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

The Wisconsin Natural Resources Board adopts an order to **repeal** NR 438.03(1)(a)1. and 2. and 438.03 Table 1; to **renumber** NR 400.02(162)(a) and (z); to **renumber and amend** NR 400.02(162)(b) to (y) and 438.03(1)(a)(intro.) and 438.03 Table 2 and footnotes 3 to 6; to **amend** NR 424.05(2)(a)(intro.) and (6)(a)3., 438.03(1)(am) and 445.06(2)(a)5.; and to **create** NR 400.02(162)(a)(intro.) and 45. to 48. and (b), 424.05(2)(c) and (6)(b)5. to 7. and 438.03 Table 1 footnote 7 relating to excluding additional organic compounds for the volatile organic compound (VOC) definition and to VOC emission limits for yeast manufacturing.

AM-18-05

Summary Prepared by the Department of Natural Resources

1. **Statute interpreted:** s. 285.11(6), Stats. The State Implementation Plan developed under s. 285.11(6), Stats., is revised.

2. **Statutory authority:** ss. 227.11(2)(a), and 285.11(1) and (6), Stats.

3. **Explanation of agency authority:**

Section 227.11(2)(a), Stats., gives state agencies general rule-making authority. Section 285.11(1) Stats., gives the Department the authority to promulgate rules to implement and consistent with, ch. 285, Stats. Section 285.11(6), Stats., authorizes the Department to develop and revise a state implementation plan for the prevention, abatement and control of air pollution.

4. **Related statute or rule:**

The proposed rule revision on the definition of VOCs relates to existing rules, which define VOCs in s. NR400.02(162), as well as the emission reporting requirements in ch. NR438 and the VOC emission limits in chs. NR 419 to 424. The proposed yeast manufacturing rule revision relates to the emission limit requirements for yeast manufacturing facilities in s. NR 424.05 and the MACT requirements for those facilities under 42 USC 7412.

5. **Plain language analysis:**

On Nov. 29, 2004 U.S. EPA adopted revisions to the federal definition of "volatile organic compounds" ("VOCs") in 40 CFR 51.100(s). The Department proposes to revise the definition of VOCs in s. NR 400.02(162) such that it conforms with the corresponding federal definition. The proposed changes are as follow:

I. Adding the four compounds to the list of compounds excluded from the definition of VOC:
   a. 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-$C_3F_7OCH_3$)
      (known as HFE-7000)
   b. 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane

(known as HFE-7500, HFE-s702, T-7145, and L-15381)

c. 1,1,1,2,3,3,3-heptafluoropropane (known as HFC 227ea)

d. methyl formate ($HCOOCH_3$)

II. A nomenclature clarification to two previously excluded compounds:

a. Adding the nomenclature designation "HFE-7100" to 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxybutane ($C_4F_9OCH_3$)

b. Adding the nomenclature designation "HFE-7200" to 1-ethoxyl-1,1,2,2,3,3,4,4,4-nonafluorobutane ($C_4F_9OC_2H_5$)

These names are widely accepted alternative designations for the two compounds.

III. Exclusion of one compound, t-butyl acetate (also known as "tertiary butyl acetate" or informally as "TBAC"), from the definition of VOC for purposes of VOC emission limitation or VOC content requirements, but not for purposes of all recordkeeping, emission reporting, and inventory requirements. When EPA has excluded a compound from the VOC definition in the past, the compound was excluded from all VOC requirements. This is not the case with TBAC. It is excluded from the definition of VOC for purposes of VOC emission limitations and content requirements only. However it remains a VOC for other requirements and needs to be reported separate from other non-exempt VOCs. Consequently t-butyl acetate needs to be incorporated in the list of reportable air contaminants in the emission inventory requirements of s. NR 438.03.

The Department is also proposing changes to VOC control requirements for yeast manufacturing in s. NR 424.05 to be consistent with US EPA control requirements for this industry. The proposed changes to s. NR 424.05 provide that 98% of the fermentation batches over any 12 consecutive month period must meet the existing VOC concentration limits. Associated recordkeeping changes are also proposed to ensure the facility maintains the information necessary to calculate the percent of batches meeting the VOC concentration limits.

