

# Standards for Air Pollutant Emission from Stationary Pollution Sources

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Table under Article 2 and Article 12 amended and published by Environmental Protection Administration of Executive Yuan by order (2001) Huan-Shu-Kong-Zi No. 0074780 dated December 19, 2001

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Articles 2, 8, 9 and 14 and Table under Article 2 amended and published by Environmental Protection Administration of Executive Yuan by order Huan-Shu-Kong-Zi No. 0990119639 dated January 5, 2011

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Articles 3, 5, 8 and Table under Article 2 amended and published by Environmental Protection Administration of Executive Yuan by order Huan-Shu-Kong-Zi No. 1101079351 dated Jun 29, 2021

- Article 1 These Standards are established pursuant to Article 20, Paragraph 2 of the Air Pollution Control Act.
- Article 2 These Standards shall apply to new modified, and existing stationary pollution sources (herein referred to as new pollution sources and existing pollution sources). The standards are listed in Table 1 and Table 2. However, separately established emissions standards for specially designated industry categories, areas, or facilities shall take priority over these Standards.
- Article 3 Terms and Symbols used in these Standards are defined as follows:
- I. “Peripheral boundary” means the boundary line marking the use or management of public or private premises.
  - II. “mg” means milligram, equivalent to 0.001 grams.
  - III. “μg” means microgram, equivalent to 0.001 milligrams.
  - IV. “K” means Kelvin absolute temperature scale, where  $K=273+^{\circ}\text{C}$ .
  - V. “Nm<sup>3</sup>” means a cubic meter of air at a temperature of 273 degrees Kelvin (273 K) and an atmospheric pressure of 1 bar; “m<sup>3</sup>” means a cubic meter of air.
  - VI. “ppm” means parts per million.
  - VII. “q” means the “highest permissible emissions per unit time” of each pollutant from each stack unit in a single pollution source, measured in grams per second (g/s).
  - VIII. “a<sub>1</sub>” and “a<sub>2</sub>” mean the conversion constants for each pollutant.
  - IX. “k” means the diffusion coefficient for pollutant emissions, measured in grams

per second per square meter ( $\text{g/s}\cdot\text{m}^2$ ).

- X. “h” means the actual height of the outlet of the stack, measured in meters (m).
- XI. “ $\Delta h$ ” means the height of smoke plume from the outlet of the stack, measured in meters (m).
- XII. “he” means the effective height of outlet of the stack  $h_e = h + \Delta h$ , measured in meters (m).
- XIII. “Qh” means the heat rate of exhaust from the stack, measured in calories per second (cal/s).
- XIV. “Vs:” means the outlet exhaust speed of the stack, measured in meters per second (m/s).
- XV. “ds” means the internal diameter at the stack outlet, measured in meters per second (m).
- XVI. “p” means exhaust density, measured in grams per liter (g/l).
- XVII. “Cp” means specific heat at constant pressure from exhaust, measured in calories per gram degree Kelvin (cal/g•K).
- XVIII. “Ts” means exhaust temperature at the stack outlet, measured in Kelvin (K).
- XIX. “T” means ambient temperature surrounding the stack outlet, measured in degrees Kelvin (K).
- XX. “ $\bar{u}$ ” means annual average wind speed at the height of the stack outlet, measured in meters per second (m/s)  $\bar{u} = \bar{u}_0 (h/10)^{0.2}$
- XXI. “ $\bar{u}_0$ ” means average wind speeds at 10 meters high from the ground surface, measured in meters per second (m/s). These standards are based on an average wind speed of 3.5 meters per second (m/s) as the reference base of calculation.
- XXII. “Q” means exhaust volume that has been calibrated or does not need to be calibrated, measured in cubic meters per minute ( $\text{Nm}^3/\text{min}$ ).
- XXIII. “Qs” means the measured exhaust volume base on test method, measured in cubic meters per minute ( $\text{Nm}^3/\text{min}$ ).
- XXIV. “C” means pollutant concentration that has been calibrated or does not need to be calibrated, measured in ppm or  $\text{mg}/\text{Nm}^3$ .
- XXV. “Cs” means the measured pollutant concentration based on test method, measured in ppm or  $\text{mg}/\text{Nm}^3$ .
- XXVI. “On” means standard oxygen content in exhaust, measured in %.
- XXVII. “Os” means the actual measured oxygen content in exhaust. If value exceeds 20%, then value shall be calculated as 20%.

Article 4 Unless other regulations apply, the principles for existing and new pollution sources referred to in these Standards are as follows:

- I. Pollution sources established before April 11, 1992, shall be considered existing pollution sources.

II. Pollution sources established after April 12, 1992, shall be considered new pollution sources.

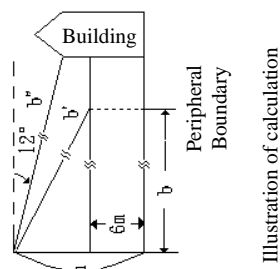
III. New pollution sources shall also include, after April 12, 1992, increased air pollutant emissions due to the renovation of related facilities or alterations in other single physical or chemical properties or operation methods, and newly 2690/added pollutants in emissions.

“Established,” as referred to in subparagraphs I and II in this article, means a stationary source that has already been completed, under construction, or has already completed the contract of a construction project.

Article 5 Peripheral boundary testing is a measurement that can determine whether the air pollutants are emitted from a public or private premise at any location outside of the surrounding area of a public or private premise. When it is not possible to select a testing location for an area outside the peripheral boundary of a public or private premise (for example, due to the presence of an embankment, river, lake, or valley), then an appropriate testing location can be chosen within three meters inside the surrounding boundaries of the factory. When the owner or representative of a public or private premise pollution source holds objections to the determination of a peripheral boundary, the said person shall, within 30 days from the second day of being reported, submit written information to the local competent authority to apply for the redetermination of a peripheral boundary.

Article 6 In principle, sampling collection times for peripheral boundary testing shall be one hour for particulate matter. For gas pollutants, sampling collection shall be one hour for sulfur oxides, and 30 minutes for the remaining listed gas pollutants. However, if the sampling method used has a specified sampling time for the air pollutant, then the time specified in the method shall be used.

Article 7 When gas pollutants do not list the emission standards for stacks, the emission standards shall be calculated in accordance with the following equations:



I. Low-height stack,  $h \leq 6\text{m}$  (meters).

$$q = a_2 \cdot b^2$$

$b$ : the minimum horizontal distance from the stack outlet of the pollution source to the peripheral boundary of the pollution source, in units of m (meters).

II. When a taller emissions pipe is  $h > 6\text{m}$

A.  $b \geq 5(h-6)$

$$q = a_2 \cdot b^2$$

$b'$ : the minimum distance from the stack outlet of the pollution source to the peripheral boundary line of the pollution source at a vertical height of 6m (meters), in units of m (meters).

B.  $b < 5(h-6)$

$$q = a_2 \cdot b''^2$$

$b''$ : The minimum distance from the center of the stack outlet to the building when the conical area of a pollution source measured at a downward 12 degree angle from the center of a stack outlet intersects with the buildings of other people (with the exception of unoccupied storage warehouse buildings), in units of m (meters).

C. When  $b < 5(h-6)$  and there is no conditions of subparagraph II. B, which means that when the distance from the pollution source to a building is very far or a building is lower than 6 m (meters), the conical area of a pollution source measured at a downward 12 degree angle from the center of a stack outlet does not intersect with the buildings of other people.

$$q = a_2 \cdot 25 \cdot (h-6)^2$$

Article 8 For the air pollutant that is listed in the emission standard table with the stack emission standards, the height of the stack should be calculated by the following equation for a new pollution source.

$$q = a_1 \cdot k \cdot h_e^{2.2}$$

Areas	$k$ value	Applicable Districts
1	$2.6 \times 10^{-3}$	Taipei City, New Taipei City, Keelung City, Ilan County
2	$4.2 \times 10^{-3}$	Taoyuan City, Hsinchu County, Hsinchu City
3	$1.8 \times 10^{-3}$	Miaoli County, Taichung City, Changhua County, Nantou County, Hualien County
4	$2.2 \times 10^{-3}$	Yunlin County, Chiayi County, Chiayi City, Tainan City
5	$1.6 \times 10^{-3}$	Kaohsiung City, Pingtung County, Taitung County, Penghu County

$$h_e = h + \Delta h$$

$$\Delta h = 1.8 \left( 1.5 V_s \cdot d_s + 4 \times 10^{-5} Q_h \right) \sqrt{\frac{\rho \cdot C_p \cdot \pi \cdot d_s^2 \cdot V_s \cdot (T_s - T) \cdot 1000}{Q_h}}$$

$$Q_h = \frac{4}{4}$$

Article 9 For the air pollutant that is listed in the emission standard table with the conversion constants, the height of the stack should be calculated in accordance with the equations of Article 7 and Article 8, respectively, for a new pollution source, and the higher stack height shall be used as the stack height.

