,661
⁴ 2-Methoxyethyl acetate (Methyl Cellosolve acetate; EGMEA)..	110-49-6	5,684
4-Methoxyphenol	150-76-5	1,176
³ Methyl chloroform (1,1,1-Trichloroethane; TCA)	71-55-6	6,000
Methyl ethyl ketone (2-Butanone; MEK).....	78-93-3	6,000
Methyl acetate	79-20-9	100,000
Methyl acetylene	74-99-7	100,000
Methyl acrylate.....	96-33-3	1,657
Methylacrylonitrile.....	126-98-7	646
Methylamine.....	74-89-5	1,494
Methyl n-aryl ketone	110-43-0	6,000
N-Methyl aniline	100-61-8	516
Methyl bromide (Bromomethane).....	74-83-9	444

Methyl n-butyl ketone.....	591-78-6	4,819
Methyl chloride (Chloromethane)	74-87-3	6,000
5-Methyl chrysene.....	3697-24-3	0.808
Methyl 2-cyanoacrylate.....	137-05-3	214
Methylcyclohexanol	25639-42-3	6,000
o-Methylcyclohexanone	583-60-8	6,000
Methyl demeton.....	8022-00-2	118
Methylene bisphenyl isocyanate (Methylene diphenyl isocyanate; MDI).....	101-68-8	12
³ Methylene chloride (Dichloromethane)	75-09-2	1,890
4,4'-Methylene bis(2-chloroaniline) (MOCA).....	101-14-4	2.07
Methylene bis(4-cyclohexylisocyanate).....	5124-30-1	12.6
4,4'-Methylenedianiline (and dihydrochloride)	101-77-9 ²	1.93
Methyl ethyl ketone peroxide.....	1338-23-4	472
Methyl formate.....	107-31-3	6,000
Methyl hydrazine.....	60-34-4	4.43
Methyl iodide (Iodomethane)	74-88-4	2,732
Methyl isoamyl ketone.....	110-12-3	6,000
Methyl isobutyl carbinol	108-11-2	6,000
Methyl isobutyl ketone (MIBK; Hexone)	108-10-1	6,000
Methyl isocyanate.....	624-83-9	11
Methyl methacrylate.....	80-62-6	6,000
N-Methyl-N'-nitro-N-nitrosoguanidine (MNNG).....	70-25-7	0.37
Methyl parathion.....	298-00-0	47.1
α-Methyl styrene.....	98-83-9	6,000
Methyl tert-butyl ether (MTBE).....	1634-04-4	6,000
Methribuzin.....	21087-64-9	1,176
Mevinphos (Phosdrin).....	7786-34-7	21.2
Mirex.....	2385-85-5	0.174
Molybdenum, as Mo, metal and insoluble compounds.....	7439-98-7 ²	2,353

Molybdenum, as Mo, soluble compounds.....	7439-98-7 ²	1,176
Monocrotophos.....	6923-22-4	58.8
Morpholine.....	110-91-8	6,000
Mustard gas	505-60-2	1.22
Myleran (1,4-Butanediol dimethanesulphonate; Busulphan).....	55-98-1	1.22
Naled	300-76-5	706
Naphtthalene.....	91-20-3	6,000
2-Naphtthy lamine	91-59-8	1.22
Nickel and compounds, as Ni.....	7440-02-0 ²	3.42
Nickel carbonyl, as Ni.....	13463-39-3	3.42
Nickel subsulfide, as Ni.....	12035-72-2	1.85
Nitric acid	7697-37-2	1,213
Nitrilotriacetic acid.....	139-13-9	592
p-Nitroaniline	100-01-6	706
Nitrobenzene	98-95-3	1,185
4-Nitrobiphenyl.....	92-93-3	6,000
p-Nitrochlorobenzene.....	100-00-5	152
Nitroethane.....	79-24-3	6,000
Nitrogen mustards (2,2'-Dichloro-N-methyldiethylamine)	51-75-2	1.22
³ Nitrogen oxides	2	10,000
Nitromethane.....	75-52-5	6,000
4-Nitrophenol	100-02-7	6,000
1-Nitropropane	108-03-2	6,000
2-Nitropropane	79-46-9	1.22
1-Nitropyrene	5522-43-0	8.08
N-Nitrosodi-n-butylamine	924-16-3	0.555
N-Nitrosodiethanolamine	1116-54-7	1.11
N-Nitrosodiethylamine.....	55-18-5	0.0207
N-Nitrosodimethylamine.....	62-75-9	0.0635