6. **Summary of, and comparison with, existing or proposed federal regulation:**

<u>VOC definition</u>

Volatile organic compounds are those organic compounds which contribute to ozone formation through atmospheric photochemical reactions. It has been EPA's policy that organic compounds with a negligible level of reactivity need not be regulated to reduce ozone. The EPA lists these compounds in its regulations at 40 CFR 51.100(s) and excludes them from the definition of VOC. The VOC definition in s. NR 400.02(162) has been identical with the EPA definition.

On November 29, 2004, EPA revised the definition of VOC by identifying additional compounds to be excluded (Federal Register 69 FR 69290 and 69 FR 69298). Following these EPA actions the Department is proposing to revise the definition of VOC in s. NR 400.02(162) such that it conforms with the federal regulation.

<u>Yeast manufacturing</u>

Section 112 of the Clean Air Act (CAA) requires that the EPA promulgate emission standards for all categories of major sources of hazardous air pollutants (HAP). EPA identified the nutritional yeast manufacturing source category as a major source of acetaldehyde emissions, a listed federal HAP. On July 16, 1992, the EPA published an initial list of categories which included yeast manufacturing facilities. The EPA promulgated final national emissions standards for hazardous air pollutants (NESHAP) for

manufacturing of nutritional yeast on May 21, 2001. These standards implement section 112(d) of the CAA by requiring all major sources to meet HAP emission standards reflecting the application of the maximum achievable control technology (MACT). MACT established limitations on VOC emissions as a surrogate for acetaldehyde, which makes up only a portion of the total VOC emitted from the yeast fermentation process. The emission limitations include both VOC concentration limits and a percent-of-batches requirement. The VOC concentration limits apply to each yeast batch and are expressed as the VOC concentration in the exhaust from the fermentation vessel averaged over the duration of the batch. The percent-of batches provision requires that at least 98% of the batches on a rolling 12-month average comply with the concentration limits.

As part of its ambient air quality standard attainment strategy for ozone, the Department developed a series of VOC limits for specific source categories that represented reasonably available control technology (RACT). Included in these RACT limits were VOC control requirements for yeast manufacturing, which became effective as a final rule on June 1, 1994 (s. NR 424.05, Wis. Adm. Code). That rule also established VOC concentration limits in the exhaust from the fermentation vessel averaged over the duration of the batch. However, that rule contained no provision parallel to the percent-of-batches requirement contained in the recent EPA MACT rule for yeast manufacturing. Consequently the existing Department RACT rule requires that 100% of all batches meet the concentration limits. The proposed revision will incorporate the 98% compliance requirement into the RACT rule for yeast manufacturing.

7. **Comparison with rules in adjacent states:**

<u>VOC definition</u>
Wisconsin and all adjacent states have adopted a definition for VOC which is identical, or to a large extent identical, with EPA's definition in the regulation at 40 CFR 51.100(s). None of the adjacent states have incorporated the recent EPA's revisons to the VOC definition into their regulations yet.

Illinois: The definition of VOCs is identical with EPA's previous definition; the recent EPA revisions have not been incorportated yet (Reference: Title 35 of the Illinois Administrative Code, Section 211.7150).

Iowa: The definition of VOCs is identical with EPA's previous definition; the state regulation refers to EPA's definition of April 9, 1998. The recent EPA revisions have not been incorportated yet (reference: IOWA Administrative Code – ENVIRONMENTAL PROTECTION COMMISSION, 567—20.2(455B)).

Michigan: The definition of VOCs is to a large extent similar to EPA's previous definition. The recent EPA revisions have not been incorportated yet (reference: Department of Environmental Quality, Air pollution Control, Part 1, R 336.1122(f)).

Minnesota: The definition of VOCs is identical with current EPA's definition. The recent EPA revisions are indirectly incorporated in the state rule due to the rule language in CHAPTER 7005, subp. 45 UU. It says, as the last item in the list of compounds excluded from the definition of VOC,"… any other compound determined by the United States Environmental Protection Agency to be negligibly photochemically reactive, upon publication of the determination in the Federal Register".

<u>Yeast manufacturing</u>
The Department is not aware of any yeast manufacturing facilities located in Illinois, Michigan or Minnesota. A yeast manufacturing facility is located in Cedar Rapids, Iowa. Cedar Rapids is currently designated as an ozone attainment area, and the facility there is a major source subject to prevention of

significant deterioration (PSD) permit requirements including best available control technology (BACT). EPA has fully delegated the PSD program in Iowa to the Iowa Department of Natural Resources (IDNR). The IDNR has issued a PSD permit to the facility in Cedar Rapids using the same approach used by EPA in the EPA MACT. The permit establishes VOC concentration limits averaged over the fermentaton batch cycle and requires that at least 98% of the batches in each rolling 12 month period meet the concentration limits.

