

Occupational Health and Safety Regulation section 5.48 provides established exposure limits for a worker's exposure to hazardous chemical substances. Generally, these exposure limits are established according to the Threshold Limit Values ("TLVs") adopted by the American Conference of Governmental Industrial Hygienists ("ACGIH"). WorkSafeBC (the Workers' Compensation Board) has the authority to make exceptions and adopt occupational exposure limits for specific chemical substances that are not consistent with the TLVs established by the ACGIH. Policy R5.48-1 sets out those exceptions. The below Table of Exposure Limits for Chemical and Biological Substances shows all occupational exposure limits for British Columbia workplaces, i.e., adopted TLVs and exposure limits developed by exception.

WorkSafeBC publishes this exposure limit table in accordance with its mandate under the *Workers Compensation Act* to provide information and promote public awareness. This table does not represent the official exposure limits and designations. WorkSafeBC does not warrant the accuracy or the completeness of the information in this table, and none of its board of directors, employees or agents shall be liable to any person for any loss or damage of any nature arising from this version.

Where WorkSafeBC has adopted a TLV or ACGIH designation, the official exposure limit is in the ACGIH TLV documentation. Where an exposure limit is adopted by exception, the official exposure limit is found in Policy R5.48-1. The official source of the International Agency for Research on Cancer (IARC) carcinogenicity designations is the IARC set of monographs.

Explanation of table entries

General notes regarding the Table entries.

- Chemicals and other substances are listed in alphabetical order. Numerals and prefixes, for example, 1,3-, tert-, o-, sec-, cis-, are disregarded in determining alphabetical order.
- In square brackets is the Chemical Abstracts Services (CAS) registry number. This is a unique identification number assigned specifically to that substance, and can be a convenient way to identify substances.
- WorkSafeBC reviews and updates this Table as necessary. If the exposure limit for a substance has been revised or newly adopted since January 1, 2003 this Table reports the change with the words "Revised (year)". Each year, newly included substances and amended substances are highlighted for a period of time. Recent deletions of substances from the Table are shown as strike through (e.g., ~~Emery~~).
- Endnotes: Letters in parentheses indicate endnotes, which are explained at the end of the table. Substances which have an "L" endnote are subject to section 5.57 (Designated substances) of the *OHS Regulation*. For more information see OHS Guideline G5.57.
- [Additional explanation about this table is available at G5.48-2 Annual revisions to exposure limits](#)

TWA column

This is the 8-hour time weighted average (TWA) limit, as defined in section 5.1 of the *OHS Regulation*.

- Units: Exposure limits are reported in ppm, mg/m³, or f/cc. In general, substances present in air as a vapour or gas are reported in parts per million (ppm). Substances present in air as an aerosol (dust, fume, mist) and mixtures such as diesel fuel are typically reported in milligrams per cubic metre (mg/m³). See OHS Guideline G5.48-4 for a procedure to convert from one type of unit to the other. Fibrous substances, such as synthetic vitreous fibres (e.g., glass wool fibres) are reported in fibres per cubic centimetre (f/cc). This is equivalent to fibres per millilitre, or f/ml, which is another common term.

STEL/Ceiling column

This is the short-term exposure limit or STEL, which is defined in section 5.1 of the *OHS Regulation*. Note that:

- "C" indicates a ceiling limit, which is defined in section 5.1 of the *OHS Regulation*.
- The units ppm and mg/m³ are used as in the TWA column.
- In some cases, the term "**simple asphyxiant**" is used. This is a gas or vapour that can displace oxygen in the air, resulting in possible suffocation from lack of oxygen. Because simple asphyxiants do not have other significant toxic effects, an exposure limit is not applicable. The limiting factor is the available oxygen. See section 5.56 of the *OHS Regulation* (Oxygen deficiency).

Bracketed letters are end notes, e.g., "(L)" and "(V)";

STEL column C = Ceiling limit;

Notations column R = Adverse reproductive effect; S = Sensitizer;

A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Notations column

The notations identify substances considered to be carcinogens, sensitizers and those with adverse reproductive effect under section 5.57 of the *OHS Regulation*. Section 5.57 deals with requirements for substitution and keeping exposure as low as reasonably achievable below the exposure limit. The notations column also indicates substances that contribute significantly to overall exposure by the skin route, in which case section 5.52 of the *OHS Regulation* applies. Note that:

- ACGIH notations **A1** and **A2** and IARC notations **1**, **2A** and **2B** indicate substances designated as carcinogens under section 5.57(1) of the *OHS Regulation*. The different categories used by the two organizations indicate different levels of certainty of carcinogenic effect, eg. from confirmed carcinogen to probable or possible. For more information see OHS Guideline G5.57.
- The letter "**S**" indicates that the substance is a sensitizer under section 5.57(1) of the *OHS Regulation*. For more information see OHS Guideline G5.57.
- The letter "**R**" means that the substance has an adverse reproductive effect under section 5.57(1) of the *OHS Regulation*. For more information see OHS Guideline G5.57.
- The term "**Skin**" identifies substances that contribute significantly to the overall exposure by the skin route. For more information see OHS Guideline G5.52.

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Abate (See Temephos)			
Acetaldehyde [75-07-0]		C 25 ppm	2B
Acetamide [60-35-5]			2B
Acetic acid [64-19-7]	10 ppm	15 ppm	
Acetic anhydride [108-24-7] Revised 2011	1 ppm	3 ppm	
Acetone [67-64-1]	250 ppm	500 ppm	
Acetone cyanohydrin [75-86-5]		C 1 ppm	Skin
Acetonitrile [75-05-8]	20 ppm		Skin
Acetophenone [98-86-2]	10 ppm		
Acetylene [74-86-2]		Simple asphyxiant	
Acetylene tetrabromide (See 1,1,2,2 Tetrabromoethane)			
Acetylsalicylic acid (Aspirin) [50-78-2]	5 mg/m ³		
Acrolein [107-02-8]		C 0.1 ppm	Skin
Acrylamide, Inhalable [79-06-1] Revised 2005	0.03 mg/m ³ (V)		Skin; 2A
Acrylic acid [79-10-7]	2 ppm		Skin; R
Acrylonitrile [107-13-1]	2 ppm		Skin; 2B
Adipic acid [124-04-9]	5 mg/m ³		
Adiponitrile [111-69-3]	2 ppm		Skin
Alachlor, Inhalable [15972-60-8] Revised 2007	1.0 mg/m ³ (V)		S
Aldrin, Inhalable [309-00-2] Revised 2007	0.05mg/m ³ (V)		Skin
Aliphatic hydrocarbon gases [C ₁ -C ₄] Revised 2004	1000 ppm		
Allyl alcohol [107-18-6]	0.5 ppm		Skin
Allyl amine [107-11-9]	2 ppm		
Allyl bromide [106-95-6]			(I)
Allyl chloride [107-05-1] Revised 2011	1 ppm	2 ppm	Skin
Allyl glycidyl ether [106-92-3]	1 ppm		S
Allyl propyl disulfide [2179-59-1] Revised 2006	0.5 ppm		S
Aluminum metal and insoluble compounds [7429-90-5], Respirable, Revised 2008	1.0 mg/m ³		
4-Aminodiphenyl [92-67-1]	(L)		Skin; A1, 1
2-Aminopyridine [504-29-0]	0.5 ppm		
Amitrole [61-82-5] Revised 2006	0.2 mg/m ³		R

Bracketed letters are end notes, e.g., "(L)" and "(V)";

STEL column C = Ceiling limit;

Notations column R = Adverse reproductive effect; S = Sensitizer;

A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Ammonia [7664-41-7]	25 ppm	35 ppm	
Ammonium chloride - Fume [12125-02-9]	10 mg/m ³	20 mg/m ³	
Ammonium perfluorooctanoate [3825-26-1]	0.01 mg/m ³		Skin
Ammonium sulfamate [7773-06-0]	10 mg/m ³ (N)		
tert-Amyl methyl ether (TAME) [994-05-8]	20 ppm		R
Aniline [62-53-3]	2 ppm		Skin
o-Anisidine [90-04-0]	0.5 mg/m ³		Skin; 2B
p-Anisidine [104-94-9]	0.5 mg/m ³		Skin
Antimony and compounds, as Sb [7440-36-0]	0.5 mg/m ³		
Antimony hydride (Stibine) [7803-52-3]	0.1 ppm		
Antimony trioxide - Production [1309-64-4]	(L)		A2; 2B
ANTU [86-88-4]	0.3 mg/m ³		
Argon [7440-37-1]		Simple asphyxiant	
Arsenic and inorganic compounds, as As [7440-38-2]	0.01 mg/m ³		A1, 1
Arsine [7784-42-1] Revised 2007	0.005 ppm		
Asbestos - All forms [1332-21-4]	0.1 f/cc (F)		A1, 1
Asphalt (Bitumen) fume, as benzene-soluble aerosol, Inhalable [8052-42-4]	0.5 mg/m ³		2B
Atrazine [1912-24-9]	5 mg/m ³		
Azinphos-methyl, Inhalable [86-50-0]	0.2 mg/m ³ (V)		Skin; S
Barium and soluble compounds, as Ba [7440-39-3]	0.5 mg/m ³		
Barium sulfate [7727-43-7]	10 mg/m ³ (N)		
Benomyl, Inhalable [17804-35-2] Revised 2008	1 mg/m ³		R, S
Benz[a]anthracene [56-55-3] Revised 2006	(L)		A2, 2B
Benzene [71-43-2]	0.5 ppm	2.5 ppm	Skin; A1, 1
Benzidine [92-87-5]	(L)		Skin; A1, 1
Benzidine based dyes			2A
Benzo[b]fluoranthene [205-99-2]	(L)		A2, 2B
Benzo[a]pyrene [50-32-8] Revised 2006	(L)		A2, 1
Benzotrichloride [98-07-7]		C 0.1 ppm	Skin; A2, 2A
Benzoyl chloride [98-88-4]		C 0.5 ppm	2A
Benzoyl peroxide [94-36-0]	5 mg/m ³		
Benzyl acetate [140-11-4]	10 ppm		
Benzyl chloride [100-44-7]		C 1 ppm	2A
Beryllium and compounds, as Be [7440-41-7] Revised 2009; 2010	0.002 mg/m ³	0.01 mg/m ³	Skin; S, A1, 1
Biphenyl [92-52-4]	0.2 ppm		
Bis(2-dimethylaminoethyl) ether (DMAEE) [3033-62-3]	0.05 ppm	0.15 ppm	Skin
Bismuth telluride - Se-doped [1304-82-1]	5 mg/m ³		
Bismuth telluride - Undoped [1304-82-1]	10 mg/m ³ (N)		
Borate compounds, Inorganic, Inhalable [1303-96-4; 1330-43-4; 10043-35-3; 12179-04-3] Revised 2005	2 mg/m ³	6 mg/m ³	
Boron oxide [1303-86-2]	10 mg/m ³		
Boron tribromide [10294-33-4]		C 1 ppm	
Boron trifluoride [7637-07-02]		C 1 ppm	
Bromacil [314-40-9]	10 mg/m ³		
Bromine [7726-95-6]	0.1 ppm	0.2 ppm	
Bromine pentafluoride [7789-30-2]	0.1 ppm		
Bromochloromethane [74-97-5]	200 ppm	250 ppm	
Bromoform [75-25-2] Revised 2009	0.5 ppm		
1-Bromopropane [106-94-5] Revised 2005	10 ppm		R
1,3-Butadiene [106-99-0]	2 ppm		A2, 1