When the competent authority handles petition cases involving existing pollution sources, it may order the existing pollution source to improve emissions concentration or may apply the regulations of the first paragraph in this article to change the stack height.

Article 10 Those public and private premises that adopt multiple pollution control measures shall submit written data to the local competent authority, and after receiving approval, may build a stack lower than the specified height designated in Article 9. For circumstances in the foregoing paragraph, emissions standards shall be calculated based on actual stack height pursuant to Article 9 or official calculations of the highest permissible emissions quantity authorized by the central competent authority. The highest permissible emissions may not exceed the emissions standards for the stack of these Standards.

Article 11 The concentration of all pollutants shall be calculated based on the volume of a non-diluted dry exhaust at a temperature of 273 Kelvin and one atmosphere of 1 bar. A 6% oxygen concentration shall serve as the reference standard, if no special regulations exist for the combustion process of exhaust. Non-combustion processes shall use the volume of non-diluted dry exhaust as the calculation standard. However, for those circumstances in which there are separate regulations for special industries, the oxygen content mentioned in this article shall adopt the oxygen percentage in the regulations as the reference basis.

The correction formulas for pollutant concentration C and exhaust volume Q are as follows:

$$C = \frac{21 - O_n}{21 - O_s} \cdot C_s$$

$$Q = \frac{21 - O_s}{21 - O_n} \cdot Q_s$$

Article 12 The central competent authority shall determine the relevant testing methods and quality control items in these Standards.

Article 13 For those circumstances in which a stationary source is equipped with continuous emission monitoring system of air pollutants in accordance with regulations, the

daily measurement values shall comply with the following requirements:

- I. For monitoring data of the opacity of particulate pollutants, the six-minute record values shall not exceed the cumulative time of the emission standard values for more than four hours.
- II. For monitoring data on gaseous pollutants, the one-hour record values shall not exceed the cumulative time of the emission standard values for more than two hours.

In those circumstances in which a stationary source in the foregoing paragraph, that establish a conversion relationship between concentration and opacity rate of particulate pollutants, and after approval by the competent authority, the opacity rate of particulate pollutants that is converted from the particulate pollutant emissions standard value can be used as the standard value of opacity.

Article 14 These Standards shall take effect on the date of promulgation.

Table 1

Air Pollutant			Emissions Standard		Conversion Constant		Date of Enforcement		Notes	
			Emissions Pipe	Peripheral Boundary	$a_1$	$a_2$	New Pollution Sources	Existing Pollution Sources		
Particulate Pollutant (Opacity)			Continuous automatic monitoring: 6 minute monitoring values for daily opacity may not exceed 20% of the accumulated time by over 4 hours.		—	—	—	Date of promulgation	Date of promulgation	The following equipment are not subject to restrictions: 1. Built-in engines smaller than 2500 cc 2. Equipment for laboratory use 3. Portable welding and soldering equipment 4. Pile drivers 5. Training equipment for visual determination of smoke 6. Equipment for fire drills or accidental fires
			Visual determination of smoke: Opacity may not exceed 20%; when ending or starting operations, opacity can reach 40%; however, within one hour, the accumulated time for 20% opacity may not exceed 3 minutes.		—	—	—	Date of promulgation	Date of promulgation	
Particulate Pollutant (Weight and Concentration)			Combustion Process	(1)50 mg/Nm <sup>3</sup> (2)100 mg/Nm <sup>3</sup>	500 µg/Nm <sup>3</sup>	0.58	2.8×10 <sup>-4</sup>	Standard (1) shall take effect on the 2013.4.25	Standard (2) shall take effect on the 2014.4.30	1. Particulate emission standards apply to: -Pollution sources established on or after April 25, 2013, which shall be considered new pollution sources. -Pollution sources already established, under construction, that have already completed construction project bidding or completed contract signing without bidding, shall be considered existing pollution sources. -But existing pollution sources compliant with the modified condition of Article 20 of the Air Pollution Control Act shall be considered new pollution sources. 2. Standards (1) · (2) · (3) shall use non-diluted dry exhaust volume as the calculation standard, with the except of combustion processes using heating furnaces, cracking furnaces and boilers.
			External Combustion Process	(3)100 mg/Nm <sup>3</sup>				Standard (3) shall take effect on the 2013.4.25	Standard (3) shall take effect on the 2014.4.30	
Sulfur Oxides (SO <sub>x</sub> expressed as SO <sub>2</sub> )	Combustion Process	Gas Fuel	100 ppm		0.3 ppm	1.0	4.9×10 <sup>-4</sup>	Date of promulgation	Date of promulgation	Unless other regulations apply, emission pipe standards for sulfur-emitting factories in the petroleum refining industry shall use 500 ppm as the standard value.
		Liquid Fuel	300 ppm							
		Solid Fuel	300 ppm							
	External Combustion Process		650 ppm							
Sulfuric Acid (SO <sub>3</sub> or H <sub>2</sub> SO <sub>4</sub> expressed as 100% H <sub>2</sub> SO <sub>4</sub> )	Sulfuric Acid Factories		100 mg/Nm <sup>3</sup>		50 µg/Nm <sup>3</sup>	0.05	3.0×10 <sup>-5</sup>	Date of promulgation	Date of promulgation	
	Pollution Sources Other than Sulfuric Acid Factories		200 mg/Nm <sup>3</sup>							
Nitrogen Oxides (NO <sub>x</sub> expressed as NO <sub>2</sub> )	Combustion Equipment	Gas Fuel	(1) 300 ppm		—	—	—	Standard (2) shall take effect nationwide on the date of promulgation.	Standard (2) takes effect of the date of promulgation in Taipei City, Kaohsiung City, New Taipei City, Pingtung County, Taitung County, and Hualien County. Other areas shall be subject to Standard (1).	1. Boilers over 4 tons and other combustion equipment with heating value input of 2.64×10 <sup>6</sup> kcal/h or higher. 2. Mixed fuels shall use the following formulas to calculate standard emission values: Standard emission values = Ax+By+Cz Emissions using dry calculations A: Gaseous fuel of NO <sub>x</sub> emission standards B: Liquid fuel of NO <sub>x</sub> emission standards C: Solid fuel of NO <sub>x</sub> emission standards x: Gas fuel as a percentage of total input heating volume y: Liquid fuel as a percentage of total input heating volume z: Solid fuel as a percentage of total input heating volume
			(2) 150 ppm							
		Liquid Fuel	(1) 400 ppm							
			(2) 250 ppm							
		Solid Fuel	(1) 500 ppm							
			(2) 350 ppm							
	Combustion Using Outside Manufacturing Processes		(1) 500 ppm		0.25 ppm	0.60	2.9×10 <sup>-4</sup>			
			(2) 250 ppm							