While not an adjacent state, the state of Maryland developed VOC control rules for yeast manufacturing as part of its ozone attainment strategy. (Code of Maryland Regulations, Title 26 Subtitle 11 Chapter 19.) Maryland's rule establishes VOC concentration limits consistent with those in s. NR 424.05, Wis. Adm. Code, but like the EPA MACT and IDNR PSD permit, only requires that these limits be met for 98% of all fermentation batches in each 12-month period.

8. **Summary of factual data and analytical methodologies:**

Since the proposed rule revisions are based on changes to federal air regulation, the Department is relying on the factual data and analytical methodologies used by U.S. EPA to support the federal rule-making. The corresponding federal regulations are published in Federal Register: 66 FR 27876 (Manufacturing of Nutritional Yeast), 69 FR 69290 (VOC definition, exclusion of four compounds), and 69 FR 69298 (VOC definition, exclusion of t-butyl acetate).

9. **Analysis and supporting documents used to determine effect on small business or in preparation of economic impact report:** none

10. **Effect on small business:**

There is no known effect on small business due to the revision of the VOC definition.

The only yeast manufacturer in Wisconsin affected by the proposed changes to s. NR 424.05, Wis. Adm. Code, is not considered to be a small business.

11. **Agency contact person:**

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SECTION 1. NR 400.02(162)(a) is renumbered NR 400.02(162)(a)1.

SECTION 2. NR 400.02(162)(a)(intro.) is created to read:

NR 400.02(162)(a)(intro.) Organic compounds excluded for all purposes:

SECTION 3. NR 400.02(162)(b) to (y) are renumbered NR 400.02(162)(a)2. to 44. and as renumbered NR 400.02(162)(a)40. and 42. are amended to read:

NR 400.02(162)(a)40. 1,1,1,2,2,3,3,4,4-Nonafluoro-4-methoxybutane ($C_4F_9OCH_3$ <u>or HFE-7100</u>).

42. 1-Ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane ($C_4F_9OC_2H_5$ <u>or HFE-7200</u>).

SECTION 4. NR 400.02(162)(a)45. to 48. are created to read

NR 400.02(162)(a)45. 1,1,1,2,2,3,3-Heptafluoro-3-methoxy-propane (n-$C_3F_7OCH_3$ or HFE-7000).

46. 3-Ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500).

47. 1,1,1,2,3,3,3-Heptafluoropropane (HFC 227ea).

48. Methyl formate ($HCOOCH_3$).

SECTION 5. NR 400.02(162)(z) is renumbered to NR 400.02(162)(a)49.

SECTION 6. NR 400.02(162)(b) is created to read:

NR 400.02(162)(b) The following compound is subject to all recordkeeping, emissions reporting, photochemical dispersion modeling, inventory requirements and emissions fees which apply to VOCs and shall be uniquely identified in emission reports, but is not considered a VOC for purposes of VOC emissions limitations or VOC content requirements: t-butyl acetate.

SECTION 7. NR 424.05(2)(a)(intro.) is amended to read:

NR 424.05(2)(a)(intro.) Except as provided in ~~par.~~ pars. (b) and (c), no owner or operator of a yeast manufacturing facility may cause, allow or permit the average concentration of VOCs in the exhaust gas stream from a fermenter ~~during~~ over the duration of a fermentation batch to exceed the levels in subds. 1. to 3. These levels are on a saturated water basis and are based on total VOCs expressed as propane.

SECTION 8. NR 424.05(2)(c) is created to read:

NR 424.05(2)(c) Compliance with the emission limitations in par. (a) shall be achieved for at least 98% of all fermentation batches subject to the emission limitations in par. (a) over any 12 consecutive month period.

SECTION 9. NR 424.05(6)(a)3. is amended to read:

NR 424.05(6)(a)3. The fermentation cycle for which a fermenter is being used, recorded as either trade, first generation or stock.