Bracketed letters are end notes, e.g., "(L)" and "(V)";

STEL column C = Ceiling limit;

Notations column R = Adverse reproductive effect; S = Sensitizer;

A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
n-Butane [106-97-8]	600 ppm	750 ppm	
n-Butanol [71-36-3]	15 ppm	C 30 ppm	
sec-Butanol [78-92-2]	100 ppm		
tert-Butanol [75-65-0]	100 ppm		
Butenes, all isomers, including Isobutene [106-98-9], [107-01-7], [590-18-1], [624-64-6], [25167-67-3], [115-11-7]			(I)
2-Butoxyethanol (EGBE) [111-76-2] Revised 2003	20 ppm		
2-Butoxyethyl acetate [112-07-2] Revised 2003	20 ppm		
n-Butyl acetate [123-86-4]	20 ppm		
sec-Butyl acetate [105-46-4]	200 ppm		
tert-Butyl acetate [540-88-5]	200 ppm		
n-Butyl acrylate [141-32-2]	2 ppm		S
n-Butylamine [109-73-9]		C 5 ppm	Skin
Butylated hydroxytoluene (BHT), Inhalable, (2,6-Di-tert-butyl-p-cresol) [128-37-0]	2 mg/m ³ (V)		
tert-Butyl chromate, as CrO ₃ [1189-85-1]		C 0.1 mg/m ³	Skin
n-Butyl glycidyl ether (BGE) [2426-08-6] Revised 2005	3 ppm		Skin; S; R
n-Butyl lactate [138-22-7]	5 ppm		
n-Butyl mercaptan [109-79-5]	0.5 ppm		R
n-Butyl methacrylate [97-88-1]	50 ppm		
o-sec-Butylphenol [89-72-5]	5 ppm		Skin
p-tert-Butyltoluene [98-51-1]	1 ppm		
Cadmium and compounds, as Cd [7440-43-9]	0.01 mg/m ³		A2, 1
Cadmium and compounds, Respirable, as Cd [7440-43-9]	0.002 mg/m ³		A2, 1
Calcium arsenate, as As [7778-44-1]	0.01 mg/m ³		A1, 1
Calcium carbonate (incl. Limestone, Marble) [1317-65-3]	10 mg/m ³ (N)	20 mg/m ³	
Calcium chromate, as Cr [13765-19-0]	0.001 mg/m ³		A2, 1
Calcium cyanamide [156-62-7]	0.5 mg/m ³		
Calcium hydroxide [1305-62-0]	5 mg/m ³		
Calcium oxide [1305-78-8]	2 mg/m ³		
Calcium silicate - Synthetic nonfibrous [1344-95-2]	10 mg/m ³ (E,N)		
Calcium sulfate, Inhalable [7778-18-9]	10 mg/m ³		
Camphor - Synthetic [76-22-2]	2 ppm	3 ppm	
Caprolactam, Dust [105-60-2]	1 mg/m ³	3 mg/m ³	
Captafol [2425-06-1]	0.1 mg/m ³		Skin; 2A; S
Captan, Inhalable [133-06-2]	5 mg/m ³		S
Carbaryl [63-25-2] Revised 2008; 2010	5 mg/m ³		Skin; R
Carbofuran, Inhalable [1563-66-2] Revised 2004	0.1 mg/m ³ (V)		
Carbon black, Inhalable [1333-86-4] Revised 2011	3 mg/m ³		2B
Carbon dioxide [124-38-9]	5000 ppm	15,000 ppm	
Carbon disulfide [75-15-0]	4 ppm	12 ppm	Skin
Carbon monoxide [630-08-0]	25 ppm	100 ppm	R
Carbon tetrabromide [558-13-4]	0.1 ppm	0.3 ppm	
Carbon tetrachloride [56-23-5]	2 ppm		Skin; A2, 2B
Carbonyl fluoride [353-50-4]	2 ppm	5 ppm	
Carbonyl sulfide [463-58-1]			(I)
Catechol [120-80-9]	5 ppm		Skin; 2B
Cellulose [9004-34-6]	10 mg/m ³ (N)		
Cesium hydroxide [21351-79-1]	2 mg/m ³		
Chlordane [57-74-9]	0.5 mg/m ³		Skin; 2B
Chlorinated camphene [8001-35-2]	0.5 mg/m ³	1 mg/m ³	Skin; 2B
o-Chlorinated diphenyl oxide [31242-93-0]	0.5 mg/m ³		

Bracketed letters are end notes, e.g., "(L)" and "(V)";

STEL column C = Ceiling limit;

Notations column R = Adverse reproductive effect; S = Sensitizer;

A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Chlorine [7782-50-5]	0.5 ppm	1 ppm	
Chlorine dioxide [10049-04-4]	0.1ppm	0.3 ppm	
Chlorine trifluoride [7790-91-2]		C 0.1 ppm	
Chloroacetaldehyde [107-20-0]		C 1 ppm	
Chloroacetic acid [79-11-8]	0.3 ppm		
Chloroacetone [78-95-5]		C 1 ppm	Skin
2-Chloroacetophenone [532-27-4]	0.05 ppm		S
Chloroacetyl chloride [79-04-9]	0.05 ppm	0.15 ppm	Skin
p-Chloroaniline [106-47-8]			2B
Chlorobenzene [108-90-7]	10 ppm		
o-Chlorobenzylidene malononitrile [2698-41-1]		C 0.05 ppm	Skin
Chlorobromomethane (see Bromochloromethane)			
1-Chloro-1,1-difluoroethane [75-68-3]	1000 ppm		
Chlorodifluoromethane [75-45-6]	500 ppm	1250 ppm	
Chlorodiphenyl (42% chloride) [53469-21-9]	1 mg/m ³		Skin; 2A
Chlorodiphenyl (54% chloride) [11097-69-1]	0.5 mg/m ³		Skin; 2A
Chloroform [67-66-3]	2 ppm		2B; R
bis(Chloromethyl) ether [542-88-1]	0.001 ppm		A1, 1
Chloromethyl methyl ether [107-30-2]	(L)		A2, 1
1-Chloro-1-nitropropane [600-25-9]	2 ppm		
Chloropentafluoroethane [76-15-3]	1000 ppm		
Chloropicrin [76-06-2]	0.1 ppm		
1-Chloro-2-propanol [127-00-4] Revised 2008	1 ppm		Skin; R
2-Chloro-1-propanol [78-89-7] Revised 2008	1 ppm		Skin; R
beta-Chloroprene [126-99-8]	10 ppm		Skin; 2B; R
2-Chloropropionic acid [598-78-7]	0.1 ppm		Skin; R
o-Chlorostyrene [2039-87-4]	50 ppm	75 ppm	
o-Chlorotoluene [95-49-8]	50 ppm		
4-Chloro-o-Toluidine [95-69-2]			2A
Chlorotrifluoromethane [75-72-9]	1000 ppm		
Chlorpyrifos, Inhalable [2921-88-2] Revised 2003	0.1 mg/m ³ (V)		Skin
Chromite ore processing (Chromate), as Cr	0.05 mg/m ³		A1
Chromium - Metal [7440-47-3]	0.5 mg/m ³		
Chromium (III) inorganic compounds, as Cr [7440-47-3]	0.5 mg/m ³		
Chromium (VI) inorganic compounds - Insoluble, as Cr [7440-47-3]	0.01 mg/m ³		A1, 1
Chromium (VI) inorganic compounds - Water soluble, as Cr [7440-47-3]	0.025 mg/m ³	C 0.1 mg/m ³	A1, 1
Chromyl chloride [14977-61-8]	0.025 ppm		
Chrysene [218-01-9] Revised 2006	(L)		2B
Citral, inhalable [5292-40-5]			(I)
Clopidol [2971-90-6]	10 mg/m ³ (N)		
Coal dust - Anthracite, Respirable	0.4 mg/m ³		
Coal dust - Bituminous, Respirable	0.9 mg/m ³		
Coal tar pitch volatiles, as benzene-soluble aerosol [65996-93-2]	0.2 mg/m ³		A1, 1
Cobalt and inorganic compounds, as Co [7440-48-4]	0.02 mg/m ³		2B
Cobalt carbonyl, as Co [10210-68-1]	0.1 mg/m ³		2B
Cobalt hydrocarbonyl, as Co [16842-03-8]	0.1 mg/m ³		2B
Copper - Dusts and mists, as Cu [7440-50-8]	1 mg/m ³		
Copper - Fume, as Cu [7440-50-8]	0.2 mg/m ³		
Cotton dust - Raw, Untreated, Thoracic, Revised 2011	0.1 mg/m ³		
Coumaphos, Inhalable [56-72-4] Revised 2006	0.05 mg/m ³ (V)		Skin
Cresol, all isomers [1319-77-3; 95-48-7; 108-39-4; 106-44-5]	10 mg/m ³		Skin
Crotonaldehyde [4170-30-3]		C 0.3 ppm	Skin