Carbon Monoxide (CO)	2000 ppm		—		—	—	Date of promulgation	Date of promulgation	
Total Fluoride Content (measured as F <sup>-</sup> )	10 mg/Nm <sup>3</sup>		10 μg/Nm <sup>3</sup>		1.17×10 <sup>-2</sup>	5.7×10 <sup>-6</sup>	Date of promulgation	Date of promulgation	
Hydrogen Chloride (HCl)	80 ppm or 1.8kg/hr or less.		0.1 ppm		0.19	9.0×10 <sup>-5</sup>	Date of promulgation	Date of promulgation	
Chlorine Gas (Cl <sub>2</sub> )	30 ppm		0.02 ppm		0.07	4.0×10 <sup>-5</sup>	Date of promulgation	Date of promulgation	
Ammonia Gas (NH <sub>3</sub> )	Measured in accordance with methods listed in Article 7		1 ppm		0.885	4.3×10 <sup>-4</sup>	Date of promulgation	Date of promulgation	
Hydrogen Sulfide (H <sub>2</sub> S)	Atmospheric output of 100 ppm		0.1 ppm		0.177	9.0×10 <sup>-5</sup>	Date of promulgation	Date of promulgation	
	Before combustion processing, an entrance concentration of 650 ppm								
Mercaptan (RSH measured as CH <sub>3</sub> SH)	Measured in accordance with methods listed in Article 7		0.01 ppm		0.025	1.2×10 <sup>-5</sup>	Date of promulgation	Date of promulgation	
Methyl Sulfide [(CH <sub>3</sub> ) <sub>2</sub> S]	Measured in accordance with methods listed in Article 7		0.2 ppm		0.646	3.1×10 <sup>-4</sup>	Date of promulgation	Date of promulgation	
Methyl Disulfide [(CH <sub>3</sub> ) <sub>2</sub> S <sub>2</sub> ]	Measured in accordance with methods listed in Article 7		0.1 ppm		0.49	2.4×10 <sup>-4</sup>	Date of promulgation	Date of promulgation	
Monomethylamine [CH <sub>3</sub> NH <sub>2</sub> ]	Measured in accordance with methods listed in Article 7		0.02 ppm		0.032	1.6×10 <sup>-5</sup>	Date of promulgation	Date of promulgation	
Dimethylamine [(CH <sub>3</sub> ) <sub>2</sub> NH]	Measured in accordance with methods listed in Article 7		0.02 ppm		0.047	2.3×10 <sup>-5</sup>	Date of promulgation	Date of promulgation	
Trimethylamine [(CH <sub>3</sub> ) <sub>3</sub> N]	Measured in accordance with methods listed in Article 7		0.02 ppm		0.061	3.0×10 <sup>-5</sup>	Date of promulgation	Date of promulgation	
Carbon Disulfide (CS <sub>2</sub> )	Measured in accordance with methods listed in Article 7		0.4 ppm		1.58	7.7×10 <sup>-4</sup>	Date of promulgation	Date of promulgation	
Asbestos and Substances Containing Asbestos	Invisible to the naked eye		Invisible to the naked eye		—	—	Date of promulgation	Date of promulgation	
Other Air Pollutants (See Table 2)	Measured in accordance with methods listed in Article 7		A/50		8.5×10 <sup>-3</sup> ×A	1.1×10 <sup>-5</sup> ×A	Date of promulgation	Date of promulgation	A: Table 2 lists the standards for allowable concentrations of hazardous substances in the air in environments with labor operations, in units of mg/m <sup>3</sup> ).
Malodorous pollutants	Height <i>h</i> (meters)	Standard value	Areas	Standard value	—	—	Emissions pipe and peripheral boundary emissions standards (2) and (3) shall take effect on the date of promulgation.	1. Emissions pipe emissions standards shall take effect one year after the date of promulgation. 2. Peripheral boundary standards (1) and (3) shall take effect on the date of promulgation.	1. The concentrations of malodorous pollutants are dimensionless mathematical operator values, so there are no units of measure. 2. Definition of an industrial park: Land for industrial use of an area, part of an industrial zone or urban planning industrial park. 3. Definition of an agricultural district: A. Urban planning agricultural districts, or zone delineations according to law, which have been determined by the urban planning competent authority to be part of an agricultural business zone. B. According to the Regional Planning Act, special agricultural districts, common agricultural districts, forest areas and other areas in which land is designated for farming and grazing, aquiculture, forestry, and land for use for other special industrial purposes including agriculture and livestock, and wastewater treatment facilities. C. Other land as determined by the central competent authority in consultation with the central agricultural industry competent authority. 4. Peripheral boundary emission standards (2) are applicable to new pollution sources located in industrial parks or agricultural districts. However, pollution sources located in existing livestock farms in agricultural districts that have been upgraded but
	$h\leq18$	1000	Industrial Parks and Agricultural	(1) 50 (2) 30					
	$18<h\leq50$	2000							
	$50<h\leq100$	4000							
	$h>100$	The emissions pipe concentration that estimated by the air quality model in compliance with the peripheral boundary standards for the area influenced, and the concentration value can be used as the standard value after approval by the central competent authority.	Areas Other than Industrial Parks and Agricultural Districts	(3) 10					



									<p>that are operating on an unchanged scale shall be subject to emission standards for existing pollution sources.</p> <p>5. Standards applied to all sampling locations shall serve as supporting data.</p> <p>6. New pollution sources subject to malodorous pollutant emission standards shall refer to pollution sources established after September 13, 2007 (inclusive); existing pollution sources refer to pollution sources established before September 13, 2007.</p>
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Table 2

Items	Name	Chemical formula	Permissible Exposure Limits	
			ppm	mg/m <sup>3</sup>
1.	Acetaldehyde	CH <sub>3</sub> CHO	100	180
2.	Acetic acid	CH <sub>3</sub> COOH	10	25
3.	Acetic anhydride	(CH <sub>3</sub> CO) <sub>2</sub> O	5	21
4.	Acetone	(CH <sub>3</sub> ) <sub>2</sub> CO	750	1,780
5.	Acetonitrile	CH <sub>3</sub> CN	40	67
6.	Acetylene tetrabromide (1,1,2,2-Tetrabromoethane)	CHBr <sub>2</sub> CHBr <sub>2</sub>	1	14
7.	Acrolein	CH <sub>2</sub> =CHCHO	0.1	0.23
8.	Acrylamide	CH <sub>2</sub> =CHCONH <sub>2</sub>		0.03
9.	Acrylic acid	CH <sub>2</sub> =CHCOOH	10	30
10.	Allyl alcohol	CH <sub>2</sub> =CHCH <sub>2</sub> OH	2	4.8
11.	Allyl chloride	CH <sub>2</sub> =CHCH <sub>2</sub> Cl	1	3
12.	Allyl glycidyl ether (AGE)	H <sub>2</sub> C=CHCH <sub>2</sub> OCH <sub>2</sub> CHCH <sub>2</sub> O	5	23
13.	2-Aminopyridine	C <sub>5</sub> H <sub>4</sub> NNH <sub>2</sub>	0.5	1.9
14.	Ammonia	NH <sub>3</sub>	50	35
15.	Ammonium chloride (fume)	NH <sub>4</sub> Cl		10
16.	n-Amyl acetate	CH <sub>3</sub> COOC <sub>5</sub> H <sub>11</sub>	100	532
17.	sec-Amyl acetate	CH <sub>3</sub> COOCH(CH <sub>3</sub> )(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub>	125	665
18.	Aniline	C <sub>6</sub> H <sub>5</sub> NH <sub>2</sub>	2	7.6
19.	Anisidine(o-,p-isomers)	CH <sub>3</sub> OC <sub>6</sub> H <sub>4</sub> NH <sub>2</sub>	0.1	0.5
20.	Antimony & its compounds (as Sb)	Sb		0.5
21.	ANTU (α-Naphthylthiourea)	C <sub>10</sub> H <sub>7</sub> NHCSNH <sub>2</sub>		0.3
22.	Arsenic organic compounds (as As)	As		0.5
23.	Arsine	AsH <sub>3</sub>	0.05	0.16
24.	Azinphos-Methyl	C <sub>10</sub> H <sub>12</sub> N <sub>3</sub> O <sub>3</sub> PS <sub>2</sub>		0.2
25.	Barium & its soluble compounds (as Ba)	Ba		0.5
26.	Benzoyl peroxide	(C <sub>6</sub> H <sub>5</sub> CO) <sub>2</sub> O <sub>2</sub>		5
27.	Benzyl chloride	C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> Cl	1	5.2
28.	Biphenyl	C <sub>6</sub> H <sub>5</sub> C <sub>6</sub> H <sub>5</sub>	0.2	1.3
29.	Boron tribromide	BBr <sub>3</sub>	1	10
30.	Boron trifluoride	BF <sub>3</sub>	1	2.8
31.	Bromine	Br <sub>2</sub>	0.1	0.66
32.	Bromine pentafluoride	BrF <sub>5</sub>	0.1	0.72
33.	Bromoform	CHBr <sub>3</sub>	0.5	5.2
34.	Butane	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub>	800	1,900
35.	1-Butanethiol	C <sub>4</sub> H <sub>9</sub> SH	0.5	1.8
36.	1-Butanol	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> OH	100	303
37.	2-Butanol	CH <sub>3</sub> CHOHCH <sub>2</sub> CH <sub>3</sub>	150	454
38.	n-Butyl acetate	CH <sub>3</sub> COOC <sub>4</sub> H <sub>9</sub>	150	712
39.	Sec-Butyl acetate	CH <sub>3</sub> COOCH(CH <sub>3</sub> )(C <sub>2</sub> H <sub>5</sub> )	200	950
40.	tert-Butyl acetate	CH <sub>3</sub> COOC(CH <sub>3</sub> ) <sub>3</sub>	200	950
41.	tert-Butyl alcohol	(CH <sub>3</sub> ) <sub>3</sub> COH	100	303
42.	Butylamine	C <sub>4</sub> H <sub>9</sub> NH <sub>2</sub>	5	15
43.	n-Butyl glycidyl ether	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> OCH <sub>2</sub> CHCH <sub>2</sub> O	25	133
44.	n-Butyl lactate	CH <sub>3</sub> CHOHCOOC <sub>4</sub> H <sub>9</sub>	5	30
45.	o-sec-Butylphenol	CH <sub>3</sub> CH <sub>2</sub> CH(CH <sub>3</sub> )C <sub>6</sub> H <sub>4</sub> OH	5	31
46.	p-tert-butyltoluene	(CH <sub>3</sub> ) <sub>3</sub> CC <sub>6</sub> H <sub>4</sub> CH <sub>3</sub>	10	61
47.	Calcium arsenate	Ca <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub>		1
48.	Calcium cyanamide	CaNCN		0.5
49.	Calcium hydroxide	Ca(OH) <sub>2</sub>		5
50.	Calcium oxide	CaO		5
51.	Camphor (Synthetic)	C <sub>10</sub> H <sub>16</sub> O	2	12
52.	Caprolactam, Dust	CH <sub>2</sub> (CH <sub>2</sub> ) <sub>4</sub> NHCO		1
53.	Caprolactam, Vapor	CH <sub>2</sub> (CH <sub>2</sub> ) <sub>4</sub> NHCO	5	23
54.	Carbaryl	C <sub>10</sub> H <sub>7</sub> OOCNHCH <sub>3</sub>		5
55.	Carbofuran	C <sub>12</sub> H <sub>15</sub> NO <sub>3</sub>		0.1
56.	Carbon black	C		3.5
57.	Carbon dioxide	CO <sub>2</sub>	5,000	9,000
58.	Carbon disulfide	CS <sub>2</sub>	10	31
59.	Carbon monoxide	CO	35	40
60.	Cesium hydroxide	CsOH		2
61.	Chlordane	C <sub>10</sub> H <sub>6</sub> Cl <sub>8</sub>		0.5