N-Nitrosodi-n-propylamine.....	621-64-7	0.444
N-Nitroso-N-ethyl urea.....	759-73-9	0.115
N-Nitroso-N-methyl urea.....	684-93-5	0.0261
N-Nitrosomethylvinylamine.....	4549-40-0	1.22
N-Nitrosomorpholine.....	59-89-2	0.468
N'-Nitrosornicotine.....	16543-55-8	1.22
N-Nitrosopiperidine.....	100-75-4	0.329
N-Nitrosopyrrolidine.....	930-55-2	1.46
N-Nitrososarcosine.....	13256-22-9	1.22
Nitrotoluene, mixtures and isomers.....	88-72-2 ²	2,639
Nitrous oxide.....	10024-97-2	6,000
Octachloronaphthalene.....	2234-13-1	23.5
Octachlorostyrene.....	29082-74-4	10
Octane (all isomers).....	111-65-9 ²	100,000
Oestradiol (Estradiol).....	50-28-2	0.0808
Oxalic acid.....	144-62-7	235
p,p'-Oxybis (benzenesulfonyl hydrazide).....	80-51-3	23.5
Paraquat (respirable sizes) (Paraquat chloride).....	1910-42-5 ²	23.5
Parathion.....	56-38-2	23.5
³ Particulate matter.....	²	10,000
Pentachlorobenzene.....	608-93-5	10
Pentachloronaphthalene.....	1321-64-8	118
Pentachloronitrobenzene (Quintobenzene; PCNB).....	82-68-8	118
Pentachlorophenol (PCP).....	87-86-5	118
Pentane, all isomers.....	78-78-4* ²	100,000
Pentyl Acetate (mixtures and isomers).....	628-63-7 ²	6,000
³ Perchloroethylene (Tetrachloroethylene).....	127-18-4	151
Perchloromethyl mercaptan.....	594-42-3	179
Perfluoroisobutylene.....	382-21-8	26.7

Persulfates (Ammonium, Potassium, Sodium).....	7727-54-0 ²	23.5
Perylene.....	198-55-0	10
Phenazopyridine and phenazopyridine hydrochloride	136-40-3 ²	18.1
Phenol.....	108-95-2	4,528
Phenolphthalein.....	77-09-8	1.22
Phenothiazine	92-84-2	1,176
Phenylenediamine (mixtures and isomers).....	106-50-3	23.5
Phenyl ether vapor.....	101-84-8	1,638
Phenyl glycidyl ether (PGE).....	122-60-1	145
Phenyldrazine.....	100-63-0	104
Phenyl mercaptan.....	108-98-5	530
Phenytoin and sodium salt of phenytoin.....	57-41-0 ²	1.22
Phorate.....	298-02-2	11.8
Phosgene.....	75-44-5	95.2
³ Phosphine.....	7803-51-2	98.2
Phosphoric acid	7664-38-2	235
Phosphorus (yellow).....	7723-14-0	23.8
Phosphorus oxychloride	10025-87-3	148
³ Phosphorus pentachloride	10026-13-8	200
Phosphorus pentasulfide.....	1314-80-3	235
³ Phosphorus trichloride	7719-12-2	264
Phthalic anhydride.....	85-44-9	1,425
Picric acid	88-89-1	23.5
Pindone.....	83-26-1	23.5
Platinum (metal)	7440-06-4	235
Platinum, soluble salts, as Pt	7440-06-4 ²	0.471
<u>PM10.....</u>	<u>2</u>	<u>10,000</u>
Polybrominated biphenyls (PBBs; Bromodiphenyls).....	59536-65-1 ²	0.103
Polychlorinated biphenyls (PCBs; Chlorodiphenyls; Arochlor) ..	1336-36-3 ²	0.05

