

مركز أبوظبي للسلامة والصحة المهنية  
ABU DHABI OCCUPATIONAL SAFETY AND HEALTH CENTER

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# Abu Dhabi Occupational Safety and Health System Framework

(OSHAD-SF)

Occupational Standards and Guideline Values

Version 3.0

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ABU DHABI PUBLIC  
HEALTH CENTRE

مركز أبوظبي  
للصحة العامة



## Important Note:

(Document Republished for Continued Implementation  
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## 1. Introduction

- (a) This document has been developed by OSHAD to document the air quality Threshold Limit Values (TLVs) and noise standards set for occupational exposure under the *OSHAD-SF* and the derivation and sources of such TLVs and standards.

**Important Note: OSH Standards and Guideline Values are currently non-mandatory requirements, however are based on international and local best practice. Entities are encouraged to incorporate these requirements to the extent possible, alongside other international and local standards.**

**At the discretion of OSHAD, the standards presented in this document or amendments thereafter, may be submitted to the Executive Council of Abu Dhabi for approval as mandatory standards.**

- (b) The standards and threshold limit values addressed in this document for the *OSHAD-SF* cover:
- (i) occupational air quality in terms of chemical substances; and
  - (ii) occupational noise.
- (c) Section 2 of this document defines the sources and derivation of the standards and threshold limit values set under the *OSHAD-SF*.
- (d) The occupational air threshold limit values and noise standards set under the *OSHAD-SF* are documented in Section 3 of this document and in schedules attached to it.
- (e) For guidance on interpretation and implementation of the TLVs and standards set under the *OSHAD-SF*, reference shall be made to the following documents:
- (i) *OSHAD-SF – Glossary of Terms*: for definitions of the terms used in the set standards; and
  - (ii) *OSHAD-SF – Technical Guideline – Occupational Air Quality Management* - for guidance on occupational air monitoring and assessment methodology.

## 2. Derivation of Occupational Exposure Limits

### 2.1 Occupational Air Quality Threshold Limit Values

- (a) Any exposure limits on occupational air quality will have to consider the maximum allowable limits for chemical substances in working areas as stipulated in the Regulation concerning Protection of Air from Pollution under Federal Law No. (24) of 1999. These limits were adopted from the Threshold Limit Values (TLV) (Time Weighted Average (TWA) and Short-Term Exposure Limit (STEL)) for Chemical Substances specified by The American Conference of Governmental Industrial Hygienists (ACGIH).
- (b) The limits stipulated in Schedule A of this document have incorporated the updated TLVs and STELs specified by ACGIH (version of 2010) whenever the updated values are more stringent than those stipulated in the existing federal Regulation. In the event that the TLV and/or STEL stipulated in the existing Regulation are more stringent than those stipulated by ACGIH, there was no amendment to the existing TLV and STEL (i.e. the most stringent TLVs and STELs were adopted).
- (c) At the discretion of OSHAD, values in Schedule A shall be similarly updated where required to reflect future updates of TLVs and STELs by ACGIH. Updates shall come into force when incorporated in a revised version of this document.

### 2.2 Occupational Noise Standards

- (a) The occupational noise exposure levels recommended by the National Institute for Occupational Safety and Health (NIOSH), USA were adopted as Occupational Exposure Limits (OELs) with an ultimate objective to protect workers from hearing losses resulting from occupational noise exposure. The OELs thus adopted are listed in Schedule B in the form of exposure-duration tables, where OELs are given as the maximum duration of exposure permitted for various noise levels. In addition, certain maximum levels for occupational exposure are defined in Section 3.3.
- (b) The OELs thus adopted are additional requirements to those enacted in Regulation concerning Protection of Air from Pollution under Federal Law No. (24) of 1999 for the Protection and Development of the Environment.

## 3. Applicable Occupational Exposure Limits

### 3.1 General Provisions

- (a) The standards and TLVs stipulated by this document shall be in addition to those stipulated by the Federal Law No. (24) of 1999 and other applicable federal laws. In case of discrepancy between the standards and TLVs stipulated by this document and those federally set, whether existing or enacted in future, the more stringent stipulations shall prevail.
- (b) If, after exhausting all potential engineering and administrative control measures, employees are still exposed to levels exceeding the occupational exposure limits stipulated by this document, employers shall provide such employees with appropriate personal protective equipment and enforce their use, and such employees shall use such equipment.
- (c) Where justified by risk assessment or other information, employers shall provide occupational exposure monitoring and health surveillance, protection and / or awareness programs for workers exposed at or above the occupational exposure limits stipulated by this document.
- (d) OSHAD shall issue the codes of practice and technical guidelines required for implementing provisions of this document.
- (e) OSHAD shall monitor implementation of all standards related to the OSHAD-SF and put forth appropriate recommendations.

### 3.2 Occupational Air Quality Threshold Limit Values

- (a) The Threshold Limit Values (TLVs) stipulated in Schedule A shall be adopted as maximum allowable limits for occupational exposure to air pollutants (chemical substances) in working areas in the Emirate.
- (b) TLVs are guidelines designed for making decisions regarding safe levels of exposure to various chemical substances and physical agents found in the workplace. These guidelines are one of multiple factors to be considered in evaluating specific workplace situations and conditions.
- (c) Except as stipulated in Clauses (a) to (b) above, all concerned shall pursue the provision of acceptable indoor air quality, which is satisfactory to no less than 80% of the people exposed, and in which there are no known contaminants at harmful concentrations as determined by the authorities concerned.

### 3.3 Occupational Noise Standards

- (a) The values stipulated in Schedule B shall be adopted as limits for occupational exposure to noise in the Emirate. Exposures at and above these limits are considered hazardous.
- (b) At no time shall occupational noise exposure exceed a sound pressure level of 140dB(A), including all continuous, intermittent and impulse noises.

- (c) Where the worker is restricted to a space that serves as both workplace and sleeping space, the ambient sound level in that sleeping space shall not exceed 70dB(A).
- (d) Noise measurements for enforcing the standards thus defined shall be as described by NIOSH (1998).

## 4. References

- *ACGIH (2010), TLVs and BEIs based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices, ACGIH*
- *NIOSH (1998), Occupational Noise Exposure Revised Criteria, Publication No. 98-126 (1998)*
- *UAE Federal Law No. (24) of 1999; and associated Regulations*



## 5. Document Amendment Record

Version	Revision Date	Description of Amendment	Page/s Affected
3.0	1 <sup>st</sup> July 2016	Change of Logo	All
		Change from AD EHS Center to OSHAD	Throughout
		Change of document title: AD EHSMS RF to OSHAD-SF	Throughout
		EHS changes to OSH	Throughout
		Clause 2.1(c) deleted	4
		Clause 3.2(c) deleted	5
		Important note added under Clause 1(a)	3
		Clause 2.1(c) updated	4
		Clause 3.1(f) deleted	5
		Clause 3.2 (c) deleted	5

الجدول (أ) الحدود القصوى المسموح بها لملوثات الهواء (المواد الكيماوية) داخل أماكن العمل

## Schedule A: Maximum Allowable Limits for Air Pollutants (Chemical Substances) in Working Areas

ملاحظات حول الجدول (أ) وبيان الاختصارات

### Notes and Abbreviations for Schedule A

- ( ) Adopted values or notations enclosed are those for which changes are proposed in the Notice of Intended Change (NIC).
- A# Carcinogen: Substances for which no human or experimental animal carcinogenic data have been reported are assigned no carcinogen designation.
- Exposures to carcinogens must be kept to a minimum. Workers exposed to A1 carcinogens without a TLV® shall be properly equipped to eliminate to the fullest extent reasonably practicable all exposure to the carcinogen. For A1 carcinogens with a TLV® and for A2 and A3 carcinogens, worker exposure by all routes shall be carefully controlled to levels as low as reasonably practicable below the TLV®.
- A1 Confirmed Human Carcinogen: The agent is carcinogenic to humans based on the weight of evidence from epidemiologic studies.
- A2 Suspected Human Carcinogen: Human data are accepted as appropriate in quality but are conflicting or insufficient to classify the agent as a confirmed human carcinogen; OR, the agent is carcinogenic in experimental animals at dose(s), by route(s) of exposure, at site(s), of histologic type(s), or by mechanism(s) considered relevant to worker exposure. The A2 is used primarily when there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals with relevance to humans.
- A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely

routes or levels of exposure.