Bracketed letters are end notes, e.g., "(L)" and "(V)";

STEL column C = Ceiling limit;

Notations column R = Adverse reproductive effect; S = Sensitizer;

A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Crufomate [299-86-5]	5 mg/m ³		
Cumene [98-82-8]	25 ppm	75 ppm	2B
Cyanamide [420-04-2]	2 mg/m ³		
Cyanogen [460-19-5]	10 ppm		
Cyanogen chloride [506-77-4]		C 0.3 ppm	
Cyclohexane [110-82-7]	100 ppm		
Cyclohexanol [108-93-0]	50 ppm		Skin
Cyclohexanone [108-94-1] Revised 2003	20 ppm	50 ppm	Skin
Cyclohexene [110-83-8]	300 ppm		
Cyclohexylamine [108-91-8]	10 ppm		
Cyclonite [121-82-4]	0.5 mg/m ³		Skin
Cyclopentadiene [542-92-7]	75 ppm		
Cyclopentane [287-92-3]	600 ppm		
Cyhexatin [13121-70-5]	5 mg/m ³		
2,4-D (2,4-Dichlorophenoxy-acetic acid) [94-75-7] (see 2,4-Dichlorophenoxyacetic acid and its esters)			
DDT (Dichloro-diphenyltrichloroethane) [50-29-3]	1 mg/m ³		2B
Decaborane [17702-41-9]	0.05 ppm	0.15 ppm	Skin
Demeton, Inhalable [8065-48-3]	0.05 mg/m ³ (V)		Skin
Demeton-S-methyl, Inhalable [919-86-8]	0.05 mg/m ³ (V)		Skin; S
Diacetone alcohol [123-42-2]	50 ppm		
Diacetyl [431-03-8]			(I)
2,4-Diaminoanisole [615-05-4]			2B
2,4-Diaminotoluene [95-80-7]			2B
Diazinon, Inhalable [333-41-5] Revised 2003	0.01 mg/m ³ (V)		Skin
Diazomethane [334-88-3]	0.2 ppm		A2
Diborane [19287-45-7]	0.1 ppm		
1,2-Dibromo-3-chloropropane [96-12-8]			2B
2-N-Dibutylaminoethanol [102-81-8]	0.5 ppm		Skin
Dibutyl phenyl phosphate [2528-36-1]	0.3 ppm		Skin
Dibutyl phosphate [107-66-4] Revised 2009; 2010	1 ppm	2 ppm	Skin
Dibutyl phthalate [84-74-2]	5 mg/m ³		R
Dichloroacetic acid [79-43-6] Revised 2005	0.5 ppm		Skin; 2B; R
Dichloroacetylene [7572-29-4]		C 0.1 ppm	
o-Dichlorobenzene [95-50-1]	25 ppm	50 ppm	
p-Dichlorobenzene [106-46-7]	10 ppm		2B
3,3'-Dichlorobenzidine [91-94-1]	(L)		Skin; 2B
1,4-Dichloro-2-butene [764-41-0]	0.005 ppm		Skin; A2
2,2-Dichlorodiethyl sulfide (Mustard Gas) [505-60-2]			1
Dichlorodifluoromethane [75-71-8]	1000 ppm		
1,3-Dichloro-5,5-dimethyl hydantoin [118-52-5]	0.2 mg/m ³	0.4 mg/m ³	
1,1-Dichloroethane [75-34-3]	100 ppm		
1,2-Dichloroethane (see ethylene dichloride)			
1,2-Dichloroethylene, all isomers [540-59-0; 156-59-2; 156-60-5]	200 ppm		
Dichloroethyl ether [111-44-4]	5 ppm	10 ppm	Skin
Dichlorofluoromethane [75-43-4]	10 ppm		
Dichloromethane [75-09-2]	25 ppm		2B
2,2'-Dichloro-n-methyldiethylamine (Nitrogen mustard) [51-75-2]			2A
1,1-Dichloro-1-nitroethane [594-72-9]	2 ppm		
1,3-Dichloropropene [542-75-6]	1 ppm		Skin; 2B
2,4-Dichlorophenoxyacetic acid and its esters [94-75-7] Revised 2006	10 mg/m ³	20 mg/m ³	2B
2,2-Dichloropropionic acid, Inhalable [75-99-0]	5 mg/m ³		

Bracketed letters are end notes, e.g., "(L)" and "(V)";
 STEL column C = Ceiling limit;
 Notations column R = Adverse reproductive effect; S = Sensitizer;
 A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Dichlorotetrafluoroethane (Cryofluorane) [76-14-2]	1000 ppm		
Dichlorvos (DDVP), Inhalable [62-73-7]	0.1 mg/m ³ (V)		Skin; 2B; S
Dicrotophos, Inhalable [141-66-2]	0.05 mg/m ³ (V)		Skin
Dicyclohexylmethane-4,4'-diisocyanate [5124-30-1] (see Methylene bis (4-cyclohexyl-isocyanate))			
Dicyclopentadiene [77-73-6]	5 ppm		
Dicyclopentadienyl iron [102-54-5]	10 mg/m ³ (N)		
Dieldrin [60-57-1]	0.25 mg/m ³		Skin
Diesel fuel, as total hydrocarbons, Inhalable [68334-30-5; 68476-30-2; 68476-31-3; 68476-34-6; 77650-28-3]	100 mg/m ³ (V)		Skin, (I)
Diethanolamine [111-42-2] Revised 2009; 2010	2 mg/m ³		Skin; 2B
Diethylamine [109-89-7]	5 ppm	15 ppm	Skin
2-Diethylaminoethanol [100-37-8]	2 ppm		Skin
Diethylene triamine [111-40-0]	1 ppm		Skin; S
Di(2-ethylhexyl)phthalate (DEHP) [117-81-7]	5 mg/m ³		2B
Diethyl ketone [96-22-0]	200 ppm	300 ppm	
Diethyl phthalate [84-66-2]	5 mg/m ³		
Diethyl sulfate [64-67-5]			2A
Diethylene glycol monobutyl ether [112-34-5]			(I)
N,N - Diethylhydroxylamine [3710-84-7]			(I)
Difluorodibromomethane [75-61-6]	100 ppm		
Diglycidyl ether (DGE) [2238-07-5] Revised 2007	0.01 ppm		R
Diisobutyl ketone [108-83-8]	25 ppm		
Diisocyanates, not elsewhere specified, NOS	0.005 ppm	C 0.01 ppm	
Diisopropylamine [108-18-9]	5 ppm		Skin
3,3'-Dimethoxybenzidine [119-90-4]			2B
Dimethoxymethane [109-87-5]	1000 ppm	1250 ppm	
N,N-Dimethylacetamide [127-19-5]	10 ppm		Skin; R
Dimethylamine [124-40-3]	5 ppm	15 ppm	
Dimethylaniline [121-69-7]	5 ppm	10 ppm	Skin
3,3'-Dimethylbenzidine [119-93-7]			2B
Dimethyl carbamoyl chloride [79-44-7] Revised 2007	0.005 ppm		Skin; A2, 2A
Dimethyl disulfide [624-92-0] Revised 2007	0.5 ppm		Skin
Dimethyl ether [115-10-6]	1000 ppm		
Dimethylethoxysilane [14857-34-2]	0.5 ppm	1.5 ppm	
Dimethylformamide [68-12-2]	10 ppm		Skin
1,1-Dimethylhydrazine [57-14-7]	0.01 ppm		Skin; 2B
1,2-Dimethylhydrazine [540-73-8]			2A
Dimethyl phthalate [131-11-3]	5 mg/m ³		
Dimethyl sulfate [77-78-1]		C 0.1 ppm	Skin; 2A
Dimethyl sulfide [75-18-3] Revised 2004	10 ppm		
Dinitolmide [148-01-6] (See 3,5-Dinitro-o-toluamide)			
Dinitrobenzene, all isomers [528-29-0; 99-65-0; 100-25-4; 25154-54-5]	0.15 ppm		Skin
Dinitro-o-cresol [534-52-1]	0.2 mg/m ³		Skin
3,5-Dinitro-o-toluamide [148-01-6] Revised 2007	1 mg/m ³		
Dinitrotoluene [25321-14-6]	0.2 mg/m ³		Skin; 2B; (I); R
n-Dioctyl phthalate [117-84-0]	5 mg/m ³		
1,4-Dioxane [123-91-1]	20 ppm		Skin; 2B
Dioxathion, Inhalable [78-34-2]	0.1 mg/m ³ (V)		Skin
1,3-Dioxolane [646-06-0]	20 ppm		R
Diphenylamine [122-39-4]	10 mg/m ³		
Dipropyl ketone [123-19-3]	50 ppm		