Polycyclic organic matter (POM).....	2	
Potassium hydroxide	1310-58-3	125
<u>³Primary particulate matter.....</u>	<u>2</u>	<u>654</u>
<u>Primary PM_{2.5}. Also report filterable and condensable components.</u>	<u>2</u>	<u>10,000</u>
<u>Primary PM₁₀. Also report filterable and condensable components.</u>	<u>2</u>	<u>10,000</u>
Procarbazine and procarbazine hydrochloride	366-70-1 ²	0.222
1,3-Propane sultone.....	1120-71-4	1.29
Propargyl alcohol	107-19-7	539
β-Propiolactone	57-57-8	0.222
Propionaldehyde.....	123-38-6	6,000
Propionic acid.....	79-09-4	6,000
Propoxur (Baygon).....	114-26-1	118
Propylene dichloride (1,2-Dichloropropane)	78-87-5	355
Propylene glycol monomethyl ether (PGME).....	07-98-2	6,000
Propylene oxide	75-56-9	240
Propylenimine (2-Methyl aziridine; Propylene imine)	75-55-8	1.22
Propylthiouracil	51-52-5	3.06
Pyrethrum.....	8003-34-7	1,176
Pyridine	110-86-1	3,373
Quinoline	91-22-5	6,000
Quinone	106-51-4	104
Resorcinol.....	108-46-3	6,000
Rhodium (metal) and insoluble compounds, as Rh.....	7440-16-6 ²	235
Rhodium, soluble compounds, as Rh.....	7440-16-6 ²	2.35
Rotenone (commercial)	83-79-4	1,176
Safrole	94-59-7	14.1
Selenium and compounds, as Se	7782-49-2 ²	47.1
³ Silicon tetrahydride (Silane)	7803-62-5	1,545
Sodium Azide, as sodium azide or hydrazoic acid vapor.....	26628-22-8	95.7

Sodium bisulfite	7631-90-5	1,176
Sodium fluoroacetate.....	62-74-8	11.8
Sodium hydroxide	1310-73-2	654
Sodium metabisulfite.....	7681-57-4	1,176
³ Stibine (Antimony hydride).....	7803-52-3	120
Stoddard solvent (Mineral spirits).....	8052-41-3	6,000
Streptozotocin.....	18883-66-4	0.0287
Strong inorganic acid mists containing sulfuric acid (>35% by weight)	7664-93-9 ²	1.22
Strychnine.....	57-24-9	35.3
Styrene oxide	96-09-3	6,000
Styrene, monomer	100-42-5	6,000
Sulfometuron methyl.....	74222-97-2	1,176
Sulfotep (TEDP).....	3689-24-5	47.1
³ Sulfur dioxide.....	7446-09-5	10,000
Sulfur monochloride.....	10025-67-9	1,806
³ Sulfur tetrafluoride.....	7783-60-0	145
Sulfuric acid	7664-93-9	235
³ Sulfuryl fluoride	2699-79-8	4,911
Sulprofos	35400-43-2	235
Talc, containing no asbestos fibers.....	14807-96-6	471
Tantalum, metal and oxide dusts, as Ta.....	7440-25-7	1,176
Tellurium and compounds, except hydrogen telluride, as Te	13494-80-9 ²	23.5
TEPP.....	107-49-3	11.8
Terphenyls.....	26140-60-3 ²	1,635
1,2,3,4-Tetrachlorobenzene.....	634-66-2	10
1,2,4,5-Tetrachlorobenzene.....	95-94-3	10
2,3,7,8-Tetrachlorodibenzo-p-dioxin (Dioxin; 2,3,7,8-TCDD), as dioxin equivalents.....	1746-01-6 ²	0.00005
1,1,2,2-Tetrachloroethane.....	79-34-5	1,615
Tetrachloronaphthalene.....	1335-88-2	471