- A4 Not Classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. *In vitro* or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.
- A5 Not Suspected as a Human Carcinogen: The agent is not suspected to be a human carcinogen on the basis of properly conducted epidemiologic studies in humans. These studies have sufficiently long follow-up, reliable exposure histories, sufficiently high dose, and appropriate statistical power to conclude that exposure to the agent does not convey a significant risk of cancer to humans; OR, the evidence suggesting a lack of carcinogenicity in experimental animals is supported by mechanistic data.
- C Ceiling limit; The concentration that shall not be exceeded during any part of the working exposure.
- (D) Simple asphyxiant: "Inert" gas or vapor that displaces oxygen and acts as an asphyxiant without other significant physiologic effects when present in high concentrations in air.
- (E) The value is for particulate matter containing no asbestos and <1% crystalline silica.
- (F) Respirable fibers: length > 5µm; aspect ratio ≥ 3:1, as determined by the membrane filter method at 400-450 X magnification (4-mm objective), using phase-contrast illumination.
- (G) As measured by the vertical elutriator, cotton-dust sampler; see the *TLV Documentation* of ACGIH (2010).
- (H) Aerosol only.
- (I) Measured as inhalable fraction of the aerosol.
- (IFV) Measured as inhalable fraction and vapour.
- (J) Does not include stearates of toxic metals.
- (K) Shall not exceed 2 mg/m<sup>3</sup> respirable particulate mass.
- (L) Exposure by all routes shall be carefully controlled to levels as low as reasonably practicable.
- (M) Classification refers to sulfuric acid contained in strong inorganic acid mists.
- (O) Sampled by method that does not collect vapour.

(P)	Application restricted to conditions in which there are negligible aerosol exposures.
(R)	Measured as respirable fraction of the aerosol.
(T)	Measured as thoracic fraction of the aerosol.
(V)	Vapor and aerosol.
BEI	ACHIH has recommended a Biological Exposure Index or Indices for this substance BEI <sub>A</sub> : see BEI <sup>®</sup> for Acetylcholinesterase Inhibiting Pesticides. BEI <sub>M</sub> : see BEI <sup>®</sup> for Methemoglobin Inducers. BEI <sub>p</sub> : see BEI <sup>®</sup> for Polycyclic Aromatic Hydrocarbons (PAHs).
MW	Molecular weight.
NOS	Not otherwise specified.
SEN	TLV-confirmed potential for worker sensitization as a result of dermal contact and/or inhalation exposure, based on the weight of scientific evidence.
Skin	Danger of cutaneous adsorption.
STEL	Short-term Exposure Limit. Usually a 15-minute time-weighted average (TWA) exposure that shall not be exceeded at any time during a workday, even if the 8-hour TWA is within the TLV-TWA.
TLV	Threshold limit value.
TWA	8-hour, time-weighted average exposure concentration.
ppm	Parts of vapour or gas per million parts of contaminated air by volume at NTP conditions (25°C; 760 torr).
mg/m <sup>3</sup>	Milligrams of substance per cubic meter of air.

*Source: ACGIH (2010), TLVs and BEIs based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices, ACGIH.*

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
1	Acetaldehyde 75-07-0	- -	C 25 C 45	ppm mg/m <sup>3</sup>	A3
2	Acetic acid 64-19-7	10 25	15 37	ppm mg/m <sup>3</sup>	--
3	Acetic anhydride 108-24-7	5 21	- -	ppm mg/m <sup>3</sup>	--
4	Acetone 67-64-1	500 1188	750 1782	ppm mg/m <sup>3</sup>	A4; BEI
5	Acetone cyanohydrins 75-86-5		C 5 (as CN)	mg/m <sup>3</sup>	Skin
6	Acetonitrile 75-05-8	20 34	60 101	ppm mg/m <sup>3</sup>	Skin; A4
7	Acetophenone 98-86-2	10 49		ppm mg/m <sup>3</sup>	
8	2-(Acetylamino) fluorine 53-96-3	- -	- -	ppm mg/m <sup>3</sup>	A2
9	Acetylene 74-86-2	Simple Asphyxiant <sup>(D)</sup>			
10	Acetylene tetra bromide 79-2-6	1 14	- -	ppm mg/m <sup>3</sup>	
11	Acetylsalicylic acid (Asprin) 50-78-2	- 5	- -	ppm mg/m <sup>3</sup>	--
12	Acrolein 107-02-8	- -	C 0.1 -C 0.23	ppm mg/m <sup>3</sup>	Skin; A4
13	Acrylamide 79-06-1	- 0.03 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A3
14	Acrylic acid 79-10-7	2 5.9	- -	ppm mg/m <sup>3</sup>	Skin; A4
15	Acrylonitrile 107-13-1	2 4.3	4 9	ppm mg/m <sup>3</sup>	Skin; A3

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
16	Adipic acid 124-04-9	- 5	- -	ppm mg/m <sup>3</sup>	--
17	Adiponitrile 111-69-3	2 8.8	- -	ppm mg/m <sup>3</sup>	Skin
18	Alachlor 15972-60-8	1 (IFV)	- -	ppm mg/m <sup>3</sup>	SEN; A3
19	Aldrin 309-00-2	- 0.05 (IFV)	- 0.25	ppm mg/m <sup>3</sup>	Skin; A3
20	Aliphatic hydrocarbon gases Alkane [C1-C4] (#76)	800	- -	ppm mg/m <sup>3</sup>	--
21	Allyl alcohol 107-18-6	0.5 1.9	4 9.5	ppm mg/m <sup>3</sup>	Skin; A4
22	Allyl chloride 107-05-1	1 3	2 6	ppm mg/m <sup>3</sup>	A3
23	Allyl glycidyl ether 106-92-3	1 4.7	10 47	ppm mg/m <sup>3</sup>	A4
24	Allyl propyl disulfide 2179-59-1	0.5 3	3 18	ppm mg/m <sup>3</sup>	SEN
25	Aluminum metal and insoluble compounds 7429-90-5	- 1 (R)	- -	ppm mg/m <sup>3</sup>	A4
26	Aluminum Oxide 1344-28-1	- 1 (R)	- -	ppm mg/m <sup>3</sup>	A4
27	4-Aminodiphenyl 92-67-1	- (L) - (L)	- -	ppm mg/m <sup>3</sup>	Skin; A1
28	2-Aminopyridine 504-29-0	0.5 1.9	- -	ppm mg/m <sup>3</sup>	--
29	Amitrole 61-82-5	- 0.2	- -	ppm mg/m <sup>3</sup>	A3
30	Ammonia 7664-41-7	25 17	35 24	ppm mg/m <sup>3</sup>	-