Bracketed letters are end notes, e.g., "(L)" and "(V)";
 STEL column C = Ceiling limit;
 Notations column R = Adverse reproductive effect; S = Sensitizer;
 A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Dipropylene glycol methyl ether [34590-94-8]	100 ppm	150 ppm	Skin
Diquat, Inhalable [2764-72-9]	0.5 mg/m ³		Skin
Diquat, Respirable [2764-72-9]	0.1 mg/m ³		Skin
Disulfiram [97-77-8]	2 mg/m ³		
Disulfoton, Inhalable [298-04-4]	0.05 mg/m ³ (V)		Skin
Diuron [330-54-1]	10 mg/m ³		
Divinyl benzene [1321-74-0]	10 ppm		
Dodecyl mercaptan [112-55-0] Revised 2004	0.1 ppm		S
Dyfonate, Inhalable [944-22-9] Revised 2006	0.1 mg/m ³ (V)		Skin
Endosulfan [115-29-7] Revised 2009; 2010	0.1 mg/m ³		Skin
Endrin [72-20-8]	0.1 mg/m ³		Skin
Enflurane [13838-16-9]	2 ppm		
Epichlorohydrin [106-89-8]	0.1 ppm		Skin; 2A; R
EPN, Inhalable [2104-64-5] Revised 2003	0.1 mg/m ³		Skin
Ethane [74-84-0] Revised 2004 See Aliphatic Hydrocarbon gases [C1-C4] Revised 2008			
Ethanol [64-17-5] Revised 2009		1000 ppm	
Ethanolamine [141-43-5]	3 ppm	6 ppm	
Ethion, Inhalable [563-12-2] Revised 2003	0.05 mg/m ³		Skin
2-Ethoxyethanol (EGEE) [110-80-5]	5 ppm		Skin; R
2-Ethoxyethyl acetate (EGEEA) [111-15-9]	5 ppm		Skin; R
Ethyl acetate [141-78-6]	150 ppm		
Ethyl acrylate [140-88-5]	5 ppm	15 ppm	2B; S
Ethylamine [75-04-7]	5 ppm	15 ppm	Skin
Ethyl amyl ketone [541-85-5] Revised 2007	10 ppm		
Ethyl benzene [100-41-4] Revised 2011	20 ppm		2B
Ethyl bromide [74-96-4]	5 ppm		Skin
Ethyl tert-butyl ether (ETBE) [637-92-3]	5 ppm		R
Ethyl butyl ketone [106-35-4]	50 ppm	75 ppm	
Ethyl chloride [75-00-3]	100 ppm		Skin
Ethyl cyanoacrylate [7085-85-0]	0.2 ppm		
Ethyl methacrylate [97-63-2]	50 ppm		
Ethylene [74-85-1] Revised 2005	200 ppm		
Ethylene chlorohydrin [107-07-3]		C 1 ppm	Skin
Ethylenediamine [107-15-3]	10 ppm		Skin; S
Ethylene dibromide [106-93-4]	0.5 ppm		Skin; 2A
Ethylene dichloride (1,2-dichloroethane) [107-06-2]	1 ppm	2 ppm	2B
Ethylene glycol - Aerosol [107-21-1]		C 100 mg/m ³	
Ethylene glycol - Particulate [107-21-1]	10 mg/m ³	20 mg/m ³	
Ethylene glycol - Vapour [107-21-1]		C 50 ppm	
Ethylene glycol dinitrate (EGDN) [628-96-6]	0.05 ppm		Skin
Ethylene oxide [75-21-8]	0.1 ppm	1 ppm	A2, 1; R
Ethyleneimine [151-56-4] Revised 2009; 2010	0.5 ppm		Skin; 2B
Ethyl ether [60-29-7]	400 ppm	500 ppm	
Ethyl formate [109-94-4]	100 ppm		
2-Ethylhexanoic acid, Inhalable [149-57-5]	5 mg/m ³ (V)		R
Ethylidene norbornene [16219-75-3]		C 5 ppm	
Ethyl mercaptan [75-08-1]	0.5 ppm		
N-Ethylmorpholine [100-74-3]	5 ppm		Skin
Ethyl silicate [78-10-4]	10 ppm		
Fenamiphos, Inhalable [22224-92-6] Revised 2006	0.05 mg/m ³ (V)		Skin
Fensulfothion, Inhalable [115-90-2] Revised 2005	0.01 mg/m ³ (V)		Skin

Bracketed letters are end notes, e.g., "(L)" and "(V)";
 STEL column C = Ceiling limit;
 Notations column R = Adverse reproductive effect; S = Sensitizer;
 A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Fenthion, Inhalable [55-38-9] Revised 2006	0.05 mg/m ³ (V)		Skin
Ferbam, Inhalable [14484-64-1] Revised 2009	5 mg/m ³		
Ferrovandium dust [12604-58-9]	1 mg/m ³	3 mg/m ³	
Flour dust, Inhalable	0.5 mg/m ³		S
Fluorides (as F)	2.5 mg/m ³		
Fluorine [7782-41-4]	0.1 ppm		
Fluroxene [406-90-6]	2 ppm		
Fonofos (see Dyfonate) [944-22-9]			
Formaldehyde [50-00-0]	0.3 ppm	C 1 ppm	A2, 1; S
Formamide [75-12-7]	10 ppm		Skin
Formic acid [64-18-6]	5 ppm	10 ppm	
Furfural [98-01-1]	2 ppm		Skin
Furfuryl alcohol [98-00-0]	5 ppm	10 ppm	Skin
Gallium arsenide, Respirable [1303-00-0] Revised 2005	0.0003 mg/m ³		1
Gasoline [86290-81-5]	300 ppm	500 ppm	2B
Germanium tetrahydride [7782-65-2]	0.2 ppm		
Glutaraldehyde, Activated & inactivated [111-30-8]		C 0.05 ppm	S
Glycerin - mist [56-81-5]	10 mg/m ³		
Glycerin - mist, Respirable [56-81-5]	3 mg/m ³		
Glycidol [556-52-5]	2 ppm		2A
Glyoxal, Inhalable [107-22-2]	0.1 mg/m ³ (V)		S
Grain dust (oat, wheat, barley)	4 mg/m ³ (E)		
Graphite - All forms except graphite fibres, Respirable [7782-42-5]	2 mg/m ³		
Gypsum [13397-24-5]	10 mg/m ³ (N)	20 mg/m ³	
Hafnium and compounds, as Hf [7440-58-6]	0.5 mg/m ³		
Halothane [151-67-7]	2 ppm		R
Helium [7440-59-7]		Simple asphyxiant	
Heptachlor [76-44-8]	0.05 mg/m ³		Skin; 2B
Heptachlor epoxide [1024-57-3]	0.05 mg/m ³		Skin
Heptane (n-Heptane) [142-82-5]	400 ppm	500 ppm	
Hexachlorobenzene (HCB) [118-74-1]	0.002 mg/m ³		Skin; 2B
Hexachlorobutadiene [87-68-3]	0.02 ppm		Skin
Hexachlorocyclopentadiene [77-47-4]	0.01 ppm		
Hexachloroethane [67-72-1]	1 ppm		Skin; 2B
Hexachloronaphthalene [1335-87-1]	0.2 mg/m ³		Skin
Hexafluoroacetone [684-16-2]	0.1 ppm		Skin; R
Hexafluoropropylene [116-15-4] Revised 2007	0.1 ppm		
Hexahydrophthalic anhydride, all isomers, Inhalable [85-42-7; 13149-00-3; 14166-21-3] Revised 2004		C 0.005 mg/m ³ (V)	S
Hexamethyl phosphoramidate [680-31-9]			Skin; 2B
Hexamethylene diisocyanate (HDI) [822-06-0]	0.005 ppm	C 0.01 ppm	S
n-Hexane [110-54-3]	20 ppm		Skin
Hexane, all isomers except n-Hexane	200 ppm		
1,6-Hexanediamine [124-09-4]	0.5 ppm		
1-Hexene [592-41-6]	50 ppm		R
sec-Hexyl acetate [108-84-9]	50 ppm		
Hexylene glycol [107-41-5]		C 25 ppm	
Hydrazine [302-01-2]	0.01 ppm		Skin; 2B