1,1,1,2-Tetrafluoroethane.....	811-97-2	6,000
Tetrafluoroethylene.....	116-14-3	1.22
Tetrahydrofuran.....	109-99-9	6,000
Tetranitromethane.....	509-14-8	1.22
Thallium, elemental and soluble compounds, as Tl.....	7440-28-0 ²	23.5
³ Thionyl chloride.....	7719-09-7	1,592
Thiourea.....	62-56-6	42.3
Thiram.....	137-26-8	235
Tin organic compounds, as Sn.....	7440-31-5 ²	23.5
Tin, metal oxides and inorganic compounds, except tin hydride, as Sn.....	7440-31-5 ²	471
Titanium tetrachloride.....	7550-45-0	6,000
Toluene (Toluol).....	108-88-3	6,000
2,4-/2,6-Toluene diisocyanate (mixtures and isomers) (TDI).....	584-84-9 ²	6.22
m- and p-Toluidine.....	108-44-1	2,062
o-Toluidine and o-toluidine hydrochloride and mixed isomers ...	95-53-4 ²	17.4
³ Total reduced sulfur and reduced sulfur compounds.....	2	10,000
Tributyl phosphate.....	126-73-8	513
Tributyl tin.....	56-35-9	10
1,2,4-Trichlorobenzene.....	120-82-1	6,000
1,1,2-Trichloroethane.....	79-00-5	6,000
Trichloroethylene (Trichloroethene).....	79-01-6	444
Trichloronaphthalene.....	1321-65-9	1,176
2,4,5-Trichlorophenol.....	95-95-4	6,000
2,4,6-Trichlorophenol.....	88-06-2	287
1,2,3-Trichloropropane.....	96-18-4	1.22
Triethanolamine.....	102-71-6	1,176
Triethylamine.....	121-44-8	974
Trifluralin.....	1582-09-8	6,000
1,3,5-Triglycidyl-s-triazinetrione.....	2451-62-9	11.8

Trimellitic anhydride.....	552-30-7	13.1
Trimethyl benzene, (mixtures and isomers)	25551-13-7 ²	6,000
Trimethylamine	75-50-3	2,844
2,2,4-Trimethylpentane	540-84-1	6,000
2,4,6-Trinitrotoluene (TNT).....	118-96-7	23.5
Triorthocresyl phosphate.....	78-30-8	23.5
Triphenyl phosphate.....	115-86-6	706
Tris(1-aziridinyl)phosphine sulfide (Thiotepa).....	52-24-4	0.261
Tris(2,3-dibromopropyl phosphate)	126-72-7	1.35
Tungsten - metal and insoluble compounds, as W	7440-33-7 ²	1,176
Tungsten - soluble compounds, as W.....	7440-33-7 ²	235
Uranium (natural), soluble and insoluble compounds, as U	7440-61-1 ²	47.1
Urethane (Ethyl carbamate).....	51-79-6	3.06
n-Valeraldehyde	110-62-3	6,000
Vanadium pentoxide, as V ₂ O ₅ , respirable dust and fume	1314-62-1	11.8
Vinyl acetate.....	108-05-4	6,000
Vinyl bromide.....	593-60-2	515
Vinyl chloride.....	75-01-4	101
Vinyl cyclohexene dioxide (4-Vinyl-1-cyclohexene diepoxide) .	106-87-6	1.22
4-Vinyl cyclohexene.....	100-40-3	104
Vinyl fluoride	75-02-5	443
Vinylidene chloride (1,1-Dichloroethylene)	75-35-4	4,665
Vinylidene fluoride	75-38-7	100,000
Vinyl toluene	25013-15-4	6,000
^{3,6} Volatile organic compounds (Reactive organic gases)	2	6,000
Warfarin.....	81-81-2	23.5
Xylene (mixtures and isomers) (Xylol; Dimethyl Benzene).....	1330-20-7 ²	6,000
m-Xylene- α,α' -diamine	1477-55-0	32.7
Xylidine (mixtures and isomers)	1300-73-8 ²	583

Yttrium metal and compounds, as Y.....	7440-65-5 ²	235
Zeolites (Erionite).....	66733-21-9	1.22
Zirconium and compounds, as Zr.....	7440-67-7 ²	1,176

¹Chemical Abstract Service or CAS number refers to the unique chemical abstracts service registry number assigned to a specific chemical, isomer or mixture of chemicals or isomers and recorded in the CAS chemical registry system by the Chemical Abstracts Service, PO Box 3012, Columbus, OH 43210, phone 1-614-447-3600.