62.	Chlorinated diphenyl Oxide	C <sub>12</sub> H <sub>4</sub> Cl <sub>6</sub> O		0.5
63.	Chlorine	Cl <sub>2</sub>	0.5	1.5
64.	Chlorine dioxide	ClO <sub>2</sub>	0.1	0.28
65.	Chlorine trifluoride	ClF <sub>3</sub>	0.1	0.38
66.	Chloroacetaldehyde	ClCH <sub>2</sub> CHO	1	3.2
67.	α-Chloroacetophenone (ω-Chloroacetophenone)	C <sub>6</sub> H <sub>5</sub> COCH <sub>2</sub> Cl	0.05	0.32
68.	Chloroacetyl chloride	CH <sub>2</sub> ClCOCl	0.05	0.23
69.	Chlorobenzene	C <sub>6</sub> H <sub>5</sub> Cl	75	345
70.	Chlorobromomethane	BrCH <sub>2</sub> Cl	200	1,060
71.	2-Chloro-1,3-Butadiene	H <sub>2</sub> C=CCLCH=CH <sub>2</sub>	10	36
72.	Chlorodifluoromethane	CHClF <sub>2</sub>	1,000	3,540
73.	Chloroethane	CH <sub>3</sub> CH <sub>2</sub> Cl	1,000	2,640
74.	2-Chloroethanol	ClCH <sub>2</sub> CH <sub>2</sub> OH	1	3.3
75.	Bis-Chloromethyl ether	ClCH <sub>2</sub> OCH <sub>2</sub> Cl	0.001	0.0047
76.	1-Chloro-1-Nitropropane	C <sub>3</sub> H <sub>6</sub> ClNO <sub>2</sub>	2	10
77.	Chloropentafluoroethane	CClF <sub>2</sub> CF <sub>3</sub>	1,000	6,320
78.	Chloropicrin (Tri chloronitromethane)	CCl <sub>3</sub> NO <sub>2</sub>	0.1	0.67
79.	o-Chlorostyrene	CLC <sub>6</sub> H <sub>5</sub> CH=CH <sub>2</sub>	50	283
80.	o-Chlorotoluene	ClC <sub>6</sub> H <sub>4</sub> CH <sub>3</sub>	50	259
81.	Chromium metal (as Cr)	Cr		1
82.	Chromium (II) compounds	Cr		0.5
83.	Chromium (III) compounds	Cr		0.5
84.	Coal tar pitch volatiles			0.2
85.	Cobalt, metal fume & dust (as Co)	Co/CoO/Co <sub>2</sub> O <sub>3</sub> /Co <sub>2</sub> O <sub>4</sub>		0.05
86.	Coke-oven emissions			0.15
87.	Copper, fume	Cu/Cu <sub>2</sub> O/CuO		0.2
88.	Copper, dusts & mists (as Cu)	CuSO <sub>4</sub> ·5H <sub>2</sub> O/CuCl		1
89.	Cotton dust			0.2
90.	Crotonaldehyde	CH <sub>3</sub> CH=CHCHO	2	5.7
91.	Cumene	C <sub>6</sub> H <sub>5</sub> CH(CH <sub>3</sub> ) <sub>2</sub>	50	246
92.	Cresol (all isomers)	CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> OH	5	22
93.	Cyanamide (Hydrogen cyanamide)	H <sub>2</sub> NCN		2
94.	Cyanides (as CN <sup>-</sup> )	CN <sup>-</sup>		5
95.	Cyclohexylamine	C <sub>6</sub> H <sub>11</sub> NH <sub>2</sub>	10	41
96.	Cyclohexane	C <sub>6</sub> H <sub>12</sub>	300	1,030
97.	Cyclohexanol	C <sub>6</sub> H <sub>11</sub> OH	50	206
98.	Cyclohexanone	C <sub>5</sub> H <sub>10</sub> CO	25	100
99.	1,3-Cyclopentadiene	C <sub>5</sub> H <sub>6</sub>	75	203
100.	Cyclopentane	C <sub>5</sub> H <sub>10</sub>	600	1,720
101.	2,4-D (2,4-Dichlorophenoxyacetic acid)	Cl <sub>2</sub> C <sub>6</sub> H <sub>3</sub> OCH <sub>2</sub> COOH		10
102.	Decaborane	B <sub>10</sub> H <sub>14</sub>	0.05	0.25
103.	Demeton	C <sub>8</sub> H <sub>19</sub> O <sub>3</sub> PS <sub>2</sub>	0.01	0.11
104.	Diacetone alcohol	(CH <sub>3</sub> ) <sub>2</sub> C(OH)CH <sub>2</sub> COCH <sub>3</sub>	50	238
105.	Diazinon	[(CH <sub>3</sub> ) <sub>2</sub> CHC <sub>4</sub> N <sub>2</sub> H(CH <sub>3</sub> )O]PS(OC <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>		0.01
106.	Diazomethane	CH <sub>2</sub> N <sub>2</sub>	0.2	0.34
107.	Diborane	B <sub>2</sub> H <sub>6</sub>	0.1	0.11
108.	Dibutyl Phosphate	(C <sub>4</sub> H <sub>9</sub> O) <sub>2</sub> POOH	1	8.6
109.	Dibutyl phthalate	C <sub>6</sub> H <sub>4</sub> (COOC <sub>4</sub> H <sub>9</sub> ) <sub>2</sub>		5
110.	Dichloroacetylene	C <sub>2</sub> Cl <sub>2</sub>	0.1	0.39
111.	o-Dichlorobenzene	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>	50	301
112.	p-dichlorobenzene	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>	75	450
113.	Dichlorodifluoromethane	CCl <sub>2</sub> F <sub>2</sub>	1,000	4,950
114.	1,3-Dichloro-5,5-Dimethylhydantoin	C <sub>5</sub> H <sub>6</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>2</sub>		0.2
115.	1,1-Dichloroethane	CH <sub>3</sub> CHCl <sub>2</sub>	100	405
116.	1,2-Dichloroethylene	ClCH=CHCl	200	793
117.	Dichloroethyl ether	(ClCH <sub>2</sub> CH <sub>2</sub> ) <sub>2</sub> O	5	29
118.	Dichloromonofluoromethane	CHCl <sub>2</sub> F	10	42
119.	1,1-Dichloro-1-Nitroethane	H <sub>3</sub> CC(Cl) <sub>2</sub> NO <sub>2</sub>	2	12
120.	1,2-Dichloropropane	CH <sub>3</sub> CHClCH <sub>2</sub> Cl	75	347
121.	1,3-Dichloropropene	CHCl=CHCH <sub>2</sub> Cl	1	4.5
122.	2,2-Dichloropropionic Acid	CH <sub>3</sub> CCl <sub>2</sub> COOH	1	5.8
123.	p-Tetrafluorodichloroethane	CClF <sub>2</sub> CClF <sub>2</sub>	1,000	6,990
124.	Dicrotophos	(CH <sub>3</sub> O) <sub>2</sub> P(O)OC(CH <sub>3</sub> )=CHC(O)N(CH <sub>3</sub> ) <sub>2</sub>		0.25
125.	Dicyclopentadiene	C <sub>10</sub> H <sub>12</sub>	5	27
126.	Diethanolamine	(HOCH <sub>2</sub> CH <sub>2</sub> ) <sub>2</sub> NH	3	13