Bracketed letters are end notes, e.g., "(L)" and "(V)";
 STEL column C = Ceiling limit;
 Notations column R = Adverse reproductive effect; S = Sensitizer;
 A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Hydrogen [1333-74-0]		Simple asphyxiant	
Hydrogenated terphenyls - Nonirradiated [61788-32-7]	0.5 ppm		
Hydrogen bromide [10035-10-6] Revised 2004		C 2 ppm	
Hydrogen chloride [7647-01-0] Revised 2003		C 2 ppm	
Hydrogen cyanide, as CN [74-90-8]		C 4.7 ppm	Skin
Cyanide salts, as CN [592-01-8; 151-50-8; 143-33-9]		C 5 mg/m ³	Skin
Hydrogen fluoride, as F [7664-39-3]		C 2 ppm	
Hydrogen peroxide [7722-84-1]	1 ppm		
Hydrogen selenide [7783-07-5]	0.05 ppm		
Hydrogen sulfide [7783-06-4]		C 10 ppm	
Hydroquinone [123-31-9] Revised 2008	1 mg/m ³		S
2-Hydroxypropyl acrylate [999-61-1]	0.5 ppm		Skin; S
Indene [95-13-6] Revised 2008; 2010	10 ppm		
Indium and compounds, as In [7440-74-6]	0.1 mg/m ³		2B; (I)
Iodides			(I)
Iodine [7553-56-2] Revised 2008; 2010		C 0.1 ppm	
Iodoform [75-47-8]	0.6 ppm		
Iron oxide dust, as Fe [1309-37-1]	5 mg/m ³		
Iron oxide fume, as Fe [1309-37-1]	5 mg/m ³	10 mg/m ³	
Iron pentacarbonyl [13463-40-6]	0.01 ppm		
Iron salts - soluble, as Fe	1 mg/m ³	2 mg/m ³	
Isoamyl alcohol [123-51-3]	100 ppm	125 ppm	
Isobutanol [78-83-1]	50 ppm		
Isobutyl acetate [110-19-0]	150 ppm		
Isobutyl nitrite, Inhalable [542-56-3]		C 1 ppm (V)	
Isooctyl alcohol [26952-21-6]	50 ppm		Skin
Isophorone [78-59-1]		C 5 ppm	
Isophorone diisocyanate [4098-71-9]	0.005 ppm	C 0.01 ppm	S
Isopropanol (Isopropyl alcohol) [67-63-0] Revised 2003	200 ppm	400 ppm	
2-Isopropoxyethanol [109-59-1]	25 ppm		Skin
Isopropyl acetate [108-21-4] Revised 2003	100 ppm	200 ppm	
Isopropylamine [75-31-0]	5 ppm	10 ppm	
N-Isopropylaniline [768-52-5]	2 ppm		Skin
Isopropyl ether [108-20-3]	250 ppm	310 ppm	
Isopropyl glycidyl ether (IGE) [4016-14-2]		C 50 ppm	
Kaolin, Respirable [1332-58-7]	2 mg/m ³ (E)		
Kerosene [8008-20-6]/Jet fuels [64742-47-8], as total hydrocarbon vapour, Revised 2003	200 mg/m ³ (P)		Skin
Ketene [463-51-4]	0.5 ppm	1.5 ppm	
Lead - elemental and inorganic compounds, as Pb [7439-92-1]	0.05 mg/m ³		Elemental 2B; R/Other inorganic 2A, R
Lead chromate, as Cr [7758-97-6]	0.012 mg/m ³		A2; 2A; R
Lead chromate, as Pb [7758-97-6]	0.05 mg/m ³		A2; 2A; R
Lindane [58-89-9]	0.5 mg/m ³		Skin
Liquified petroleum gas (L.P.G.) [68476-85-7]	1000 ppm	1250 ppm	
Lithium hydroxide [1310-65-2]		C 1 mg/m ³	
Lithium hydride [7580-67-8]	0.025 mg/m ³		
Magnesite [546-93-0] Revised 2006 (See Particles Not Otherwise Classified (PNOC))			

Bracketed letters are end notes, e.g., "(L)" and "(V)";
 STEL column C = Ceiling limit;
 Notations column R = Adverse reproductive effect; S = Sensitizer;
 A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Magnesium oxide (fume), Inhalable [1309-48-4] Revised 2003	10 mg/m ³		
Magnesium oxide, Respirable dust and fume, as Mg [1309-48-4]	3 mg/m ³	10 mg/m ³	
Malathion, Inhalable [121-75-5] Revised 2003	1 mg/m ³ (V)		Skin
Maleic anhydride [108-31-6]	0.1 ppm		S
Manganese - Elemental & inorganic compounds, as Mn [7439-96-5]	0.2 mg/m ³		R
Manganese cyclopentadienyl tricarbonyl, as Mn [12079-65-1]	0.1 mg/m ³		Skin
Mercury - Alkyl compounds, as Hg [7439-97-6]	0.01 mg/m ³	0.03 mg/m ³	Skin
Mercury - Aryl compounds, as Hg [7439-97-6]	0.05 mg/m ³	C 0.1 mg/m ³	Skin
Mercury - Elemental, as Hg [7439-97-6]	0.025 mg/m ³		Skin; R
Mercury - Inorganic compounds, as Hg [7439-97-6]	0.025 mg/m ³		Skin; R
Mercury - Methyl, as Hg [7439-97-6]	0.01 mg/m ³	0.03 mg/m ³	Skin; 2B
Mesityl oxide [141-79-7]	10 ppm	25 ppm	
Methacrylic acid [79-41-4]	20 ppm		
Methane [74-82-8] Revised 2004 See Aliphatic Hydrocarbon gases [C1-C4] Revised 2008			
Methanol [67-56-1]	200 ppm	250 ppm	Skin
Methomyl [16752-77-5]	2.5 mg/m ³		
Methoxychlor [72-43-5]	10 mg/m ³		
2-Methoxyethanol (EGME) [109-86-4] Revised 2006	0.1 ppm		Skin; R
2-Methoxyethyl acetate (EGMEA) [110-49-6] Revised 2006	0.1 ppm		Skin; R
Methoxyflurane [76-38-0]	2 ppm		
4-Methoxyphenol [150-76-5]	5 mg/m ³		
1-Methoxy-2-propanol (PGME) [107-98-2]	50 ppm	75 ppm	
2-Methoxy-1-propanol [1589-47-5]	20 ppm	40 ppm	
1-Methoxypropyl-2-acetate [108-65-6]	50 ppm	75 ppm	
2-Methoxypropyl-1-acetate [70657-70-4]	20 ppm	40 ppm	
bis-(2-Methoxypropyl) ether (DPGME) (see Dipropylene glycol methyl ether) [34590-94-8]			
Methyl acetate [79-20-9]	200 ppm	250 ppm	
Methyl acetylene [74-99-7]	1000 ppm		
Methyl acetylene-propadiene mixture (MAPP) [59355-75-8]	1000 ppm	1250 ppm	
Methyl acrylate [96-33-3]	2 ppm		Skin; S
Methylacrylonitrile [126-98-7]	1 ppm		Skin
Methylal (see Dimethoxymethane) [109-87-5]			
Methylamine [74-89-5]	5 ppm	15 ppm	
Methyl n-amyl ketone [110-43-0]	50 ppm		
N-Methyl aniline [100-61-8]	0.5 ppm		Skin
Methyl bromide [74-83-9]	1 ppm		Skin
Methyl tert-butyl ether (MTBE) [1634-04-4]	50 ppm		R
Methyl n-butyl ketone [591-78-6] Revised 2008	5 ppm	10 ppm	Skin; R
Methyl chloride [74-87-3]	50 ppm	100 ppm	Skin; R
Methyl chloroform [71-55-6]	350 ppm	450 ppm	
Methyl 2-cyanoacrylate [137-05-3]	0.2 ppm		
Methylcyclohexane [108-87-2]	400 ppm		
Methylcyclohexanol [25639-42-3]	50 ppm		
o-Methylcyclohexanone [583-60-8]	50 ppm	75 ppm	Skin
2-Methylcyclopentadienyl manganese tricarbonyl, as Mn [12108-13-3]	0.2 mg/m ³		Skin
Methyl demeton, Inhalable [8022-00-2] Revised 2007	0.05 mg/m ³ (V)		Skin
Methylene bisphenyl isocyanate (MDI) [101-68-8]	0.005 ppm	C 0.01 ppm	Skin; S
4,4'-Methylene bis(2-chloroaniline) (MBOCA; MOCA) [101-14-4] Revised 2009	0.01 ppm		Skin; A2, 1
Methylene bis (4-cyclo-hexyl-isocyanate), [5124-30-1]	0.005 ppm	C 0.01 ppm	

Bracketed letters are end notes, e.g., "(L)" and "(V)";
 STEL column C = Ceiling limit;
 Notations column R = Adverse reproductive effect; S = Sensitizer;
 A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Methylene chloride (See Dichloromethane)			
4,4'-Methylene dianiline [101-77-9]	0.01 ppm		Skin; 2B
Methyl ethyl ketone (MEK) [78-93-3]	50 ppm	100 ppm	
Methyl ethyl ketone peroxide (MEKP) [1338-23-4]		C 0.2 ppm	
Methyl formate [107-31-3]	100 ppm	150 ppm	
Methyl hydrazine [60-34-4]	0.01 ppm		Skin
Methyl iodide [74-88-4]	2 ppm		Skin
Methyl isoamyl ketone [110-12-3]	50 ppm		
Methyl isobutyl carbinol [108-11-2]	25 ppm	40 ppm	Skin
Methyl isobutyl ketone [108-10-1] Revised 2011	20 ppm	75 ppm	2B
Methyl isocyanate [624-83-9]	0.02 ppm		Skin; S
Methyl isopropyl ketone [563-80-4] Revised 2011	20 ppm		
Methyl mercaptan [74-93-1]	0.5 ppm		
Methyl methacrylate [80-62-6]	50 ppm	100 ppm	S
1-Methyl naphthalene [90-12-0] Revised 2007	0.5 ppm		Skin
2-Methyl naphthalene [91-57-6] Revised 2007	0.5 ppm		Skin
Methyl parathion [298-00-0] Revised 2009; 2010	0.2 mg/m ³		Skin
Methyl propyl ketone (2-pentanone) [107-87-9]	150 ppm	250 ppm	
Methyl silicate [681-84-5]	1 ppm		
alpha-Methyl styrene [98-83-9]	50 ppm	75 ppm C 100 ppm	
Methyl vinyl ketone [78-94-4]		C 0.2 ppm	Skin; S
Metribuzin [21087-64-9]	5 mg/m ³		
Mevinphos, Inhalable [7786-34-7] Revised 2003	0.01 mg/m ³ (V)		Skin
Mica, Respirable [12001-26-2]	3 mg/m ³		
Molybdenum - Metal and insoluble compounds, Respirable [7439-98-7]	3 mg/m ³		
Molybdenum - Metal and insoluble compounds, Inhalable [7439-98-7]	10 mg/m ³		
Molybdenum - Soluble compounds, as Mo, Respirable [7439-98-7]	0.5 mg/m ³		
Monochloroacetic acid [79-11-8] See Chloroacetic acid			
Monocrotophos, Inhalable [6923-22-4]	0.05 mg/m ³ (V)		Skin
Morpholine [110-91-8]	20 ppm		Skin
Naled, Inhalable [300-76-5]	0.1 mg/m ³ (V)		Skin; S
Naphthalene [91-20-3]	10 ppm	15 ppm	Skin; 2B
1,5-Naphthalene diisocyanate [3173-72-6]	0.005 ppm	C 0.01 ppm	
beta-Naphthylamine [91-59-8]	(L)		A1, 1
Natural gas [8006-14-2] Revised 2004 See Aliphatic Hydrocarbon gases [C1-C4] Revised 2008			
Natural rubber latex, as total proteins, Inhalable [9006-04-6] Revised 2004; 2008; 2010	0.001 mg/m ³		Skin; S
Neon [7440-01-9]		Simple asphyxiant	
Nickel - Insoluble inorganic compounds, as Ni [7440-02-0]	0.05 mg/m ³		A1, 1; (I)
Nickel - Elemental, Soluble inorganic compounds, as Ni [7440-02-0]	0.05 mg/m ³		A1, 1; 2B; (I)
Nickel carbonyl, as Ni [13463-39-3]	0.001 ppm		1; (I)
Nickel subsulfide, as Ni, Inhalable [12035-72-2]	0.1 mg/m ³		A1, 1
Nicotine [54-11-5]	0.5 mg/m ³		Skin
Nitrapyrin [1929-82-4]	10 mg/m ³ (N)	20 mg/m ³	
Nitric acid [7697-37-2]	2 ppm	4 ppm	
Nitric oxide [10102-43-9]	25 ppm		
p-Nitroaniline [100-01-6]	3 mg/m ³		Skin
Nitrobenzene [98-95-3]	1 ppm		Skin; 2B
p-Nitrochlorobenzene [100-00-5]	0.1 ppm		Skin
4-Nitrodiphenyl [92-93-3]	(L)		Skin; A2