²Indicates contaminants for which multiple CAS numbers may apply. For contaminants listed as a metal and its compounds, the given CAS number refers to the metal.

³Indicates contaminants for which a fee will be assessed under s. NR 410.04. Emissions of all compounds listed in s. NR 400.02(162)(b) shall be included when determining fees for volatile organic compounds.

⁴Indicates compounds included in the glycol ethers group. In addition to being reported individually when a compound's emissions are above the reporting level, the emissions of these compounds are included in the glycol ethers emission total reported along with emissions of the many other such compounds not listed individually by name.

⁵Glycol ethers include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol, R-(OCH₂CH₂)_n-OR' where:

n=1, 2 or 3

R=alkyl C7 or less or

R=phenyl or alkyl substituted phenyl

R'=H or alkyl C7 or less or OR' consists of carboxylic acid ester, sulfate, phosphate, nitrate or sulfonate.

⁶Organic compounds that are not VOC and should not be considered or included here are specified in s. NR 400.02 (162) (a). Emissions of organic compounds specified in s. NR 400.02 (162) (b) shall be considered to determine if the reporting level for VOC is exceeded. Emissions of these compounds, however, shall be reported separately as the individual compound if the reporting level for VOC is exceeded.

⁷Any amount of emissions of this compound shall be reported if the reporting level for VOC emissions is exceeded. See footnote 6 for how to determine if the reporting level for VOC emissions is exceeded.

(c) Notwithstanding par. (a), the department may require any facility to submit an ~~emission~~ emissions inventory report of its annual, actual and maximum theoretical air contaminant emissions.

(d) Any facility that ~~has~~ generates or holds emission reduction credits shall report the credits separately as ~~actual emissions on the annual emission inventory report~~ to the annual emissions inventory.

(2) REPORTING DEADLINE. ~~Reports~~ Emissions inventories required under this section shall be submitted by March 1 of each year for air contaminants emitted during the preceding year. ~~Persons unable to submit reports by March 1 may, upon request to the department, be granted an extension until March 15 for submission of the reports if the department determines that an extension is reasonable under the circumstances.~~ Through March 1, persons may be granted a 2-week submittal extension ending on March 15, when requested by email, mail, or other manner prescribed, provided the extension is considered reasonable under the circumstances by the department.

(3) PORTABLE SOURCES. The owner or operator of a portable source shall file ~~one emission an~~ emissions inventory report covering all operations at all locations in the state during the previous year.

(4) REQUIRED RECORDS. ~~Owners and operators~~ An owner or operator of facilities a facility required to file ~~emission inventory reports~~ emissions inventories shall keep accurate and reliable records sufficient to enable verification of the ~~reports~~ emissions inventories by the department. Records shall include data

on fuel composition and consumption, composition and quantities of raw materials handled ~~which that~~ contribute to emissions, composition and quantities of wastes incinerated, continuous emissions monitoring data and audits, and any results of stack or performance tests together with the names of persons or firms responsible for each test, if applicable. Records shall be retained for 5 years following the year in which the ~~emission~~-emissions inventory ~~report~~ is submitted.

(5) ~~EMISSION~~-EMISSIONS INVENTORY AND CERTIFICATION. (a) Based on the throughput or emissions information submitted ~~pursuant to ss. NR 438.03~~ under this section and s. NR 438.04, the department shall determine each facility's annual actual emissions and typical ozone season day emissions based on emission factors contained in Compilation of Air Pollutant Emission Factors, AP-42, Volume 1: Stationary Point and Area Sources, USEPA-OAQPS, ~~January 1995~~, as incorporated by reference ~~in~~ under s. NR 484.05 (8), or in the ~~FIRE~~ database, USEPA-OAQPS, ~~incorporated by reference in~~ s. NR 484.06 (4) (a) EPA's online database of emissions factors for criteria and hazardous air pollutants. Other emission factors or methods, including, ~~but not limited to~~, mass balance or other use reporting, consumption and analytical methodologies, or continuous emissions monitoring data, if applicable, may be used by the department.