127.	Diethylamine	$(C_2H_5)_2NH$	10	30
128.	2-Diethylaminoethanol	$(C_2H_5)_2NCH_2CH_2OH$	10	48
129.	Diethylenetriamine	$NH_2C_2H_4NHC_2H_4NH_2$	1	4.2
130.	Diethyl Ketone	$C_2H_5COC_2H_5$	200	705
131.	Diethyl Phthalate	$C_6H_4(CO_2C_2H_5)_2$		5
132.	Difluoro dibromomethane	$CF_2Br_2$	100	858
133.	Diglycidyl ether	$OCH_2CHCH_2OCH_2CHCH_2O$	0.1	0.53
134.	Diisobutyl ketone	$(C_4H_9)_2CO$	25	145
135.	Diisopropylamine	$[(CH_3)_2CH]_2NH$	5	21
136.	Dimethylacetamide	$CH_3CON(CH_3)_2$	10	36
137.	Dimethylamine	$(CH_3)_2NH$	10	18
138.	N,N-dimethylaniline	$C_6H_5N(CH_3)_2$	5	25
139.	Dichlorovinyl dimethyl phosphate	$(CH_3)_2PO_4CH=CCl_2$	0.1	1
140.	N,N-dimethylaniline	$HCON(CH_3)_2$	10	30
141.	Dimethylphthalate	$C_6H_4(COOCH_3)_2$		5
142.	Dimethyl Sulfate	$(CH_3)_2SO_4$	0.1	0.52
143.	Nitrobenzene (all isomers)	$C_6H_4(NO_2)_2$	0.15	1
144.	Dinitro-O-Cresol	$CH_3C_6H_2(NO_2)_2OH$		0.2
145.	Dinitrotoluene	$C_6H_3CH_3(NO_2)_2$		1.5
146.	o-Dioctyl Phthalate	$C_6H_4(COOC_8H_{17})_2$		5
147.	1,4-Dioxane	$(C_2H_4)_2O_2$	25	90
148.	Dioxathion	$C_4H_6O_2[SPS(OC_2H_5)_2]_2$		0.2
149.	Diphenylamine	$(C_6H_5)_2NH$		10
150.	Dipropylene glycol methyl ether	$CH_3OC_3H_6OC_3H_6OH$	100	606
151.	Dipropyl ketone	$(CH_3CH_2CH_2)_2CO$	50	233
152.	Disulfoton	$(C_2H_5O)_2P(S)SCH_2CH_2SCH_2CH_3$		0.1
153.	Divinylbenzene	$C_6H_4(CHCH_2)_2$	10	53
154.	Endosulfan	$C_9H_6Cl_6O_3S$		0.1
155.	EPN (Ethyl para nitrophenyl thionobenzene phosphonate)	$C_6H_5P(C_2H_5O)(S)OC_6H_4NO_2$		0.5
156.	Epichlorohydrin	$OCH_2CHCH_2Cl$	2	7.6
157.	1,2-Epoxypropane	$OCH_2CHCH_3$	20	48
158.	2,3-Epoxy-1-propanol (Glycidol)	$CH_2OHCHCH_2O$	25	76
159.	Ethanolamine	$NH_2CH_2CH_2OH$	3	7.5
160.	Ethion	$[(C_2H_5O)_2P(S)S]_2CH_2$		0.4
161.	Ethylamine	$C_2H_5NH_2$	10	18
162.	Ethyl acetate	$CH_3COOC_2H_5$	400	1,440
163.	Ethyl acrylate	$CH_2=CHCOOC_2H_5$	25	102
164.	Ethyl alcohol	$C_2H_5OH$	1,000	1,880
165.	Ethyl amyl ketone	$CH_3CH_2CH(CH_3)CH_2COCH_2CH_3$	25	131
166.	Ethyl bromide	$C_2H_5Br$	200	892
167.	Ethyl butyl ketone	$CH_3(CH_2)_3COCH_2CH_3$	50	234
168.	Ethyl ether	$(C_2H_5)_2O$	400	1,210
169.	Ethylenediamine	$NH_2CH_2CH_2NH_2$	10	25
170.	Ethylene dibromide	$C_2H_4Br_2$	20	154
171.	Ethylene glycol (mist)	$CH_2OHCH_2OH$		10
172.	Ethylene glycol (vapor)	$CH_2OHCH_2OH$	50	127
173.	Ethylenimine	$H_2CNHCH_2$	0.5	0.88
174.	Ethylene glycol monobutyl ether	$CH_2OHCH_2OC_4H_9$	25	121
175.	Ethylene glycol monoethyl ether	$CH_2OHCH_2OC_2H_5$	5	18
176.	Ethylene glycol monoethyl ether acetate	$C_2H_5OCH_2CH_2COOCH_3$	5	27
177.	Ethylene glycol monomethyl ether	$CH_2OHCH_2OCH_3$	5	16
178.	Ethylene glycol monomethyl ether acetate	$CH_3COOCH_2CH_2OCH_3$	5	24
179.	Ethylene oxide	$C_2H_4O$	1	1.8
180.	Ethyl formate	$HCOOC_2H_5$	100	303
181.	Ethyl mercaptan	$C_2H_5SH$	10	25
182.	N-Ethylmorpholine	$CH_2CH_2OCH_2CH_2NCH_2CH_3$	5	24
183.	Fenchlorphos (Ronnell)	$(CH_3O)_2P(S)OC_6H_4Cl_3$		10
184.	Ferrovandium			1
185.	Fluorides (as F)	F		2.5
186.	Fluorine	$F_2$	1	1.6
187.	Fluorotrichloromethane	$CCl_3F$	1,000	5,620
188.	Formamide	$HCONH_2$	20	37
189.	Formic acid	$HCOOH$	5	9.4
190.	Furfural	$C_4H_3OCHO$	2	7.9
191.	Furfuryl alcohol	$C_4H_3OCH_2OH$	10	40