Bracketed letters are end notes, e.g., "(L)" and "(V)";

STEL column C = Ceiling limit;

Notations column R = Adverse reproductive effect; S = Sensitizer;

A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Nitroethane [79-24-3]	100 ppm		
Nitrogen [7727-37-9]		Simple asphyxiant	
Nitrogen dioxide [10102-44-0]		C 1 ppm	
Nitrogen trifluoride [7783-54-2]	10 ppm		
Nitroglycerin (NG) [55-63-0]	0.05 ppm		Skin
Nitromethane [75-52-5]	20 ppm		2B
1-Nitropropane [108-03-2]	25 ppm		
2-Nitropropane [79-46-9]	5 ppm		2B
Nitropyrene, mono, di, tri, tetra, isomers [5522-43-0; 57835-92-4]			2B
n-Nitrosodiethanolamine [1116-54-7]			2B
n-Nitrosodiethylamine [55-18-5]			2A
n-Nitrosodimethylamine [62-75-9]	(L)		Skin; 2A
n-Nitrosomethylethylamine [10595-95-6]			2B
n-Nitrosomorpholine [59-89-2]			2B
n-Nitrosopiperidine [100-75-4]			2B
n-Nitrosopyrrolidine [930-55-2]			2B
Nitrotoluene, all isomers [88-72-2; 99-08-1; 99-99-0]	2 ppm		Skin; 2A; (I)
5-Nitro-o-toluidine, Inhalable [99-55-8] Revised 2007	1 mg/m ³		
Nitrous oxide [10024-97-2]	25 ppm		R
Nonane - All isomers [111-84-2]	200 ppm		
Octachloronaphthalene [2234-13-1]	0.1 mg/m ³	0.3 mg/m ³	Skin
Octane, all isomers [111-65-9]	300 ppm		
Oil mist - mineral, mildly refined	0.2 mg/m ³		1
Oil mist - mineral, severely refined	1 mg/m ³		
Osmium tetroxide [20816-12-0]	0.0002 ppm	0.0006 ppm	
Oxalic acid [144-62-7]	1 mg/m ³	2 mg/m ³	
p,p'-Oxybis(benzenesulfonyl hydrazide), Inhalable [80-51-3] Revised 2008	0.1 mg/m ³		R
Oxygen difluoride [7783-41-7]		C 0.05 ppm	
Ozone - Heavy work [10028-15-6]	0.05 ppm		
Ozone - Moderate work [10028-15-6]	0.08 ppm		
Ozone - Light work [10028-15-6]	0.1 ppm		
Ozone - Light, mod., or heavy workload =< 2 hrs [10028-15-6]	0.2 ppm		
Paraffin wax fume [8002-74-2]	2 mg/m ³		
Paraquat, Respirable [4685-14-7]	0.1 mg/m ³		
Paraquat [4685-14-7]	0.5 mg/m ³		
Parathion, Inhalable [56-38-2] Revised 2003	0.05 mg/m ³ (V)		Skin
Particles (Insoluble or Poorly Soluble) Not Otherwise Classified (PNOC)	10 mg/m ³ (N)		
Pentaborane [19624-22-7]	0.005 ppm	0.015 ppm	
Pentachloronaphthalene [1321-64-8]	0.5 mg/m ³		Skin
Pentachloronitrobenzene [82-68-8]	0.5 mg/m ³		
Pentachlorophenol [87-86-5]	0.5 mg/m ³		Skin; 2B
Pentaerythritol [115-77-5]	10 mg/m ³ (N)		
Pentane, all isomers [78-78-4; 109-66-0; 463-82-1]	600 ppm		
2,4-Pentanedione [123-54-6]			(I)
Pentyl acetate, all isomers [628-63-7; 626-38-0; 123-92-2; 625-16-1; 624-41-9; 620-11-1]	50 ppm	100 ppm	
Perchloroethylene (See Tetrachloroethylene)			
Perchloromethyl mercaptan [594-42-3]	0.1 ppm		
Perchloryl fluoride [7616-94-6]	3 ppm	6 ppm	
Perfluorobutyl ethylene [19430-93-4] Revised 2004	100 ppm		

Bracketed letters are end notes, e.g., "(L)" and "(V)";
 STEL column C = Ceiling limit;
 Notations column R = Adverse reproductive effect; S = Sensitizer;
 A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Perfluoroisobutylene [382-21-8]		C 0.01 ppm	
Perlite [93763-70-3] Revised 2006 (See Particles Not Otherwise Classified (PNOC))			
Persulfates, as persulfate	0.1 mg/m ³		
Phenol [108-95-2]	5 ppm		Skin
Phenothiazine [92-84-2]	5 mg/m ³		Skin
N-Penyl-beta-naphthylamine [135-88-6]			
o-Phenylenediamine [95-54-5]	0.1 mg/m ³		
m-Phenylenediamine [108-45-2]	0.1 mg/m ³		
p-Phenylenediamine [106-50-3]	0.1 mg/m ³		S
Phenyl ether - Vapour (Diphenyl ether) [101-84-8]	1 ppm	2 ppm	
Phenyl glycidyl ether (PGE) [122-60-1] Revised 2008	0.1 ppm		Skin; 2B; S; R
Phenyl isocyanate [103-71-9]	0.005 ppm	C 0.01 ppm	
Phenylhydrazine [100-63-0]	0.1 ppm		Skin
Phenyl mercaptan [108-98-5]		C 0.1 ppm	
Phenylphosphine [638-21-1]		C 0.05 ppm	R
Phorate, Inhalable [298-02-2] Revised 2005	0.05 mg/m ³ (V)		Skin
Phosgene [75-44-5]	0.1 ppm		
Phosphine [7803-51-2]	0.3 ppm	1 ppm	
Phosphoric acid [7664-38-2]	1 mg/m ³	3 mg/m ³	
Phosphorus (yellow) [12185-10-3]	0.1 mg/m ³		
Phosphorus oxychloride [10025-87-3]	0.1 ppm		
Phosphorus pentachloride [10026-13-8]	0.1 ppm		
Phosphorus pentasulfide [1314-80-3]	1 mg/m ³	3 mg/m ³	
Phosphorus trichloride [7719-12-2]	0.2 ppm	0.5 ppm	
Phthalic anhydride [85-44-9]	1 ppm		S
m-Phthalodinitrile [626-17-5]	5 mg/m ³		
o-Phthalodinitrile [91-15-6]			(I)
Picloram [1918-02-1]	10 mg/m ³ (N)		
Picric acid [88-89-1]	0.1 mg/m ³		S
Pindone [83-26-1]	0.1 mg/m ³		
Piperazine and its Salts, as Piperazine [110-85-0]	0.3 mg/m ³	1 mg/m ³	S
Piperidine [110-89-4]	1 ppm		
Plaster of Paris [26499-65-0]	10 mg/m ³ (N)	20 mg/m ³	
Platinum - Metal [7440-06-4]	1 mg/m ³		
Platinum - Soluble salts (as Pt) [7440-06-4]	0.002 mg/m ³		S
Polyvinyl chloride (PVC), Respirable [9002-86-2] Revised 2008	1 mg/m ³		
Portland cement [65997-15-1]	10 mg/m ³ (E,N)		
Potassium hydroxide [1310-58-3]		C 2 mg/m ³	
Propane [74-98-6] Revised 2004 See Aliphatic Hydrocarbon gases [C1-C4] Revised 2008			
Propane sultone [1120-71-4]	(L)		2B
n-Propanol (n-Propyl alcohol) [71-23-8] Revised 2007	100 ppm		
Propargyl alcohol [107-19-7]	1 ppm		Skin
beta-Propiolactone [57-57-8]	0.5 ppm		2B
Propionaldehyde [123-38-6]	20 ppm		
Propionic acid [79-09-4]	10 ppm		
Propoxur [114-26-1]	0.5 mg/m ³		
n-Propyl acetate [109-60-4]	200 ppm	250 ppm	
Propylene [115-07-1] Revised 2006	500 ppm		
Propylene dichloride [78-87-5] Revised 2006	75 ppm	110 ppm	S
Propylene glycol dinitrate [6423-43-4]	0.05 ppm		Skin