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
31	Ammonium chloride fume 12125-02-9	- 10	- 20	ppm mg/m <sup>3</sup>	-
32	Ammonium perfluorooctanoate 3825-26-1	- 0.01	- -	ppm mg/m <sup>3</sup>	Skin; A3
33	Ammonium persulfate, as S <sub>2</sub> O <sub>8</sub> 7727-54-0	- 0.1	- -	ppm mg/m <sup>3</sup>	
34	Ammonium sulfamate 7773-06-0	- 10	- -	ppm mg/m <sup>3</sup>	-
35	Amyl acetate [Pentyl acetate], All isomers 628-63-7; 626-38-0; 123-92-2; 625-16-1; 624-41-9; 620-11-1	50 266	100 532	ppm mg/m <sup>3</sup>	-
36	Tert-Amyl methyl ether (TAME) 994-05-8	20 84	- -	ppm mg/m <sup>3</sup>	
37	Aniline 62-53-3	2 7.6	- -	ppm mg/m <sup>3</sup>	Skin; A3; BEI
38	p-Anisidine 104-94-9	0.1 0.5	- 1.5	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>M</sub>
39	o-Anisidine and its salts 90-04-0	0.1 0.5	- 1.5	ppm mg/m <sup>3</sup>	Skin; A3; BEI <sub>M</sub>
40	Antimony [7440-36-0] and compounds, as Sb	- 0.5	- -	ppm mg/m <sup>3</sup>	-
41	Antimony hydride (Stibine) 708-52-3	0.1 0.51	- -	ppm mg/m <sup>3</sup>	
42	Antimony oxide 1327-33-9	- 0.5	- -	ppm mg/m <sup>3</sup>	
43	Antimony trioxide, as Sb 1309-64-4	- 0.5	- -	ppm mg/m <sup>3</sup>	
44	Antimony trioxide production 1309-64-4	- <sup>(L)</sup> - <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	A2

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
45	ANTU 86-88-4	- 0.3	- -	ppm mg/m <sup>3</sup>	A4; Skin
46	Argon 7440-37-1	Simple Asphyxiant <sup>(D)</sup>	- -	ppm mg/m <sup>3</sup>	
47	Arsenic and inorganic compounds (except arsine), as As (includes elemental, organic, and soluble) 7440-38-2	- 0.01	- -	ppm mg/m <sup>3</sup>	A1; BEI
48	Arsenic acid and its salts, as As 7778-39-4	- 0.01	- -	ppm mg/m <sup>3</sup>	A1
49	Arsenic Pentaoxide 1303-38-2	0.01	- -	ppm mg/m <sup>3</sup>	A1
50	Arsenic trioxide 1327-53-3	0.01	- -	ppm mg/m <sup>3</sup>	A1
51	Arsenous acid and its salts, as As 13464-58-9	0.01	- -	ppm mg/m <sup>3</sup>	A1
52	Arsine [arsenic hydride] 7784-42-1	0.005 0.01	- -	ppm mg/m <sup>3</sup>	-
53	Asbestos, All forms 1332-21-4	0.1	- -	f/cc <sup>(F)</sup>	A1
54	Asphalt (Bitumen) fume [8052-42-4] as benzene- soluble aerosol	- 0.5 <sup>(I)</sup>	- -	ppm mg/m <sup>3</sup>	A4; BEI <sub>P</sub>
55	Atrazine 1912-24-9	- 5	- -	ppm mg/m <sup>3</sup>	A4
56	Azinphos methyl 86-50-0	- 0.2 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; SEN; A4; BEI <sub>A</sub>
57	Barium [7440-39-3] and soluble compounds, as Ba	- 0.5	- -	ppm mg/m <sup>3</sup>	A4
58	Barium sulphate 7727-43-7	- 10	- -	ppm mg/m <sup>3</sup>	-



الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
59	Benomyl 17804-35-2	- 1 <sup>(1)</sup>	- -	ppm mg/m <sup>3</sup>	A3; SEN
60	Benz[a]anthracene 56-55-3	- <sup>(L)</sup> - <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	A2; BEI <sub>P</sub>
61	Benzene 71-43-2	0.5 1.6	2.5 8	ppm mg/m <sup>3</sup>	Skin; A1; BEI
62	Benzidine and Benzidine Salts 92-87-5	- <sup>(L)</sup> - <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A1
63	Benzo[b]fluoranthene	- <sup>(L)</sup> - <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	A2; BEI <sub>P</sub>
64	Benzo[a]pyrene 50-32-8	- <sup>(L)</sup> - <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	A2; BEI <sub>P</sub>
65	Benzotrichloride (Benzyl trichloride) 98-07-7	- -	C 0.5 C 2.8	ppm mg/m <sup>3</sup>	A2
66	Benzoyl chloride 98-88-4	- -	C 0.5 C 2.8	ppm mg/m <sup>3</sup>	A4
67	Benzoyl peroxide 94-36-0	- 5	- -	ppm mg/m <sup>3</sup>	A4
68	Benzyl acetate 140-11-4	10 61	- -	ppm mg/m <sup>3</sup>	A4
69	Benzyl chloride 100-44-7	1 5.2	- -	ppm mg/m <sup>3</sup>	A3
70	Beryllium [7440-41-7] and compounds, as Be	- 0.00005 <sup>(1)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; SEN; A1
71	Biphenyl (Diphenyl) 92-52-4	0.2 1.3	- -	ppm mg/m <sup>3</sup>	
72	Bismuth telluride, Undoped, as Bi <sub>2</sub> Te <sub>3</sub> 1304-82-1	- 10	- -	ppm mg/m <sup>3</sup>	A4
73	Bismuth telluride, Se-doped, as Bi <sub>2</sub> Te <sub>3</sub> 1304-82-1	- 5	- -	ppm mg/m <sup>3</sup>	A4

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
74	Borate compounds, inorganic 1330-43-4; 1303-96-4; 10043-35-3; 12179-04-3	- 2 <sup>(1)</sup>	- 6 <sup>(1)</sup>		A4
75	Bis(2-Chloroethyl) ether [Dichloroethyl ether] 111-44-4	5 29	10 58	ppm mg/m <sup>3</sup>	Skin; A4
76	Bis (2-chloro ethyl hexel) phthalate [Di(2-ethylhexyl)phthalate (DEHP)] 117-81-7	- 5	- -	ppm mg/m <sup>3</sup>	A3
77	Boron oxide 1303-86-2	- 10	- -	ppm mg/m <sup>3</sup>	--
78	Boron tribromide 10294-33-4	- -	C 1 C 10	ppm mg/m <sup>3</sup>	-
79	Boron trifluoride 7637-07-2	- -	C 1 C 2.8	ppm mg/m <sup>3</sup>	-
80	Bromacil 314-40-9	- 10	- -	ppm mg/m <sup>3</sup>	A3
81	Bromine 7726-95-6	0.1 0.66	0.2 1.3	ppm mg/m <sup>3</sup>	-
82	Bromine pentafluoride 7789-30-2	0.1 0.72	- -	ppm mg/m <sup>3</sup>	-
83	Bromoform 75-25-2	0.5 5.2	- -	ppm mg/m <sup>3</sup>	A3
84	Bromo methane [Methyl bromide] 74-83-9	1 3.9	- -	ppm mg/m <sup>3</sup>	Skin; A4
85	1-Bromopropane 106-94-5	10 50	- -	ppm mg/m <sup>3</sup>	
86	Bromotrifluoro methane [Trifluorobromomethane] 75-63-8	1000 6090	- -	ppm mg/m <sup>3</sup>	-
87	1,3- Butadiene 106-99-0	2 4.4	- -	ppm mg/m <sup>3</sup>	A2
88	Butane, All isomers 106-97-8; 75-28-5	See Aliphatic hydrocarbon gases: Alkane [C <sub>1</sub> -C <sub>4</sub> ]			-