192.	Gasoline		300	890
193.	Germanium tetrahydride	GeH <sub>4</sub>	0.2	0.63
194.	Glutaraldehyde	OHC(CH <sub>2</sub> ) <sub>3</sub> CHO	0.2	0.82
195.	Grain dust			10
196.	Hafnium	Hf		0.5
197.	Heptachlor	C <sub>10</sub> H <sub>7</sub> Cl <sub>7</sub>		0.5
198.	n-Heptane	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>5</sub> CH <sub>3</sub>	400	1,640
199.	Hexachlorobutadiene	Cl <sub>2</sub> CCCICCCl <sub>2</sub>	0.02	0.21
200.	Hexachlorocyclopentadiene	C <sub>5</sub> Cl <sub>6</sub>	0.01	0.11
201.	Hexachloroethane	Cl <sub>3</sub> CCCl <sub>3</sub>	1	9.7
202.	Hexachloronaphthalene	C <sub>10</sub> H <sub>2</sub> Cl <sub>6</sub>		0.2
203.	Hexafluoroacetone	CF <sub>3</sub> COCF <sub>3</sub>	0.1	0.68
204.	Hexamethylene diisocyanate (HDI)	OCN(CH <sub>2</sub> ) <sub>6</sub> NCO	0.005	0.034
205.	n-Hexane	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>4</sub> CH <sub>3</sub>	50	176
206.	Hexane isomers	C <sub>6</sub> H <sub>14</sub>	500	1,760
207.	sec-Hexyl acetate	CH <sub>3</sub> COOC <sub>6</sub> H <sub>13</sub>	50	295
208.	Hexylene glycol	(CH <sub>3</sub> ) <sub>2</sub> COHCH <sub>2</sub> CHOHCH <sub>3</sub>	25	121
209.	Hydrogen bromide	HBr	3	9.9
210.	Hydrogen chloride	HCl	5	7.5
211.	Hydrazine	NH <sub>2</sub> NH <sub>2</sub>	0.1	0.13
212.	Hydrogen cyanide	HCN	10	11
213.	Hydrogen fluoride	HF	3	2.6
214.	Hydrogen peroxide	H <sub>2</sub> O <sub>2</sub>	1	1.4
215.	Hydrogen selenide	H <sub>2</sub> Se	0.05	0.16
216.	Hydrogen sulfide	H <sub>2</sub> S	10	14
217.	Hydroquinone	C <sub>6</sub> H <sub>4</sub> (OH) <sub>2</sub>		2
218.	Indium and compounds (as In)	In		0.1
219.	Iodine	I <sub>2</sub>	0.1	1
220.	Iron pentacarbonyl (as Fe)	Fe(CO) <sub>5</sub>	0.1	0.23
221.	Iron oxide (fume)	FeO, Fe <sub>3</sub> O <sub>4</sub>		10
222.	Isoamyl acetate	CH <sub>3</sub> COO(CH <sub>2</sub> ) <sub>2</sub> CH(CH <sub>3</sub> ) <sub>2</sub>	100	532
223.	Isoamyl alcohol	(CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> CH <sub>2</sub> OH	100	361
224.	Isobutyl acetate	CH <sub>3</sub> COOCH <sub>2</sub> CH <sub>2</sub> (CH <sub>3</sub> ) <sub>2</sub>	150	713
225.	Isobutyl alcohol	(CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> OH	50	152
226.	Isooctyl alcohol	C <sub>7</sub> H <sub>15</sub> CH <sub>2</sub> OH	50	266
227.	Isophorone	C <sub>9</sub> H <sub>14</sub> O	5	28
228.	Isophorone diisocyanate (IPDI)	C <sub>10</sub> H <sub>18</sub> (NCO) <sub>2</sub>	0.005	0.045
229.	2-Isopropoxyethanol	(CH <sub>3</sub> ) <sub>2</sub> CHOCH <sub>2</sub> CH <sub>2</sub> OH	25	106
230.	Isopropyl acetate	CH <sub>3</sub> COOCH(CH <sub>3</sub> ) <sub>2</sub>	250	1,040
231.	Isopropylamine	(CH <sub>3</sub> ) <sub>2</sub> CHNH <sub>2</sub>	5	12
232.	Isopropyl alcohol	(CH <sub>3</sub> ) <sub>2</sub> CHOH	400	983
233.	N-Isopropylaniline	C <sub>6</sub> H <sub>5</sub> NHCH(CH <sub>3</sub> ) <sub>2</sub>	2	11
234.	Isopropyl ether	(CH <sub>3</sub> ) <sub>2</sub> CHOCH(CH <sub>3</sub> ) <sub>2</sub>	250	1,040
235.	Isopropyl glycidyl ether (IGE)	CH(CH <sub>3</sub> ) <sub>2</sub> OCH <sub>2</sub> CHCH <sub>2</sub> O	50	238
236.	Ketene	H <sub>2</sub> C=CO	0.5	0.86
237.	Lead arsenate	Pb <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub>		0.15
238.	Lead chromate (as Cr)	PbCrO <sub>4</sub>		0.05
239.	Linen			0.2
240.	L.P.G. (Liquified petroleum gas)	C <sub>n</sub> H <sub>2n+2</sub> (N=2~4)	1,000	1,800
241.	Lithium hydride	LiH		0.025
242.	Magnesium oxide (fume)	MgO		10
243.	Malathion	C <sub>10</sub> H <sub>19</sub> O <sub>6</sub> PS <sub>2</sub>		10
244.	Maleic anhydride	(CHCO) <sub>2</sub> O	0.25	1
245.	Manganese, fume (as Mn)	Mn		1
246.	Manganese & inorganic compounds (as Mn)	Mn		5
247.	Manganese cyclopentadienyl tricarbonyl (as Mn)	C <sub>5</sub> H <sub>4</sub> Mn(CO) <sub>3</sub>		0.1
248.	Mesityl oxide	(CH <sub>3</sub> ) <sub>2</sub> C=CHCOCH <sub>3</sub>	15	60
249.	Methacrylic acid	CH <sub>2</sub> =C(CH <sub>3</sub> )COOH	20	70
250.	4-Methoxyphenol	CH <sub>3</sub> OC <sub>6</sub> H <sub>4</sub> OH		5
251.	Methyl acetate	CH <sub>3</sub> COOCH <sub>3</sub>	200	606
252.	Methyl acetylene	CH <sub>3</sub> C≡CH	1,000	1,640
253.	Methyl acrylate	CH <sub>2</sub> =CHCOOCH <sub>3</sub>	10	35
254.	Methylacrylonitrile	CH <sub>2</sub> =C(CH <sub>3</sub> )CN	1	2.7
255.	Methylal	CH <sub>3</sub> OCH <sub>2</sub> OCH <sub>3</sub>	1,000	3,110
256.	Methyl alcohol	CH <sub>3</sub> OH	200	262