Bracketed letters are end notes, e.g., "(L)" and "(V)";

STEL column C = Ceiling limit;

Notations column R = Adverse reproductive effect; S = Sensitizer;

A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Propylene oxide [75-56-9]	2 ppm		2B; S
Propyleneimine [75-55-8] Revised 2009; 2010	2 ppm		2B
n-Propyl nitrate [627-13-4]	25 ppm	40 ppm	
Pyrethrum [8003-34-7]	5 mg/m ³		S
Pyridine [110-86-1] Revised 2004	1 ppm		
Quinone [106-51-4]	0.1 ppm		
Resorcinol [108-46-3]	10 ppm	20 ppm	
Rhodium, Metal and insoluble compounds as Rh [7440-16-6]	0.1 mg/m ³	0.3 mg/m ³	
Rhodium - Soluble compounds, as Rh [7440-16-6]	0.001 mg/m ³	0.003 mg/m ³	
Ronnel, Inhalable [299-84-3] Revised 2006	5 mg/m ³ (V)		
Rosin core solder thermal decomposition products (colophony) [8050-09-7]	(L)		S
Rotenone (commercial) [83-79-4]	5 mg/m ³		
Rouge [1309-37-1]	10 mg/m ³ (E,N)		
Rubber solvent (Naphtha) [8030-30-6] Revised 2009	(H)		
Selenium and compounds, as Se [7782-49-2]	0.1 mg/m ³		
Selenium hexafluoride [7783-79-1]	0.05 ppm		
Sesone [136-78-7]	10 mg/m ³ (N)		
Silica, Amorphous - Diatomaceous earth (uncalcined) Total [61790-53-2]	4 mg/m ³		
Silica, Amorphous - Diatomaceous earth (uncalcined), Respirable [61790-53-2]	1.5 mg/m ³		
Silica, Amorphous - Fume Total [69012-64-2]	4 mg/m ³		
Silica, Amorphous - Fume, Respirable [69012-64-2]	1.5 mg/m ³		
Silica, Amorphous - Precipitated and gel, Total [112926-00-8]	4 mg/m ³		
Silica, Amorphous - Precipitated and gel, Respirable [112926-00-8]	1.5 mg/m ³		
Silica, Crystalline - alpha quartz [14808-60-7; 1317-95-9] and Cristobalite, Respirable [14464-46-1] Revised 2006	0.025 mg/m ³		A2, 1
Silicon [7440-21-3] Revised 2006 (See Particles Not Otherwise Classified (PNOC))			
Silicon carbide Nonfibrous, Inhalable, [409-21-2] Revised 2003	10 mg/m ³ (E)		
Silicon carbide, Nonfibrous, Respirable, [409-21-2] Revised 2003	3 mg/m ³ (E)		
Silicon carbide, Fibrous (including whiskers) [409-21-2] Revised 2003	0.1 f/cc (F)		A2
Silicon tetrahydride (Silane) [7803-62-5]	0.5 ppm	1 ppm	
Silver and Compounds (as Ag) [7440-22-4]	0.01 mg/m ³	0.03 mg/m ³	
Soapstone (see Talc) Revised 2011			
Sodium azide (as Sodium azide) [26628-22-8]		C 0.29 mg/m ³	
Sodium azide (as Hydrazoic acid vapour) [26628-22-8]		C 0.11 ppm	
Sodium bisulfite [7631-90-5]	5 mg/m ³		
Sodium fluoroacetate [62-74-8]	0.05 mg/m ³		Skin
Sodium hydroxide [1310-73-2]		C 2 mg/m ³	
Sodium metabisulfite [7681-57-4]	5 mg/m ³		
Starch [9005-25-8]	10 mg/m ³ (N)		
Stearates	10 mg/m ³ (J)		
Stoddard solvent (mineral spirits) [8052-41-3]	290 mg/m ³	580 mg/m ³	
Strontium chromate, as Cr [7789-06-2]	0.0005 mg/m ³		A2
Strychnine [57-24-9]	0.15 mg/m ³		
Styrene - monomer [100-42-5]	50 ppm	75 ppm	2B
Subtilisins, as crystalline active enzyme [1395-21-7; 9014-01-1]		C 0.00006 mg/m ³	S
Sucrose [57-50-1]	10 mg/m ³ (N)		
Sulfometuron methyl [74222-97-2]	5 mg/m ³		
Sulfotepp (TEDP), Inhalable [3689-24-5] Revised 2005	0.1 mg/m ³ (V)		Skin

Bracketed letters are end notes, e.g., "(L)" and "(V)";

STEL column C = Ceiling limit;

Notations column R = Adverse reproductive effect; S = Sensitizer;

A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Sulfur dioxide [7446-09-5]	2 ppm	5 ppm	
Sulfur hexafluoride [2551-62-4]	1000 ppm		
Sulfuric acid, Thoracic [7664-93-9] Revised 2004	0.2 mg/m ³ (M)		A2, 1
Sulfur monochloride [10025-67-9]		C 1ppm	
Sulfur pentafluoride [5714-22-7]		C 0.01 ppm	
Sulfur tetrafluoride [7783-60-0]		C 0.1 ppm	
Sulfonyl fluoride [2699-79-8]	5 ppm	10 ppm	
Sulprofos [35400-43-2] Revised 2009; 2010	1 mg/m ³		Skin
Synthetic Vitreous Fibres - Continuous filament glass fibres	1 f/cc (F)		
Synthetic Vitreous Fibres - Continuous filament glass fibres, Inhalable	5 mg/m ³		
Synthetic Vitreous Fibres - Glass wool fibres	1 f/cc (F)		
Synthetic Vitreous Fibres - Rock wool fibres	1 f/cc (F)		
Synthetic Vitreous Fibres -Slag wool fibres	1 f/cc (F)		
Synthetic Vitreous Fibres - Special purpose glass fibres	1 f/cc (F)		2B
Synthetic Vitreous Fibres - Refractory ceramic fibres	0.2 f/cc (F)		A2, 2B
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid) [93-76-5]	10 mg/m ³		
Talc - Containing no asbestos fibres, Respirable [14807-96-6]	2 mg/m ³ (E)		
Talc - Containing asbestos fibres [14807-96-6]	0.1 f/cc (K)		A1, 1
Tantalum - Metal [7440-25-7]	5 mg/m ³		
Tantalum oxide dusts, as Ta [1314-61-0]	5 mg/m ³		
Tellurium and compounds (NOS), as Te, excluding hydrogen telluride [13494-80-9]	0.1 mg/m ³		
Tellurium hexafluoride [7783-80-4]	0.02 ppm		
Temephos, Inhalable [3383-96-8] Revised 2005	1 mg/m ³ (V)		Skin
Terbufos, Inhalable [13071-79-9]	0.01 mg/m ³ (V)		Skin
Terephthalic acid [100-21-0]	10 mg/m ³ (N)		
Terphenyls [26140-60-3]		C 5 mg/m ³	
1,1,2,2-Tetrabromoethane, Inhalable [79-27-6] Revised 2006	0.1 ppm (V)		
1,1,1,2-Tetrachloro-2,2-difluoroethane [76-11-9] Revised 2008; 2010	500 ppm		
1,1,2,2-Tetrachloro-1,2-difluoroethane [76-12-0] Revised 2008; 2010	200 ppm		
1,1,2,2-Tetrachloroethane [79-34-5]	1 ppm		Skin
Tetrachloroethylene (Perchloroethylene) [127-18-4]	25 ppm	100 ppm	2A
Tetrachloronaphthalene [1335-88-2]	2 mg/m ³		
Tetraethyl lead, as Pb [78-00-2]	0.075 mg/m ³		Skin
Tetraethyl pyrophosphate (TEPP), Inhalable [107-49-3] Revised 2007	0.01 mg/m (V)		Skin
Tetrafluoroethylene [116-14-3]	2 ppm		2B
Tetrahydrofuran [109-99-9] Revised 2005	50 ppm	100 ppm	Skin
Tetramethyl lead, as Pb [75-74-1]	0.075 mg/m ³		Skin
Tetramethyl succinonitrile [3333-52-6]	0.5 ppm		Skin
Tetranitromethane [509-14-8]	0.005 ppm		2B
Tetrakis (hydroxymethyl) phosphonium chloride [124-64-1] Revised 2005	2 mg/m ³		
Tetrakis (hydroxymethyl) phosphonium sulfate [55566-30-8] Revised 2005	2 mg/m ³		S
Tetryl [479-45-8]	1.5 mg/m ³		S
Thallium and soluble compounds, as Tl, Inhalable [7440-28-0] Revised 2011	0.02 mg/m ³		Skin
4,4'-Thiobis (6-tert-butyl-m-cresol) Inhalable [96-69-5] Revised 2011	1 mg/m ³		Skin
Thioglycolic acid [68-11-1]	1 ppm		Skin
Thionyl chloride [7719-09-7]		C 1ppm	
Thiram [137-26-8] Revised 2008; 2010	1 mg/m ³		S
Tin - Metal [7440-31-5]	2 mg/m ³		
Tin - Oxide and inorganic compounds, except tin hydride, as Sn [7440-	2 mg/m ³		