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
89	n-Butanol [Butane-1-ol] 71-36-3	20 61	50152	ppm mg/m <sup>3</sup>	-
90	sec-Butanol [sec- Butane- 2- ol] 78-92-2	100 300	- -	ppm mg/m <sup>3</sup>	-
91	Tert- Butanol 75-65-0	100 303	- -	ppm mg/m <sup>3</sup>	A4
92	2-Butanone [Methyl ethyl ketone (MEK)] 78-93-3	200 590	300 885	ppm mg/m <sup>3</sup>	BEI
93	Butanone peroxide [Methyl ethyl ketone peroxide] 1338-23-4	- -	C 0.2 C 1.5	ppm mg/m <sup>3</sup>	-
94	Trans-2-Butenal [trans-Crotonaldehyde] 123-73-9		C 0.3 C 0.86	mg/m <sup>3</sup> mg/m <sup>3</sup>	A3; Skin
95	Butenes, all isomers 106-98-9; 107-01-7; 590-18-1; 624-64-6; 25167-67-3; 115-11-7	250 574	- -	ppm mg/m <sup>3</sup>	A4 CAS 115-11-7 only
96	2-Butoxyethanol [1-Butoxy ethanol] 111-76-2	20 97	- -	ppm mg/m <sup>3</sup>	A3
97	2-Butoxyethyl acetate (EGBEA) 112-07-2	20 130	- -	ppm mg/m <sup>3</sup>	A3
98	n-Butyl acetate 123-86-4	150 713	200 950	ppm mg/m <sup>3</sup>	
99	Sec-Butyl acetate 105-46-4	200 950	- -	ppm mg/m <sup>3</sup>	-
100	Tert-Butyl acetate 540-88-5	200 950	- -	ppm mg/m <sup>3</sup>	-
101	n-Butyl acrylate 141-32-2	2 11	- -	ppm mg/m <sup>3</sup>	SEN; A4
102	n-Butylamine 109-73-9	- -	C 5 C 15	ppm mg/m <sup>3</sup>	Skin
103	Butylated hydroxytoluene 128-37-0	- 2 (IFV)	- -	ppm mg/m <sup>3</sup>	A4

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
104	tert-Butyl chromate, as CrO <sub>3</sub> 1189-85-1	- -	- C 0.1	ppm mg/m <sup>3</sup>	Skin
105	Butyl-2,3-epoxy propyl ether [n-Butyl glycidyl ether (BGE)] 2426-08-6	3 16	- -	ppm mg/m <sup>3</sup>	Skin; SEN
106	n-Butyl lactate 138-22-7	5 30	- -	ppm mg/m <sup>3</sup>	
107	n-Butyl mercaptan 109-75-5	0.5 1.8	- -	ppm mg/m <sup>3</sup>	-
108	o-sec-Butylphenol 89-72-5	5 31	- -	ppm mg/m <sup>3</sup>	
109	p-tert-Butyl toluene 98-51-1	1 6.1	- -	ppm mg/m <sup>3</sup>	-
110	Cadmium [7440-43-9] and compounds, as Cd	0.01 0.002 <sup>(R)</sup>	- -	mg/m <sup>3</sup> mg/m <sup>3</sup>	A2; BEI
111	Calcium arsenate 7778-44-1	- 0.2		mg/m <sup>3</sup> mg/m <sup>3</sup>	
112	Calcium chromate 13765-19-0, as Cr	- 0.001	- -	ppm mg/m <sup>3</sup>	A2
113	Calcium cyanamide 156-62-7	- 0.5	- -	ppm mg/m <sup>3</sup>	A4
114	Calcium cyanide, as CN 592-01-8	- -	- C5	ppm mg/m <sup>3</sup>	
115	Calcium hydroxide 1305-62-0	- 5	- -	ppm mg/m <sup>3</sup>	-
116	Calcium oxide 1305-78-8	- 2	- -	ppm mg/m <sup>3</sup>	-
117	Calcium silicate, synthetic nonfibrous 1344-95-2	- 10 <sup>(E)</sup>	- -	ppm mg/m <sup>3</sup>	A4
118	Calcium sulfate (Gypsum) [7778-18-9,10034-76-1; 10101-41-4; 13397-24-5]	- 10 <sup>(I)</sup>	- -	ppm mg/m <sup>3</sup>	-

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
119	Camphor (synthetic) 76-22-2	2 12	3 19	ppm mg/m <sup>3</sup>	A4
120	Caprolactam 105-60-2	- 5 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	A5
121	Captafol 2425-06-1	- 0.1	- -	ppm mg/m <sup>3</sup>	Skin; A4
122	Captan 133-06-2	- 5 <sup>(l)</sup>	- -	ppm mg/m <sup>3</sup>	SEN; A3
123	Carbaryl 63-25-2	- 0.5 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
124	Carbofuran 1563-66-2	- 0.1 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	A4; BEI <sub>A</sub>
124	Carbon black 1333-86-4	- 3.5	- -	ppm mg/m <sup>3</sup>	A4
126	Carbon dioxide 124-38-9	5000 9000	30000 54000	ppm mg/m <sup>3</sup>	-
127	Carbon disulfide 75-15-0	1 3.13	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI
128	Carbon monoxide 630-08-0	25 29	- -	ppm mg/m <sup>3</sup>	BEI
129	Carbon tetrabromide 558-13-4	0.1 1.4	0.3 4.1	ppm mg/m <sup>3</sup>	-
130	Carbon tetrachloride 56-23-5	5 31	10 63	ppm mg/m <sup>3</sup>	Skin; A2
131	Carbonyl chloride [Phosgene] 75-44-5	0.1 0.4	- -	ppm mg/m <sup>3</sup>	-
132	Carbonyl fluoride 353-50-4	2 5.4	5 13	ppm mg/m <sup>3</sup>	-
133	Catechol 120-80-9	5 23	- -	ppm mg/m <sup>3</sup>	Skin; A3

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
134	Cellulose 9004-34-6	- 10	- -	ppm mg/m <sup>3</sup>	-
135	Cesium hydroxide 21351-79-1	- 2	- -	ppm mg/m <sup>3</sup>	-
136	Chlordane 57-74-9	- 0.5	- -	ppm mg/m <sup>3</sup>	Skin; A3
137	Chlorinated camphene 8001-35-2	- 0.5	- 1	ppm mg/m <sup>3</sup>	Skin; A3
138	o-Chlorinated diphenyl oxide 31242-93-0	- 0.5	- -	ppm mg/m <sup>3</sup>	-
139	Chlorine 7782-50-5	0.5 1.5	1 2.9	ppm mg/m <sup>3</sup>	A4
140	Chlorine dioxide 10049-04-4	0.1 0.28	0.3 0.83	ppm mg/m <sup>3</sup>	-
141	Chlorine trifluoride 7790-91-2	- -	C 0.1 C 0.38	ppm mg/m <sup>3</sup>	-
142	Chloroacetaldehyde 107-20-0	- -	C 1 C 3.2	ppm mg/m <sup>3</sup>	-
143	Chloroacetone 78-95-5	- -	C 1 C 3.8	ppm mg/m <sup>3</sup>	Skin
144	2-Chloroacetophenone 532-27-4	0.05 0.32	- -	ppm mg/m <sup>3</sup>	A4
145	Chloroacetyl chloride 79-04-9	0.05 0.23	0.15 0.69	ppm mg/m <sup>3</sup>	Skin
146	Chlorobenzene 108-90-7	10 46	- -	ppm mg/m <sup>3</sup>	A3; BEI
147	o-Chlorobenzylidene malononitrile 2698-41-1	- -	C 0.05 C 0.39	ppm mg/m <sup>3</sup>	Skin; A4
148	Chlorobromomethane (Bromochloromethane) 74-97-5	200 1060	- -	ppm mg/m <sup>3</sup>	