257.	Methylamine	$\text{CH}_3\text{NH}_2$	10	13
258.	Methyl n-amyl ketone	$\text{CH}_3(\text{CH}_2)_4\text{COCH}_3$	50	233
259.	N-methylaniline	$\text{C}_6\text{H}_5\text{NHCH}_3$	0.5	2.2
260.	Methyl bromide	$\text{CH}_3\text{Br}$	5	19
261.	Methyl n-butyl ketone	$\text{CH}_3\text{COC}_4\text{H}_9$	5	20
262.	Methyl chloride	$\text{CH}_3\text{Cl}$	50	103
263.	Methyl 2-cyanoacrylate	$\text{CH}_2=\text{C}(\text{CN})\text{COOCH}_3$	2	9.1
264.	Methylcyclohexane	$\text{CH}_3\text{C}_6\text{H}_{11}$	400	1,610
265.	Methylcyclohexanol	$\text{CH}_3\text{C}_6\text{H}_{10}\text{OH}$	50	234
266.	Methylcyclohexanone	$\text{CH}_3\text{C}_5\text{H}_9\text{CO}$	50	229
267.	Methylcyclopentadienyl manganese tricarbonyl (as Mn)	$\text{CH}_3\text{C}_5\text{H}_4\text{Mn}(\text{CO})_3$		0.2
268.	4,4'-Methylene bis (2-chloro aniline)	$\text{C}_{13}\text{H}_{12}\text{Cl}_2\text{N}_2$	0.02	0.218
269.	Methylene bisphenyl isocyanate (MDI)	$\text{OCNC}_6\text{H}_4\text{CH}_2\text{C}_6\text{H}_4\text{NCO}$	0.02	0.2
270.	Methyl ethyl ketone	$\text{CH}_3\text{COC}_2\text{H}_5$	200	590
271.	Methyl ethyl ketone peroxide (MEKPO)	$\text{C}_8\text{H}_{16}\text{O}_4$	0.2	1.5
272.	Methyl formate	$\text{HCOOCH}_3$	100	246
273.	Methyl hydrazine	$\text{CH}_3\text{NHNH}_2$	0.2	0.38
274.	Methyl iodide	$\text{CH}_3\text{I}$	2	12
275.	Methyl isoamyl ketone	$\text{CH}_3\text{COC}_2\text{H}_4\text{CH}(\text{CH}_3)_2$	50	234
276.	Methylisobutyl carbinol	$(\text{CH}_3)_2\text{CHCH}_2\text{CH}(\text{CH}_3)\text{OH}$	25	104
277.	Methyl isobutyl ketone	$\text{CH}_3\text{COCH}(\text{CH}_3)_2$	50	205
278.	Methylisocyanate	$\text{CH}_3\text{NCO}$	0.02	0.05
279.	Methyl isopropyl ketone	$\text{CH}_3\text{COCH}(\text{CH}_3)_2$	200	705
280.	Methyl mercaptan	$\text{H}_3\text{CSH}$	10	20
281.	Methyl methacrylate	$\text{C}_3\text{H}_5\text{COOCH}_3$	100	410
282.	Methyl parathion	$(\text{CH}_3\text{O})_2\text{P}(\text{S})\text{OC}_6\text{H}_4\text{NO}_2$		0.2
283.	Methyl propyl ketone	$\text{CH}_3(\text{CH}_2)_2\text{COCH}_3$	200	705
284.	Methyl tert-butyl ether	$(\text{CH}_3)_3\text{COCH}_3$	40	144
285.	$\alpha$ -Methylstyrene	$\text{C}_6\text{H}_5\text{C}(\text{CH}_3)=\text{CH}_2$	50	242
286.	Mica			3
287.	Molybdenum (as Mo) Soluble compounds	Mo		5
288.	Morpholine	$\text{C}_4\text{H}_8\text{ONH}$	20	71
289.	Naphtha (Coal tar)	$\text{C}_7\text{H}_8\sim\text{C}_8\text{H}_{10}$	100	400
290.	Naphthalene	$\text{C}_{10}\text{H}_8$	10	52
291.	Nickel, soluble compounds (as Ni)	Ni		0.1
292.	Nickel carbonyl	$\text{Ni}(\text{CO})_4$	0.001	0.007
293.	Nicotine	$\text{C}_5\text{H}_4\text{NC}_4\text{H}_7\text{NCH}_3$		0.5
294.	Nitric acid	$\text{HNO}_3$	2	5.2
295.	Nitric oxide	NO	25	31
296.	p-Nitroaniline	$\text{NO}_2\text{C}_6\text{H}_4\text{NH}_2$		3
297.	Nitrobenzene	$\text{C}_6\text{H}_5\text{NO}_2$	1	5
298.	p-Nitrochlorobenzene	$\text{C}_6\text{H}_4\text{Cl}(\text{NO}_2)$		1
299.	Nitroethane	$\text{CH}_3\text{CH}_2\text{NO}_2$	100	307
300.	Nitrogen dioxide	$\text{NO}_2$ and $\text{N}_2\text{O}_4$	5	9
301.	Nitrogen trifluoride	$\text{NF}_3$	10	29
302.	Nitroglycerin	$\text{C}_3\text{H}_5(\text{ONO}_2)_3$	0.2	2
303.	Nitroglycol	$(\text{CH}_2\text{ONO}_2)_2$	0.02	0.12
304.	Nitromethane	$\text{CH}_3\text{NO}_2$	100	250
305.	1-Nitropropane	$\text{CH}_3\text{CH}_2\text{CH}_2\text{NO}_2$	25	91
306.	2-Nitropropane	$\text{CH}_3\text{CHNO}_2\text{CH}_3$	10	36
307.	Nitrotoluene	$\text{NO}_2\text{C}_6\text{H}_4\text{CH}_3$	2	11
308.	Nitrous oxide	$\text{N}_2\text{O}$	50	90
309.	Nonane	$\text{C}_9\text{H}_{20}$	200	1,050
310.	Octachloronaphthalene	$\text{C}_{10}\text{Cl}_8$		0.1
311.	Octane	$\text{C}_8\text{H}_{18}$	300	1,400
312.	Oil mist (Mineral)			5
313.	Osmium tetroxide (as Os)	$\text{OsO}_4$	0.0002	0.0016
314.	Oxalic acid	$(\text{COOH})_2\cdot 2\text{H}_2\text{O}$		1
315.	Oxygen difluoride	$\text{OF}_2$	0.05	0.11
316.	Ozone	$\text{O}_3$	0.1	0.2
317.	Paraffin wax, fume			2
318.	Paraquat	$\text{C}_{12}\text{H}_{14}\text{N}_2\text{Cl}_2$ or $\text{C}_{12}\text{H}_{14}\text{N}_2(\text{CH}_3\text{SO}_4)_2$		0.1
319.	Parathion	$(\text{C}_2\text{H}_5\text{O})_2\text{PSOC}_6\text{H}_4\text{NO}_2$		0.1
320.	Pentaborane	$\text{B}_5\text{H}_9$	0.005	0.013
321.	Pentachloronaphthalene	$\text{C}_{10}\text{H}_3\text{Cl}_5$		0.5

322.	Pentachlorophenol & its sodium salts	C <sub>6</sub> Cl <sub>5</sub> OH		0.5
323.	Pentane	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub>	600	1,770
324.	Perchloro methyl mercaptan	ClSCCl <sub>3</sub>	0.1	0.76
325.	Perchloryl fluoride	ClFO <sub>3</sub>	3	13
326.	Phenol	C <sub>6</sub> H <sub>5</sub> OH	5	19
327.	Phenothiazine	C <sub>12</sub> H <sub>9</sub> NS		5
328.	p-Phenylenediamine	C <sub>6</sub> H <sub>4</sub> (NH <sub>2</sub> ) <sub>2</sub>		0.1
329.	Phenyl ether, vapor	(C <sub>6</sub> H <sub>5</sub> ) <sub>2</sub> O	1	7
330.	Phenyl glycidyl ether (PGE)	C <sub>6</sub> H <sub>5</sub> OCH <sub>2</sub> CHCH <sub>2</sub> O	1	6.1
331.	Phenylhydrazine	C <sub>6</sub> H <sub>5</sub> NHNH <sub>2</sub>	5	22
332.	Phenyl mercaptan	C <sub>6</sub> H <sub>5</sub> SH	0.5	2.3
333.	Phenylphosphine	C <sub>6</sub> H <sub>5</sub> PH <sub>2</sub>	0.05	0.23
334.	Phorate	(C <sub>2</sub> H <sub>5</sub> O) <sub>2</sub> P(S)SCH <sub>2</sub> SC <sub>2</sub> H <sub>5</sub>		0.05
335.	Phosdrin (Mevinphos)	(CH <sub>3</sub> O) <sub>2</sub> P(O)OC(CH <sub>3</sub> )=CHCOOCH <sub>3</sub>	0.01	0.092
336.	Phosgene	COCl <sub>2</sub>	0.1	0.4
337.	Phosphine	PH <sub>3</sub>	0.3	0.4
338.	Phosphoric acid	H <sub>3</sub> PO <sub>4</sub>		1
339.	Phosphorus (yellow)	P		0.1
340.	Phosphorus oxychloride	POCl <sub>3</sub>	0.1	0.63
341.	Phosphorus pentachloride	PCl <sub>5</sub>		1
342.	Phosphorus pentasulfide	P <sub>2</sub> S <sub>5</sub>		1
343.	Phosphorus trichloride	PCl <sub>3</sub>	0.2	1.1
344.	Phthalic anhydride	C <sub>6</sub> H <sub>4</sub> (CO) <sub>2</sub> O	1	6.1
345.	Phthalodinitrile	C <sub>6</sub> H <sub>4</sub> (CN) <sub>2</sub>		5
346.	Picric acid	C <sub>6</sub> H <sub>2</sub> (OH)(NO <sub>2</sub> ) <sub>3</sub>		0.1
347.	Piperazine dihydrochloride	C <sub>4</sub> H <sub>10</sub> N <sub>2</sub> ·2HCl		5
348.	Platinum (as Pt) Metal	Pt		1
349.	Platinum (as Pt) Soluble salts	Pt		0.002
350.	Polychlorobiphenyls	C <sub>12</sub> H <sub>n</sub> Cl <sub>(10-n)</sub> (0 ≤ n ≤ 9)		0.01
351.	Propane	CH <sub>3</sub> CH <sub>2</sub> CH <sub>3</sub>	1,000	1,800
352.	Propionic acid	CH <sub>3</sub> CH <sub>2</sub> COOH	10	30
353.	1-Propanol	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> OH	200	491
354.	n-Propyl acetate	CH <sub>3</sub> COOC <sub>3</sub> H <sub>7</sub>	200	835
355.	n-Propyl nitrate (NPN)	C <sub>3</sub> H <sub>7</sub> NO <sub>3</sub>	25	107
356.	Propylene glycol dinitrate	NO <sub>3</sub> CH <sub>2</sub> CHNO <sub>3</sub> CH <sub>3</sub>	0.05	0.34
357.	Propylene glycol monomethyl ether	CH <sub>3</sub> OCH <sub>2</sub> CHOHCH <sub>3</sub>	100	369
358.	Propyleneimine	CH <sub>3</sub> HCNHCH <sub>2</sub>	2	4.7
359.	Pyrethrum			5
360.	Pyridine	C <sub>5</sub> H <sub>5</sub> N	5	16
361.	Quinone	C <sub>6</sub> H <sub>4</sub> O <sub>2</sub>	0.1	0.44
362.	Resorcinol	C <sub>6</sub> H <sub>4</sub> (OH) <sub>2</sub>	10	45
363.	Rhodium (as Rh), metal fume and insoluble compounds	Rh		0.1
364.	Rhodium (as Rh), soluble compounds	Rh		0.01
365.	Rotenone	C <sub>23</sub> H <sub>22</sub> O <sub>6</sub>		5
366.	Selenium compounds (as Se)	Se		0.2
367.	Selenium hexafluoride	SeF <sub>6</sub>	0.05	0.16
368.	Silicon hydride (Silane)	SiH <sub>4</sub>	5	6.6
369.	Silver, metal dust and soluble compounds and fume (as Ag)	Ag		0.01
370.	Sodium azide	NaN <sub>3</sub>	0.11	0.29
371.	Sodium bisulfite	NaHSO <sub>3</sub>		5
372.	Sodium fluoroacetate	FCH <sub>2</sub> COONa		0.05
373.	Sodium hydroxide	NaOH		2
374.	Stibine (antimony hydride)	SbH <sub>3</sub>	0.1	0.51
375.	Stoddard solvent (White spirits)		100	525
376.	Sulfur dioxide	SO <sub>2</sub>	2	5.2
377.	Sulfur hexafluoride	SF <sub>6</sub>	1,000	5,970
378.	Sulfur monochloride	S <sub>2</sub> Cl <sub>2</sub>	1	5.5
379.	Sulfuric acid	H <sub>2</sub> SO <sub>4</sub>		1
380.	Sulfur pentafluoride	S <sub>2</sub> F <sub>10</sub>	0.01	0.1
381.	Sulfur tetrafluoride	SF <sub>4</sub>	0.1	0.44
382.	Sulfuryl fluoride	SO <sub>2</sub> F <sub>2</sub>	5	21
383.	Talc (containing no asbestos fibers)	Mg <sub>3</sub> [Si <sub>4</sub> O <sub>10</sub> ](OH) <sub>2</sub>		2
384.	Tantalum, metal and oxide dust	Ta		5
385.	Tellurium and compounds (as Te)	Te		0.1