SECTION 13. NR 438.03 (5) (a) (Note) is created to read:

NR 438.03 (5) (a) Note: The EPA's WebFIRE database of emissions factors for criteria and hazardous air pollutants is available at <https://cfpub.epa.gov/webfire/>.

SECTION 14. NR 438.03 (5) (b), (c), and (6) are amended to read:

NR 438.03 (5) (b) The actual annual emissions determined by the department under par. (a) shall constitute the department's annual ~~emission~~-emissions inventory.

(c) By May 31 of each year, the department shall send each owner or operator of a facility ~~which that~~ is required to file an ~~emission inventory report~~ a summary from the department's annual emissions inventory a notification that an emissions inventory summary report of the air contaminants emitted by the facility for the previous year has been created by the department. The owner or operator of a facility required to obtain an air pollution control permit under s. 285.60, Stats., and ch. NR 405, 406, 407, or 408, or ~~which that~~ emits volatile organic compounds or nitrogen oxides in an ozone nonattainment area, shall, by June 30 of each year, send a written certification to the department that ~~the summary~~ of its emissions inventory summary report is correct. The certification shall contain the name, title, signature and telephone number of the ~~certifier~~-responsible official, the date of certification,

and a statement that the information contained in the emissions inventory summary report is accurate to the best knowledge of the owner or operator of that facility.

(6) DISPUTED EMISSIONS. Any facility that disputes the emissions inventory summary report ~~supplied report created~~ by the department under sub. (5) (c) may request, in writing, that the department review its emissions inventory summary report. The department shall review and supply to the facility, within 14 calendar days of receipt of the facility's written request, information used to prepare the ~~emission~~ emissions inventory and summary report for that facility. If the facility continues to dispute the emissions inventory summary report, it shall supply to the department, within 14 calendar days of receipt of the department's information, the reasons it disputes the ~~summary report~~. The facility shall be notified within 7 calendar days of receipt of this information of the department's decision on whether to adjust the ~~emission~~ emissions inventory and summary ~~recreate the emissions inventory summary report~~. If the facility continues to dispute the emissions inventory summary report, it may appeal the department's final decision pursuant to state law. The responsible official for the facility shall certify any emissions not in dispute by June 30 of each year.

SECTION 15. NR 438.04 (1) is amended to read:

NR 438.04 Content of ~~emission inventory reports~~ emissions inventories. (1) GENERAL INSTRUCTIONS. ~~Emission inventory reports~~ Emissions inventories required under this chapter shall be submitted ~~on forms or other media supplied in~~ the manner prescribed by the department. ~~Emission inventory reports~~ Emissions inventories submitted by facilities shall contain the information specified ~~in~~ under s. NR 438.03 (1) and (3) and this section. Emissions shall be reported separately for each ~~source~~ process or group of similar ~~sources~~ processes at each facility.

SECTION 16. NR 438.04 (1) (Note) is repealed.

SECTION 17. NR 438.04 (2) (intro.) and (b) are amended to read:

NR 438.04 (2) FACILITY IDENTIFICATION AND GENERAL INFORMATION. For all facilities the ~~emission inventory report~~ emissions inventories shall include:

(b) The location address of the facility.

SECTION 18. NR 438.04 (2) (c) is repealed.

SECTION 19. NR 438.04 (2) (d) is repealed and recreated to read:

NR 438.04 (2) (d) The facility's applicable NAICS code and SIC code.

SECTION 20. NR 438.04 (2) (e) is repealed.

SECTION 21. NR 438.04 (2) (f) is amended to read:

NR 438.04 (2) (f) The name ~~and~~, telephone number, mailing address, and email address of the individual to be contacted regarding the ~~emission~~ emissions inventory ~~report~~.