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
149	Chlorodifluoromethane 75-45-6	1000 3540	- -	ppm mg/m <sup>3</sup>	A4
150	Chlorodiphenyl (42% chlorine) 53469-21-9	- 1	- -	ppm mg/m <sup>3</sup>	Skin
151	Chlorodiphenyl (54% chlorine) 11097-69-1	- 0.5	- -	ppm mg/m <sup>3</sup>	Skin; A3
152	2- Chloro ethanol [Ethylene chlorohydrin] 107-07-3	- -	C 1 C 3.3	ppm mg/m <sup>3</sup>	Skin; A4
153	Chloroform 67-66-3	10 49	20 100	ppm mg/m <sup>3</sup>	A3
154	Chloro methane [Methyl chloride] 74-87-3	50 103	100 207	ppm mg/m <sup>3</sup>	Skin; A4
155	Chloromethyl methyl ether 107-30-2	- <sup>(L)</sup> - <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	A2
156	1-Chloro -4- nitro benzene [p-Nitrochlorobenzene] 100-00-5	0.1 0.64	- -	ppm mg/m <sup>3</sup>	Skin; A3; BEI <sub>M</sub>
157	1-Chloro-1-nitropropane 600-25-9	2 10	- -	ppm mg/m <sup>3</sup>	-
158	Chloropentafluorethane 76-15-3	1000	6320	ppm mg/m <sup>3</sup>	
159	Chloropicrin (Trichloronitromethane) 76-06-2	0.1 0.67	- -	ppm mg/m <sup>3</sup>	A4
160	1-Chloro-2-propanol 127-00-4	1 4	- -	ppm mg/m <sup>3</sup>	A4
161	2-Chloro-1-propanol 78-89-7	1 4	- -	ppm mg/m <sup>3</sup>	A4
162	β-Chloroprene (2-Chloro-1,3-butadiene) 126-99-8	10 36	- -	ppm mg/m <sup>3</sup>	Skin
163	2-chloro propionic acid 598-78-7	0.1 0.44	- -	ppm mg/m <sup>3</sup>	Skin

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
164	Allyl chloride [3- chloro propene] 107-05-1	1 3	2 6	ppm mg/m <sup>3</sup>	A3
165	o-Chlorostyrene 2039-87-4	50 283	75 425	ppm mg/m <sup>3</sup>	-
166	o-Chlorotoluene 95-49-8	50 259	- -	ppm mg/m <sup>3</sup>	-
167	α- Chloro toluene [Benzyl chloride] 100-44-7	1 5.2	- -	ppm mg/m <sup>3</sup>	A3
168	4- Chloro-o-toluidine 95-69-2	2 12		ppm mg/m <sup>3</sup>	
169	2-Chloro-6- (trichloro methyl)- pyridine [Nitrapyrin] 1929-82-4	- 10	- 20	ppm mg/m <sup>3</sup>	A4
170	Chlorpyrifos 2921-88-2	- 0.1 <sup>(IFV)</sup>			Skin; A4; BEI <sub>A</sub>
171	Chromates	- .05	- 0.1	ppm mg/m <sup>3</sup>	A1; BEI
172	Chromic Acid 7738-94-5	- .05	- .02	ppm mg/m <sup>3</sup>	A1; BEI
173	Chromite 1308-31-2	- .05	- -	ppm mg/m <sup>3</sup>	A1
174	Chromite (processing chromate) as Cr and (inorganic compounds)	- 0.05	- -	ppm mg/m <sup>3</sup>	A1
175	Chromium III – Chromate 24613-89-6	- 0.5	- -	ppm mg/m <sup>3</sup>	A2
176	Chromium (III) inorganic compounds, as Cr 7440-47-3	- 0.5	- -	ppm mg/m <sup>3</sup>	A4
177	Chromium VI – compounds (soluble forms)	- 0.05		ppm mg/m <sup>3</sup>	A1
178	Chromium VI – compounds (insoluble)	- 0.01		ppm mg/m <sup>3</sup>	A1



الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
179	Chromium metal 7440-47-3	- 0.5	- -	ppm mg/m <sup>3</sup>	A4
180	Chromyl chloride [Chromium oxychloride] 14977-61-8	0.025 0.16	- -	ppm mg/m <sup>3</sup>	-
181	Chromium trioxide 1333-82-0	- 0.05	- -	ppm mg/m <sup>3</sup>	A2
182	Chrysene 218-01-9	- (L) - (L)	- -	ppm mg/m <sup>3</sup>	A3; BEI <sub>P</sub>
183	Cl – direct – black- 38 1937-37-7	- 0.01	- -	ppm mg/m <sup>3</sup>	A1
184	Cl- pigment yello- 36 [zinc chromate] 13530-65-9	- 0.01	- -	ppm mg/m <sup>3</sup>	C1
185	Cirtral 5392-40-5	- 5 (IFV)	- -	ppm mg/m <sup>3</sup>	A4; Skin; SEN
186	Clopidol 2971-90-6	- 10	- -	ppm mg/m <sup>3</sup>	A4
187	Coal dust, (Anthracite)	- .4 (R)	- -	ppm mg/m <sup>3</sup>	A4
188	Coal dust, (Bituminous)	- .9 (R)	- -	ppm mg/m <sup>3</sup>	A4
189	Coal tar pitch volatiles as benzene soluble aerosol 65996-93-2	- 0.2	- -	ppm mg/m <sup>3</sup>	A1; BEI <sub>P</sub>
190	Cobalt [7440-48-4] and inorganic compounds, as Co	- 0.02	- -	ppm mg/m <sup>3</sup>	A3, BEI

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
191	Cobalt carbonyl [10210-68-1], as Co	- 0.1	- -	ppm mg/m <sup>3</sup>	-
192	Cobalt hydrocarbonyl [16842-03-8], as Co	- 0.1	- -	ppm mg/m <sup>3</sup>	-
193	Copper, dusts and mists, as Cu 7440-50-8	- 1	- -	ppm mg/m <sup>3</sup>	-
194	Copper [7440-50-8] Fume	0.2	-	mg/m <sup>3</sup>	-
195	± Cotton dust, raw	- 0.1 <sup>(T)</sup>	- 0.6	ppm mg/m <sup>3</sup>	A4
196	<u>Coumaphos</u> <u>56-72-4</u>	- 0.05 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	A4; Skin; BEI <sub>A</sub>
197	± Cresol (all isomers) [1319-77-3; 95-48-7; 108-39-4;106-44-5]	- 20 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A4
198	Crotonaldehyde 4170-30-3	- -	C 0.3 C 0.86	ppm mg/m <sup>3</sup>	Skin; A3
199	Crufomate 299-86-5	- 5	- -	ppm mg/m <sup>3</sup>	A4; BEI <sub>A</sub>
200	Cumene 98-82-8	50 246	-	ppm mg/m <sup>3</sup>	-
201	Cyanamide 420-04-2	0.2 1	-	ppm mg/m <sup>3</sup>	-
202	2-Cyano acrylic acid methyl ester [Methyl 2-cyanoacrylate] 137-05-3	0.2 1	4 18	ppm mg/m <sup>3</sup>	-
203	Cyanogen 460-19-5	10 21	- -	ppm mg/m <sup>3</sup>	-
204	Cyanogen chloride 506-77-4	- -	C 0.3 C 0.75	ppm mg/m <sup>3</sup>	-
205	Cyclohexane 110-82-7	100 344	- -	ppm mg/m <sup>3</sup>	-

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
206	Cyclohexanol 108-93-0	50 206	- -	ppm mg/m <sup>3</sup>	Skin
207	Cyclohexanone 108-94-1	20 50	-	ppm mg/m <sup>3</sup>	A3, Skin
208	Cyclohexene 110-83-8	300 1010	- -	ppm mg/m <sup>3</sup>	-
209	Cyclohexylamine 108-91-8	10 41	- -	ppm mg/m <sup>3</sup>	A4
210	Cyclonite 121-82-4	- 0.5	- -	ppm mg/m <sup>3</sup>	Skin; A4
211	Cyclopentadiene 542-92-7	75 203	- -	ppm mg/m <sup>3</sup>	-
212	Cyclopentane 287-92-3	600 1720	- -	ppm mg/m <sup>3</sup>	-
213	Cyhexatin 13121-70-5	- 5	- -	ppm mg/m <sup>3</sup>	A4
214	2,4-D (2,4-Dichlorophenoxyacetic acid) 94-75-7	- 10	- -	ppm mg/m <sup>3</sup>	A4
215	D.D.T (Dichlorodiphenyl-trichloroethane) 50-29-3	- 1	- -	ppm mg/m <sup>3</sup>	A3
216	Decaborane 17702-41-9	0.05 0.25	0.15 -0.75	ppm mg/m <sup>3</sup>	Skin
217	Demeton 8065-48-3	- 0.05 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin, BEI <sub>A</sub>
218	Demeton-S-Methyl 919-86-8	- 0.05 (IFV)	- -	ppm mg/m <sup>3</sup>	A4, Skin, SEN, BEI <sub>A</sub>
219	Diacetone alcohol 123-42-2	50 238	- -	ppm mg/m <sup>3</sup>	-
220	4,4-Diacetyl benzidine 613-35-4	- -	- -	ppm mg/m <sup>3</sup>	A1
221	4,4-Diamino diphenyl methane [4,4'-Methylene dianiline] 101-77-9	0.1 0.81	- -	ppm mg/m <sup>3</sup>	Skin; A3