386.	TEPP	$(C_2H_5O)_4P_2O_3$	0.004	0.047
387.	Terphenyls	$(C_6H_5)_2C_6H_4$	0.53	5
388.	1,1,1,2-Tetrachloro-2,2-difluoroethane	$CCl_3CClF_2$	500	4,170
389.	1,1,2,2-Tetrachloro-1,2-difluoroethane	$CCl_2FCCl_2F$	500	4,170
390.	1,1,2,2-Tetrachloroethane	$CHCl_2CHCl_2$	1	6.9
391.	Tetrachloronaphthalene	$C_{10}H_4Cl_4$		2
392.	Tetraethyl lead	$Pb(C_2H_5)_4$		0.075
393.	Tetramethyl lead (as Pb)	$Pb(CH_3)_4$		0.075
394.	Tetrahydrofuran (THF)	$(CH_2)_4O$	200	590
395.	Tetramethyl succinonitrile	$NCC(CH_3)_2C(CH_3)_2CN$	0.5	28
396.	Tetranitromethane	$C(NO_2)_4$	1	8
397.	Tetrasodium pyrophosphate	$Na_4P_2O_7$		5
398.	Thioglycolic acid	$HSCH_2COOH$	1	3.8
399.	Thionyl chloride	$SOCl_2$	1	4.9
400.	Thiram	$[(CH_3)_2NCS]_2S_2$		5
401.	Tin & its inorganic compounds (as Sn)	Sn		2
402.	Tin organic compounds (as Sn)	Sn		0.1
403.	Tin oxide (as Sn)	Sn		2
404.	Titanium dioxide	$TiO_2$		10
405.	o-Toluidine	$CH_3C_6H_4NH_2$	5	22
406.	m-Toluidine	$CH_3C_6H_4NH_2$	2	8.8
407.	p-Toluidine	$CH_3C_6H_4NH_2$	2	8.8
408.	Toluene-2,4-diisocyanate or Toluene-2,6-diisocyanate(TDI)	$CH_3C_6H_3(NCO)_2$	0.005	0.036
409.	Toxaphene	$C_{10}H_{16}Cl_8$		0.5
410.	Tributyl phosphate (TBP)	$(C_4H_9)_3PO_4$	0.2	2.2
411.	Trichloroacetic acid (TCA)	$CCl_3COOH$	1	6.7
412.	1,2,4-Trichlorobenzene	$C_6H_3Cl_3$	5	37
413.	1,1,1,-Trichloroethane (methylchloroform)	$CH_3CCl_3$	350	1,910
414.	1,1,2-Trichloroethane	$Cl_2CHCH_2Cl$	10	55
415.	Trichloronaphthalene	$C_{10}H_5Cl_3$		5
416.	1,2,3-Trichloropropane	$ClCH_2CHClCH_2Cl$	50	302
417.	1,1,2-Trichloro-1,2,2-trifluoroethane	$CCl_2FCClF_2$	1,000	7,670
418.	Triethylamine	$(C_2H_5)_3N$	10	41
419.	Trifluorobromomethane	$CBrF_3$	1,000	6,090
420.	Trimellitic anhydride	$C_9H_4O_5$	0.005	0.04
421.	Trimethylamine	$(CH_3)_3N$	10	24
422.	Trimethylbenzene	$(CH_3)_3C_6H_3$	25	123
423.	Timethyl phosphite	$(CH_3O)_3P$	2	10
424.	2,4,6-Trinitrotoluene (TNT)	$CH_3C_6H_2(NO_2)_3$		0.5
425.	Triorthocresyl phosphate (TOCP)	$C_{21}H_{21}O_4P$		0.1
426.	Triphenyl amine	$(C_6H_5)_3N$		5
427.	Triphenyl phosphate	$(C_6H_5)_3PO_4$		3
428.	Tungsten Insoluble compounds (as W)	W		5
429.	Tungsten Soluble compounds (as W)	W		1
430.	Turpentine	$C_{10}H_{16}$	100	556
431.	Uranium Soluble compounds (as U)	U		0.2
432.	Uranium Insoluble compounds (as U)	U		0.2
433.	n-Valeraldehyde	$CH_3(CH_2)_3CHO$	50	176
434.	Vanadium pentaoxide dust	$V_2O_5$		0.5
435.	Vanadium pentaoxide fume	$V_2O_5$		0.1
436.	Vinyl acetate	$CH_3COOCH=CH_2$	10	35
437.	Vinyl bromide	$CH_2=CHBr$	5	22
438.	Vinylcyclohexene dioxide	$CH_2CHOC_6H_9O$	10	57
439.	Vinyltoluene	$CH_2=CHC_6H_4CH_3$	100	482
440.	Warfarin	$C_{19}H_{16}O_4$		0.1
441.	Wood dust			5
442.	Xylidine	$(CH_3)_2C_6H_3NH_2$	2	10
443.	Yttrium, metal and compounds (as Y)	Y		1
444.	Zinc chloride, (fume)	$ZnCl_2$		1
445.	Zinc chromates (as $CrO_3$ )	$ZnCrO_4$		0.05
446.	Zinc oxide (fume)	$ZnO$		5
447.	Zirconium compounds (as Zr)	Zr		5