SECTION 10. NR 424.05(6)(b)5. to 7. are created to read:

NR 424.05(6)(b)5. For each fermentation batch subject to an emission limitation in sub. (2)(a), the average concentration of VOC in the exhaust gas stream over the duration of the fermentation batch.

6. The number of fermentation batches subject to an emission limitation in sub. (2)(a) completed during each month.

7. The percent of all completed fermentation batches in compliance with the applicable emission limiation in sub. (2)(a) over the previous 12 consecutive month period.

SECTION 11. NR 438.03(1)(a)(intro.) is renumbered to NR 438.03(1)(a) and amended to read:

NR 438.03(1)(a) Except as provided in 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 inventory report of annual, actual emissions or, for particulate matter, PM_{10}, 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 ~~the following tables:~~ Table 1.

SECTION 12. NR 438.03(1)(a)1. and 2. are repealed.

SECTION 13. NR 438.03(1)(am) is amended to read:

NR 438.03(1)(am)1. ~~Beginning with emissions reported for calendar year 2004, the~~ The owner or operator of a facility described by a standard industrial classification 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 inventory report to those contaminants identified under s. NR 445.11(1)(a) or (b).

2. Notwithstanding subd. 1., the owner or operator shall continue to report annual emissions of any air contaminant reported in prior calendar years for the facility, provided annual, actual emissions are greater than the reporting level in Table ~~2~~ 1.

SECTION 14. NR 438.03 Table 1 is repealed.

SECTION 15. NR 438.03 Table 2 is renumbered NR 438.03 Table 1, and as renumbered, Table 1 and footnotes 3, 4, 5 and 6 are amended to read:

NR 438.03 Table 1

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~~ 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 and 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)fluoranthene	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
	Bischloroethyl 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 Bi2Te3: 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 hydroxyanisole (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, dusts and 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-Diaminoanisole 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-Dibromoethane (Ethylene Dibromide; EDB)~~	~~106-93-4~~	~~4.04~~
	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
Dimethylethoxysilane	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-Dioctyl phthalate	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
	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;	75-43-4	6,000

	Dichlorofluoromethane)		
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-225ca (HCFC-225ca)	422-56-0	6,000
3	Hydrochlorofluorocarbon-225cb (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;	593-70-4	6,000
	Chlorofluoromethane)		
	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-Isopropoxyethanol	109-59-1	6,000
	Isopropylamine	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]	6,000
	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, elemental 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 (MethylCellosolve 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-amyl 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
	Metribuzin	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
	Naphthalene	91-20-3	6,000
	2-Naphthylamine	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-ethylurea	759-73-9	0.115
	N-Nitroso-N-methylurea	684-93-5	0.0261
	N-Nitrosomethylvinylamine	4549-40-0	1.22
	N-Nitrosomorpholine	59-89-2	0.468
	N'-Nitrosonornicotine	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 [2]	23.5
	Phenyl ether vapor	101-84-8	1,638
	Phenyl glycidyl ether (PGE)	122-60-1	145
	Phenylhydrazine	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
	PM10	[2]	10,000
	Polybrominated biphenyls (PBBs; Bromodiphenyls)	59536-65-1 [2]	0.103
	Polychlorinated biphenyls (PCBs; Chlorodiphenyls; Arochlor)	1336-36-3 [2]	0.05
	Polycylic organic matter (POM)	[2]	125
	Potassium hydroxide	1310-58-3	654
	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)	107-98-2	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, as W, metal and insoluble compounds	7440-33-7 [2]	1,176
	Tungsten, as W, soluble compounds	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 V2O5, 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
	Vinylidine 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

[3]Indicates 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.

[4]Indicates compounds included in the glycol ethers group. ~~These~~ 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.

[5]Glycol ethers include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol, $R-(OCH_2CH_2)_n-OR'$
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.

[6]Organic Compounds that are not ~~volatile organic compounds because of negligible photochemical reactivity~~ 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.

SECTION 16. NR 438.03 Table 1 footnote 7 is created to read:

NR 438.03 Table 1 footnote 7 [7]Any 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.

SECTION 17. NR 445.06(2)(a)5. is amended to read:

NR 445.06(2)(a)5. Table ~~2~~ 1 of s. NR 438.03.

SECTION 18. EFFECTIVE DATE. This rule shall take 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 19. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on August 17, 2005.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By_____
Scott Hassett, Secretary

(SEAL)