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
222	Diazinon 333-41-5	- 0.01 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	A4, Skin, BEI <sub>A</sub>
223	Diazomethane 334-88-3	0.2 0.34	- -	ppm mg/m <sup>3</sup>	A2
224	Diborane 19287-45-7	0.1 0.11	- -	ppm mg/m <sup>3</sup>	-
225	1,2-Dibromo-3-chloropropane [BDCP] 96-12-8	0.001 0.01	- -	ppm mg/m <sup>3</sup>	
226	2-N-Dibutylaminoethanol 102-81-8	0.5 3.5	- -	ppm mg/m <sup>3</sup>	Skin, BEI <sub>A</sub>
227	Dibutyl phenyl phosphate 2528-36-1	0.3 3.5	- -	ppm mg/m <sup>3</sup>	Skin, BEI <sub>A</sub>
228	Dibutyl phosphate 107-66-4	0.6 <sup>(IFV)</sup> 5 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin
229	Dibutyl phthalate 84-74-2	- 5	- -	ppm mg/m <sup>3</sup>	-
230	Dichloroacetic acid 79-43-6	0.5 2.64	- -	ppm mg/m <sup>3</sup>	A3, Skin
231	Dichloroacetylene 7572-29-4	- -	C 0.1 C 0.39	ppm mg/m <sup>3</sup>	A3
232	o-Dichlorobenzene 95-50-1	25 150	50 301	ppm mg/m <sup>3</sup>	A4
233	p-Dichlorobenzene 106-46-7	10 60	- -	ppm mg/m <sup>3</sup>	A3
234	3,3'-Dichlorobenzidine 91-94-1	- <sup>(L)</sup> -0.1 <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A3
235	1,4-Dichloro-2-butene 764-41-0	0.005 0.025	- -	ppm mg/m <sup>3</sup>	Skin; A2
236	Dichlorodifluoromethane 75-71-8	1000 4950	- -	ppm mg/m <sup>3</sup>	A4

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
237	1,3-Dichloro-5,5-dimethyl hydantoin 118-52-5	- 0.2	- 0.4	ppm mg/m <sup>3</sup>	-
238	1,1-Dichloroethane 75-34-3	100 405	- -	ppm mg/m <sup>3</sup>	A4
239	1,1-Dichloro ethylene [Vinylidene chloride] 75-35-4	5 20	- -	ppm mg/m <sup>3</sup>	A4
240	1-2-Dichloroethylene, all isomers [540-59-0; 156-59-2; 156-60-5]	200 793	- -	ppm mg/m <sup>3</sup>	--
241	Dichlorofluoromethane 75-43-3	10 42	- -	ppm mg/m <sup>3</sup>	-
242	Dichloromethane 75-09-2	50 174	- -	ppm mg/m <sup>3</sup>	A3; BEI
243	2,2-Dichloro -4,4-methylene dianiline and salts [4,4'-Methylene bis(2- chloroaniline)] [MBOCA; MOCA] 101-14-4	0.01 0.11	- -	ppm mg/m <sup>3</sup>	Skin; A2; BEI
244	Dichlorofluoromethane (FC- 21) 75-43-4	10 42	- -	ppm mg/m <sup>3</sup>	-
245	Dichloromethane (Methylene chloride) 75-09-2	50 174	- -	ppm mg/m <sup>3</sup>	A3; BEI
246	1,1-Dichloro-1-nitroethane 594-72-9	2 12	- -	ppm mg/m <sup>3</sup>	-
247	1,2- /ducgkiri orioabe [Propylene dichloride] 78-87-5	10 46	- -	ppm mg/m <sup>3</sup>	SEN; A4
248	1,3-Dichloropropene 542-75-6	1 4.5	- -	ppm mg/m <sup>3</sup>	Skin; A3
249	Ciz -(z)- 1,3- Dichloro propene 10061-01-5	1 5	- -	ppm mg/m <sup>3</sup>	
250	trans -(z)- 1,3- Dichloro propene 10061-02-6	1 5	- -	ppm mg/m <sup>3</sup>	
251	2,2-Dichloropropionic acid 75-99-0	- 5 <sup>(1)</sup>	- -	ppm mg/m <sup>3</sup>	A4

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
252	Dichlorvos (DDVP) 62-73-7	- 0.1 (IFV)	- --	ppm mg/m <sup>3</sup>	Skin; SEN; A4; BEI <sub>A</sub>
253	Dicrotophos 141-66-2	- 0.05 (IFV)	- --	ppm mg/m <sup>3</sup>	A4; Skin; BEI <sub>A</sub>
254	Dicyclopentadiene 77-73-6	5 27	- -	ppm mg/m <sup>3</sup>	-
255	Dicyclopentadienyl iron, as Fe 102-54-5	- 10	- -	ppm mg/m <sup>3</sup>	-
256	± Dieldrin 60-57-1	- 0.1 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A3
257	Diesel (engine emissions)	0.15	- -	ppm mg/m <sup>3</sup>	
258	Diesel fuel [68334-30-5; 68476-30-2; 68476-31-3; 68476-34-6; 77650-28-3] as total hydrocarbons	- 100 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin, A3
259	Diethanolamine 111-42-2	0.2 (IFV) 1 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A3
260	Diethylamine 109-89-7	5 15	15 45	ppm mg/m <sup>3</sup>	Skin; A4
261	2-Diethylaminoethanol 100-37-8	2 9.6	- -	ppm mg/m <sup>3</sup>	Skin
262	Diethylene triamine 111-40-0	1 4.2	- -	ppm mg/m <sup>3</sup>	Skin
263	Di(2-ethylhexyl)phthalate (DEHP; Di-secoctyl phthalate) 117-81-7	- 5	- -	ppm mg/m <sup>3</sup>	A3
264	Diethyl ether [Ethyl ether] 60-29-7	400 1220	500 1520	ppm mg/m <sup>3</sup>	-
265	Diethyl ketone 96-22-0	200 705	300 1057	ppm mg/m <sup>3</sup>	-
266	Diethyl phthalate 84-66-2	- 5	- -	ppm mg/m <sup>3</sup>	A4

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
267	Diethyl sulfate 64-67-5	0.03 0.2	- -	ppm mg/m <sup>3</sup>	A2
268	Difluorodibromomethane 75-61-6	100 858	- -	ppm mg/m <sup>3</sup>	-
269	Diglycidyl ether (DGE) 2238-07-05	0.01 0.05	- -	ppm mg/m <sup>3</sup>	A4
270	1,4- Dihydrobenzene [Hydroquinone] 123-31-9	- 1	- -	ppm mg/m <sup>3</sup>	SEN; A3
271	Diisobutyl ketone 108-83-8	25 145	- -	ppm mg/m <sup>3</sup>	-
272	Diiso cyanato toluene (all isomers) 26471-62-2	0.01 0.08	- -	ppm mg/m <sup>3</sup>	A3
273	2,4- Diiso cyanatoluene [Toluene-2, 4-diisocyanate] (TDI) 584-84-9	0.005 0.036	C 0.02 C 0.14	ppm mg/m <sup>3</sup>	SEN, Skin, A3
274	2,6- Diiso cyanatotoluene [Toluene-2, 6-diisocyanate] 91-08-7	0.005 0.036	C 0.02 C 0.14	ppm mg/m <sup>3</sup>	SEN, Skin, A3
275	Diiso propyl amine [Diisopropylamine] 108-18-9	5 21	- -	ppm mg/m <sup>3</sup>	Skin
276	Dimethoxy methane [Methylal] 109-87-5	1000 3110	- -	ppm mg/m <sup>3</sup>	-
277	N,N-Dimethylacetamide 127-19-5	10 36	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI
278	Dimethylamine 124-40-3	5 9.2	15 27.6	ppm mg/m <sup>3</sup>	A4
279	Dimethyl amino azo benzene [4-Dimethylaminoazobenzene] 60-11-7			ppm mg/m <sup>3</sup>	A1
280	Dimethyl-1,2- dibromo 2,2- di chloro ethyl phosphata] [Naled] 300-76-5	- 0.1 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; SEN; A4; BEI <sub>A</sub>
281	Bis(2-Dimethylaminoethyl) ether (DMAEE) 3033-62-3	0.05 0.33	0.15 0.98	ppm mg/m <sup>3</sup>	