Bracketed letters are end notes, e.g., "(L)" and "(V)";
 STEL column C = Ceiling limit;
 Notations column R = Adverse reproductive effect; S = Sensitizer;
 A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Tin - Organic compounds, as Sn [7440-31-6]	0.1 mg/m ³	0.2 mg/m ³	Skin
Titanium dioxide [13463-67-7] Revised 2006	10 mg/m ³ (N)		2B
o-Tolidine [119-93-7]			Skin; 2B
Toluene [108-88-3] Revised 2007; 2008	20 ppm		R
Toluene-2,4-diisocyanate (2,4-TDI) [584-84-9]	0.005 ppm	C 0.01 ppm	2B; S
Toluene-2,6-diisocyanate (2,6-TDI) [91-08-7]	0.005 ppm	C 0.01 ppm	2B; S
o-Toluidine [95-53-4] Revised 2009	2 ppm		Skin; 1
m-Toluidine [108-44-1]	2 ppm		Skin
p-Toluidine [106-49-0]	2 ppm		Skin
Tributyl phosphate [126-73-8]	0.2 ppm		
Trichloroacetic acid [76-03-9]	1 ppm		
1,2,4-Trichlorobenzene [120-82-1]		C 5 ppm	
1,1,2-Trichloroethane [79-00-5]	10 ppm		Skin
Trichloroethylene [79-01-6] Revised 2007	10 ppm	25 ppm	A2, 2A
Trichlorofluoromethane [75-69-4]		C 1000 ppm	
Trichloronaphthalene [1321-65-9]	5 mg/m ³		Skin
1,2,3-Trichloropropane [96-18-4]	10 ppm		Skin; 2A
1,1,2-Trichloro-1,2,2-trifluoroethane [76-13-1]	500 ppm	1250 ppm	
Trichlorphon, Inhalable [52-68-6] Revised 2003	1 mg/m ³		
Triethanolamine [102-71-6]	5 mg/m ³		
Triethylamine [121-44-8]	1 ppm	3 ppm	Skin
Trifluorobromomethane [75-63-8]	1000 ppm		
1,3,5-Triglycidyl-s-triazinetrione [2451-62-9]	0.05 mg/m ³		R; S
Trimellitic anhydride [552-30-7] Revised 2008; 2010		C 0.04 mg/m ³	Skin; S
Trimethylamine [75-50-3]	5 ppm	15 ppm	
Trimethyl benzene (mixed isomers) [25551-13-7]	25 ppm		
Trimethyl hexamethylene diisocyanate [28679-16-5]	0.005 ppm	C 0.01 ppm	
Trimethyl phosphite [121-45-9]	2 ppm		
Tri-n-Butyltin compounds [688-73-3]	0.05 mg/m ³		
2,4,6-Trinitrotoluene (TNT) [118-96-7]	0.1 mg/m ³		Skin
Triorthocresyl phosphate [78-30-8]	0.1 mg/m ³		Skin
Triphenyl phosphate [115-86-6]	3 mg/m ³		
Tungsten - Metal and insoluble compounds [7440-33-7]	5 mg/m ³	10 mg/m ³	
Tungsten - Soluble compounds, as W [7440-33-7]	1 mg/m ³	3 mg/m ³	
Turpentine [8006-64-2] and selected monoterpenes [80-56-8; 127-91-3; 13466-78-9] Revised 2003	20 ppm		S
Uranium (Natural) - Insoluble compounds, as U [7440-61-1]	0.2 mg/m ³	0.6 mg/m ³	A1, 1; (I)
Uranium (Natural) - Soluble compounds, as U [7440-61-1]	0.05 mg/m ³		A1, 1; (I)
n-Valeraldehyde [110-62-3]	50 ppm		
Vanadium pentoxide, Respirable dust and fume, as V2O5 [1314-62-1]		C 0.05 mg/m ³	2B
Vanadium pentoxide, Total dust, as V2O5 [1314-62-1]	0.2 mg/m ³		2B
Vegetable oil - Mist, except castor, cashew nut, or similar irritant oils [8008-89-7]	10 mg/m ³		
Vegetable oil, Mist, Respirable, except castor, cashew nut, or similar irritating oil [8008-89-7]	3 mg/m ³		
Vinyl acetate [108-05-4]	10 ppm	15 ppm	2B
Vinyl bromide [593-60-2]	0.5 ppm		A2, 2A
Vinyl chloride [75-01-4]	1 ppm		A1, 1
4-Vinyl cyclohexene [100-40-3]	0.1 ppm		2B; R
Vinyl cyclohexene dioxide [106-87-6]	0.1 ppm		Skin; 2B; R
Vinyl fluoride [75-02-5]	1 ppm		A2, 2A
N-Vinyl-2-pyrrolidone [88-12-0] Revised 2003	0.05 ppm		

Bracketed letters are end notes, e.g., "(L)" and "(V)";

STEL column C = Ceiling limit;

Notations column R = Adverse reproductive effect; S = Sensitizer;

A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
Vinylidene chloride [75-35-4]	1 ppm		
Vinylidene fluoride [75-38-7]	500 ppm		
Vinyl toluene, all isomers [25013-15-4]	25 ppm	75 ppm	
VM & P Naphtha [8032-32-4] Revised 2009	(H)		
Warfarin [81-81-2]	0.1 mg/m ³		
Wood dust - Allergenic species	1 mg/m ³		1
Wood dust - Non-Allergenic Hardwood	1 mg/m ³		A1, 1
Wood dust - Non-Allergenic Softwood	2.5 mg/m ³		1
Xylene [1330-20-7] (o, m & p isomers) [95-47-6; 108-38-3; 106-42-3]	100 ppm	150 ppm	
m-Xylene alpha,alpha'-diamine [1477-55-0]		C 0.1 mg/m ³	Skin
Xylidine - Mixed isomers, Inhalable [1330-73-8]	0.5 ppm (V)		Skin
Yttrium - Metal [7440-65-5]	1 mg/m ³		
Yttrium and compounds, as Y [7440-65-5]	1 mg/m ³		
Zinc chloride - Fume [7646-85-7]	1 mg/m ³	2 mg/m ³	
Zinc chromates, as Cr [13530-65-9; 11103-86-9; 37300-23-5]	0.01 mg/m ³		A1; 1; (I)
Zinc oxide, Respirable [1314-13-2] Revised 2003	2 mg/m ³	10 mg/m ³	
Zinc stearate [557-05-1]	10 mg/m ³ (N)	20 mg/m ³	
Zirconium [7440-67-7] and compounds, as Zr [7440-67-7]	5 mg/m ³	10 mg/m ³	

Endnotes

- (E) - the value is for particulate matter containing no asbestos and less than 1% crystalline silica.
- (F) - the value for fibres longer than 5 microns, with an aspect ratio of equal than/greater than 3:1, as determined by the membrane filter method at 400 - 450 times magnification (4 mm objective), using phase-contrast illumination.
- (G) - as measured by the vertical elutriator, cotton-dust sampler, see *TLV Documentation*.
- (H) - reciprocal calculation method, see OHS Guideline G5.48-12.
- (I) - see Special Notes in Table 1 below
- (J) - does not include stearates of toxic metals.
- (K) - should not exceed 2 mg/m³ respirable particulate.
- (L) - No exposure limit. Exposure by all routes should be carefully controlled to levels as low as possible.
- (M) - refers to sulfuric acid contained in strong inorganic acid mists.
- (N) - the 8-hour TWA listed in the Table is for the total dust. The substance also has an 8-hour TWA of 3 mg/m³ for the respirable fraction.
- (O) - sampled by method that does not collect vapour.
- (P) - application restricted to conditions in which there are negligible aerosol exposures.
- (V) - vapour and inhalable aerosol.

Bracketed letters are end notes, e.g., "(L)" and "(V)";
 STEL column C = Ceiling limit;
 Notations column R = Adverse reproductive effect; S = Sensitizer;
 A1, A2, 1, 2A, 2B = Carcinogen designations

Table of exposure limits for chemical and biological substances

Updated 2013/05/01

Substance [CAS No.]	TWA	STEL/Ceiling	Notations
---------------------	-----	--------------	-----------

Table 1: Special Notes

Substance [CAS No.]	Note
Nickel - Elemental, Soluble inorganic compounds, as Ni [7440-02-0]	Elemental nickel and alloys containing nickel are IARC group 2B carcinogens. Nickel compounds are IARC group 1 carcinogens.
Nickel - Insoluble inorganic compounds, as Ni [7440-02-0]	
Nickel carbonyl, as Ni [13463-39-3]	
Nitrotoluene, all isomers [88-72-2; 99-08-1; 99-99-0]	Nitrotoluene (CAS 88-72-2) is an IARC group 2A carcinogen
Zinc chromates, as Cr [13530-65-9; 11103 -86-9; 37300-23-5]	Chromium (VI) compounds are IARC group 1 carcinogens
Dinitrotoluene [25321-14-6]	2,4 - Dinitrotoluene and 3,6 - Dinitrotoluene are IARC group 2B carcinogens
Indium and compounds, as In [7440-74-6]	Indium phosphide is an IARC group 2A carcinogen
Diesel fuel, as total hydrocarbons, Inhalable [68334-30-5; 68476-30-2; 68476-31-3; 68476-34-6; 77650-28-3]	Diesel fuel, marine, is an IARC group 2B carcinogen
Uranium (Natural) [7440-61-1]	Ionizing radiation (all types) and Radionuclides are IARC group 1 carcinogens
Allyl bromide [106-95-6]	No British Columbia exposure limit at this time.
Butenes, all isomers, including Isobutene [106-98-9], [107-01-7], [590-18-1], [624-64-6], [25167-67-3], [115-11-7]	
Carbonyl sulfide [463-58-1]	
Citral, inhalable [5292-40-5]	
Diacetyl [431-03-8]	
Diethylene glycol monobutyl ether [112-34-5]	
N,N - Diethylhydroxylamine [3710-84-7]	
Iodides	
2,4-Pentanedione [123-54-6]	
o-Phthalodinitrile [91-15-6]	

Bracketed letters are end notes, e.g., "(L)" and "(V)";
 STEL column C = Ceiling limit;
 Notations column R = Adverse reproductive effect; S = Sensitizer;
 A1, A2, 1, 2A, 2B = Carcinogen designations