SECTION 22. NR 438.04 (2) (g) and (h) are repealed.

SECTION 23. NR 438.04 (3), (4) and (5) are repealed and recreated to read:

NR 438.04 (3) EMISSIONS-GENERATING UNITS. For each emissions-generating unit, the emissions inventory shall include all of the following:

- (a) Unit device identifier.
- (b) Unit device type code.
- (c) Design capacity, if applicable for the unit device type.
- (d) For each emissions-generating process, all of the following:
 1. Process identifier.
 2. Process type code.
 3. Source classification code, except for processes at tanks.
 4. Throughput material type.
 5. Annual throughput.
 6. Maximum and average hourly throughput.
 7. The normal operation schedule in hours per day, days per week, days per year, and percentages of quarterly activity.

8. The average and maximum sulfur content in percent by weight per fuel, if applicable for the throughput material type.

9. The average and maximum ash content in percent by weight per fuel, if applicable for the throughput material type.

10. For each emission factor, all of the following:

a. Pollutant.

b. Value or formula.

c. Units.

d. Origin.

11. Annual emissions by pollutant.

12. The fractions of emissions in percent that flow to connected controlling or discharging processes and the associated unit device and process identifiers.

13. Annual emissions measured by a continuous emissions monitor and pollutant, if applicable.

(4) EMISSIONS-CONTROLLING UNITS. For each emissions-controlling unit, the emissions inventory shall include all of the following:

(a) Unit device identifier.

(b) Unit device type code.

(c) For each controlling process, all of the following:

1. Process identifier.

2. Process type code.

3. The normal operation schedule in hours per day, days per week, days per year, and percentages of quarterly activity.

4. Control efficiencies by pollutant in percent.

5. The fractions of emissions in percent that flow to connected controlling or discharging processes and the associated unit device and process identifiers.

(d) For each emissions-generating process, all of the following:

1. Process identifier.

2. Process type code.

3. Source classification code.

4. Throughput material type.

5. Annual throughput.

6. Maximum and average hourly throughput.

7. The normal operation schedule in hours per day, days per week, days per year, and percentages of quarterly activity.

8. The average and maximum sulfur content in percent by weight per fuel, if applicable for the throughput material type.

9. The average and maximum ash content in percent by weight per fuel, if applicable for the throughput material type.

10. For each emission factor, all of the following:

a. Pollutant.

b. Value or formula.

c. Units.

d. Origin.

11. Annual emissions by pollutant.

12. The fractions of emissions that flow to connected controlling or discharging processes and the associated unit device and process identifiers.

13. Annual emissions measured by a continuous emissions monitor and pollutant, if applicable.

(5) EMISSIONS-DISCHARGING UNITS. For each stack, fugitive, or discharging unit, the emissions inventory shall include all of the following:

- (a) Unit device identifier.
- (b) Unit device type code.
- (c) Discharge height.
- (d) Stack inside top diameter, as applicable.
- (e) Average exit temperature.
- (f) Average exit velocity, as applicable.
- (g) Fugitive release parameters, as applicable.
- (h) For each discharging process, all of the following:
 - 1. Process identifier.
 - 2. Process type code.
 - 3. The normal operation schedule in hours per day, days per week, days per year, and percentages of quarterly activity.

SECTION 24. NR 438.04 (6) is repealed.

SECTION 25. NR 484.06 (4) Table 4D Row (a) is amended to read:

Table 4D U.S. Environmental Protection Agency Document References		
Document Number	Title	Incorporated by Reference For
(a) EPA, OAQPS, FIRE 6.23	Factor Information Retrieval Data System, Version 6.23	NR 437.04 (2) (a) 22. NR 438.02 (2) NR 438.03 (5) (a)

SECTION 26. EFFECTIVE DATE. This rule takes effect on the first day of the month following publication in the Wisconsin Administrative Register as provided in s. 227.22 (2) (intro.), Stats.

SECTION 27. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on January 26, 2022.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN

DEPARTMENT OF NATURAL RESOURCES

BY _____

For Preston D. Cole, Secretary