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
282	Dimethylaniline (N,N-Dimethylaniline) 121-69-7	5 25	10 50	ppm mg/m <sup>3</sup>	A4; Skin; BEI <sub>M</sub>
283	Dimethylcarbamoyl chloride 79-44-7	0.005 0.02	- -	ppm mg/m <sup>3</sup>	A2; Skin;
284	Dimethyl disulfide 624-92-0	0.5 2	- -	ppm mg/m <sup>3</sup>	Skin
285	Dimethylethoxysilane 14857-34-2	0.5 2.1	1.5 6.4	ppm mg/m <sup>3</sup>	
286	Dimethylformamide 68-12-2	10 30	- -	ppm mg/m <sup>3</sup>	Skin, A4; BEI
287	1,1-Dimethylhydrazine 57-14-7	0.01 0.025	- -	ppm mg/m <sup>3</sup>	Skin; A3
288	Dimethyl nitroso amine [N-Nitrosodimethylamine] 62-75-9	- (L) -	- -	ppm mg/m <sup>3</sup>	Skin; A3
289	Dimethyl phthalate 131-11-3	- 5	- -	ppm mg/m <sup>3</sup>	-
290	Dimethyl sulfate 77-78-1		0.01 0.05	ppm mg/m <sup>3</sup>	Skin; A3
291	Dimethyl sulfide 75-18-3	10 25	- -	ppm mg/m <sup>3</sup>	
292	Dinitolmide [3,5-Dinitro-o-toluamide] 148-01-6	- 1	- -	ppm mg/m <sup>3</sup>	A4
293	Dinitrobenzene, All isomers 528-29-0; 99-65-0; 100-25-4; 25154-54-5	0.15 1	- -	ppm mg/m <sup>3</sup>	Skin; BEI <sub>M</sub>
294	4,6-Dinitro-o-cresol 534-52-1	- 0.2	- -	ppm mg/m <sup>3</sup>	Skin
295	Dinitrotoluene 25321-14-6	- 0.15	- -	ppm mg/m <sup>3</sup>	Skin; A3; BEI <sub>M</sub>
296	1,4-Dioxane 123-91-1	20 72	90 135	ppm mg/m <sup>3</sup>	Skin; A3
297	Dioxathion 78-34-2	- 0.1 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>



الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
298	1,3-Duixikabe 646-06-0	20 61			
299	Diphenyl amine 122-39-4	- 10	- -	ppm mg/m <sup>3</sup>	A4
300	Diphenyl methane di isocyanate [Methylene bisphenyl isocyanate (MDI)] 101-68-8	0.005 0.051	- -	ppm mg/m <sup>3</sup>	-
301	Dipropylene glycol methyl ether [(2-Methoxymethylethoxy) propanol (DPGME)] 34590-94-8	100 606	150 909	ppm mg/m <sup>3</sup>	Skin
302	Dipropyl ketone 123-19-3	50 233	- -	ppm mg/m <sup>3</sup>	-
303	Diquat [2764-72-9; 85-00-7; 6385-62-2]	0.5 <sup>(I)</sup> 0.1 <sup>(R)</sup>	- -	mg/m <sup>3</sup> mg/m <sup>3</sup>	Skin; A4
304	Di(2-ethylhexyl)phthalate (DEHP) 117-81-7	- 5	- -	ppm mg/m <sup>3</sup>	A3
305	Disulfiram 97-77-8	- 2	- -	ppm mg/m <sup>3</sup>	A4
306	Disulfoton 298-04-4	- 0.05 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
307	2,6- Di- tert- butyl-p- cresol [Butylated hydroxytoluene (BHT)] 128-37-0	- 2 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	A4
308	Diuron 330-54-1	- 10	- -	ppm mg/m <sup>3</sup>	A4
309	Divinyl benzene 1321-74-0	10 53	- -	ppm mg/m <sup>3</sup>	-
310	Dodecyl mercaptan 112-55-0	0.1 0.8	- -	ppm mg/m <sup>3</sup>	SEN
311	Emery 1302-74-5	See Aliminum metal and insoluble compounds (#20)		ppm mg/m <sup>3</sup>	

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
312	Endosulfan 115-29-7	0.006 <sup>(IFV)</sup> 0.1 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A4
313	Endrin 72-20-8	- 0.1	- -	ppm mg/m <sup>3</sup>	Skin; A4
314	Enflurane 13838-16-9	75 566	- -	ppm mg/m <sup>3</sup>	A4
315	EPN 2104-64-5	- 0.1 <sup>(l)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
316	Epichlorohydrin 106-89-8	0.5 1.9	- -	ppm mg/m <sup>3</sup>	Skin; A3
317	1,2- Epoxy-4- epoxy ethyl cyclohexane [Vinyl cyclohexene dioxide] 106-87-6	0.1 0.57	20 120	ppm mg/m <sup>3</sup>	Skin; A3
318	Ethanol (Ethyl alcohol) 64-17-5	- -	1000 1880	ppm mg/m <sup>3</sup>	A3
319	Ethanolamine 141-43-5	3 7.5	6 15	ppm mg/m <sup>3</sup>	-
320	Ethion 563-12-2	- 0.05 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
321	2-Ethoxyethanol (EGEE) 110-80-5	5 18	- -	ppm mg/m <sup>3</sup>	Skin; BEI
322	2- Ethoxyethyl acetate (EGEEA) 111-15-9	5 27	- -	ppm mg/m <sup>3</sup>	Skin; BEI
323	Ethyl acetate 141-78-6	400 1440	- -	ppm mg/m <sup>3</sup>	-
324	Ethyl acrylate 140-88-5	5 20	15 61	ppm mg/m <sup>3</sup>	A4
325	Ethylamine 75-04-7	5 9.2	15 27.6	ppm mg/m <sup>3</sup>	Skin
326	Ethyl amyl ketone 541-85-5	10 52	- -	ppm mg/m <sup>3</sup>	-

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
327	Ethyl benzene 100-41-4	100 434	125 543	ppm mg/m <sup>3</sup>	A3; BEI
328	Ethyl bromide 74-96-4	5 22	- -	ppm mg/m <sup>3</sup>	Skin; A3
329	Ethyl tert-butyl ether (ETBE) 637-92-3	5 21	- -	ppm mg/m <sup>3</sup>	-
330	Ethyl butyl ketone [3- Heptanone] [106-35-4]	50 234	75 350	ppm mg/m <sup>3</sup>	-
331	Ethyl chloride 75-00-3	100 264	- -	ppm mg/m <sup>3</sup>	Skin; A3
332	Ethyl cyanoacrylate (Ethyl 2- cyanoacrylate) 7085-85-0	0.2 1	- -	ppm mg/m <sup>3</sup>	
333	Ethylene 75-85-1	200 230	- -	ppm mg/m <sup>3</sup>	A4
334	[Ethylene chlorohydrin [2- Chloro ethanol] 107-07-3	- -	C 1 C 3.3	ppm mg/m <sup>3</sup>	Skin; A4
335	Ethylenediamine 107-15-3	10 25	- -	ppm mg/m <sup>3</sup>	Skin; A4
336	Ethylene dibromide 106-93-4	20 145	30 220	ppm mg/m <sup>3</sup>	Skin; A3
337	Ethylene dichloride 107-06-2	10 40	- -	ppm mg/m <sup>3</sup>	A4
338	Ethylene glycol 107-21-1	- -	- C 100 <sup>(H)</sup>	ppm mg/m <sup>3</sup>	A4
339	Ethylene glycol dinitrate (EGDN) 628-96-6	0.05 0.31	- -	ppm mg/m <sup>3</sup>	Skin
340	Ethylene glycol methyl ether [2-Methoxyethyl acetate] (EGMEA) 110-49-6	0.1 0.5	- -	ppm mg/m <sup>3</sup>	Skin; BEI
341	Ethylene oxide (EtO) 75-21-8	1 1.8	- -	ppm mg/m <sup>3</sup>	A2

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
342	Ethyleneimine 151-56-4	0.05 0.09	0.1 0.18	ppm mg/m <sup>3</sup>	Skin; A3
343	Ethyl ether [Diethyl ether] 60-29-7	400 1220	500 1520	ppm mg/m <sup>3</sup>	-
344	Ethyl formate 109-94-4	100 303	- -	ppm mg/m <sup>3</sup>	-
345	2-Ethylhexanoic acid 149-57-5	- 5 (IFV)	- -	ppm mg/m <sup>3</sup>	-
346	Ethylidene norbornene 16219-75-3	- -	C 5 C 25	ppm mg/m <sup>3</sup>	-
347	Ethyl mercaptan 75-08-1	0.5 1.3	- -	ppm mg/m <sup>3</sup>	-
348	N-Ethylmorpholine 100-74-3	5 24	- -	ppm mg/m <sup>3</sup>	Skin
349	Ethyl silicate 78-10-4	10 85	- -	ppm mg/m <sup>3</sup>	-
350	Fenamiphos 22224-92-6	- 0.05 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
351	Fensulfothion 115-90-2	- 0.01 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
352	Fenthion 55-38-9	- 0.05 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
353	Ferbam 14484-64-1	- 5 (I)	- -	ppm mg/m <sup>3</sup>	A4
354	Ferrovandium dust 12604-58-9	- 1	- 3	ppm mg/m <sup>3</sup>	-
355	Flour dust	- 0.5 (IFV)	- -	ppm mg/m <sup>3</sup>	SEN
356	Fluorides, as F	- 2.5	- -	ppm mg/m <sup>3</sup>	A4; BEI
357	Fluorine 7782-41-4	1 1.6	2 3.1	ppm mg/m <sup>3</sup>	-

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
358	Fonofos 944-22-9	- 0.01 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
359	Formaldehyde 50-00-0	- -	C 0.3 C 0.37	ppm mg/m <sup>3</sup>	SEN; A2
360	Formamide 75-12-7	10 18	- -	ppm mg/m <sup>3</sup>	Skin
361	Formic acid 64-18-6	5 9.4	10 19	ppm mg/m <sup>3</sup>	-
362	Furfural 98-01-1	2 7.9	- -	ppm mg/m <sup>3</sup>	Skin; A3; BEI
363	Furfuryl alcohol 98-00-0	10 40	15 60	ppm mg/m <sup>3</sup>	Skin
364	Gallium arsenide 1303-00-0	- 0.0003 <sup>(R)</sup>	- -	ppm mg/m <sup>3</sup>	A3
365	Gasoline 86290-81-5	300 890	500 1480	ppm mg/m <sup>3</sup>	A3
366	Germanium tetrahydride 7782-65-2	0.2 0.63	- -	ppm mg/m <sup>3</sup>	-
367	Glutaraldehyde [111-30-8], activated and inactivated	- -	C 0.05 C 0.2	ppm mg/m <sup>3</sup>	SEN; A4
368	Glycerin mist 56-81-5	- 10	- -	ppm mg/m <sup>3</sup>	-
369	Glycidol (2,3-Epoxy-1-propanol) 556-52-5	2 6.1	- -	ppm mg/m <sup>3</sup>	A3
370	Glyoxal 107-83-6	- 0.1 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	SEN; A4
371	Grain dust (oat, wheat, barley)	- 4	- -	ppm mg/m <sup>3</sup>	-
372	Graphite (all forms except graphite fibers) 7782-42-5	- 2 <sup>(R)</sup>	- -	ppm mg/m <sup>3</sup>	-
373	Graphite, synthetic (all forms except graphite fibers)	- 2 <sup>(R)</sup>	- -	ppm mg/m <sup>3</sup>	-

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
374	Hafnium [7440-58-6] and compounds, as Hf	- 0.5	- -	ppm mg/m <sup>3</sup>	-
375	Halothane 151-67-7	50 404	- -	ppm mg/m <sup>3</sup>	A4
376	Helium 7440-60-8	Simple asphyxiant <sup>(D)</sup>			
377	Heptachlor 76-44-8	- 0.05	- -	ppm mg/m <sup>3</sup>	Skin; A3
378	Heptachlor epoxide 1024-57-3	- 0.05	- -	ppm mg/m <sup>3</sup>	Skin; A3
379	Heptane (n-Heptane) 142-82-5	400 1640	500 2050	ppm mg/m <sup>3</sup>	-
380	2- Heptanone [Methyl n-amyl ketone] 110-43-0	50 233	- -	ppm mg/m <sup>3</sup>	-
381	3- Heptanone [Ethyl butyl ketone] [106-35-4]	50 234	75 350	ppm mg/m <sup>3</sup>	-
382	Hexachlorobenzene 118-74-1	- 0.002	- -	ppm mg/m <sup>3</sup>	Skin; A3
383	Hexachlorobutadiene 87-68-3	0.02 0.21	- -	ppm mg/m <sup>3</sup>	Skin; A3
384	Hexachlorocyclopentadiene 77-47-4	0.01 0.11	- -	ppm mg/m <sup>3</sup>	A4
385	Hexachloroethane 67-72-1	1 9.7	- -	ppm mg/m <sup>3</sup>	Skin; A3
386	Hexachloronaphthalenen 1335-87-1	- 0.2	- -	ppm mg/m <sup>3</sup>	Skin
387	Hexafluoroacetone 684-16-2	0.1 0.68	- -	ppm mg/m <sup>3</sup>	Skin
388	Hexafluoropropylene 116-15-4	.01 0.6	- -	ppm mg/m <sup>3</sup>	-

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
389	Hexahydrophthalic anhydride, all isomers 85-42-7; 13149-00-3; 14166-21-3	- -	- 0.005 <sup>(IFV)</sup>	ppm mg/m <sup>3</sup>	SEN
390	1,6-Hexamethylene diisocyanate[Hexamethylene diisocyanate] 822-06-1	0.005 0.034	- -	ppm mg/m <sup>3</sup>	-
391	n-Hexane 110-54-3	50 176	- -	ppm mg/m <sup>3</sup>	Skin; BEI
392	Hexane, other isomers 107-83-5; 96-14-0; 75-83-2; 79-29-8; 96-37-7	500 1760	1000 3500	ppm mg/m <sup>3</sup>	-
393	1,6-Hexanediamine 124-09-4	0.5 2.3	- -	ppm mg/m <sup>3</sup>	-
394	1-Hexene 592-41-6	50 295	- -	ppm mg/m <sup>3</sup>	-
395	2- Hexanone [Methyl n-butyl ketone] 591-78-6	5 20	10 40	ppm mg/m <sup>3</sup>	Skin; BEI
397	Hexone [Methyl isobutyl ketone] 108-10-1	20 82	75 307	ppm mg/m <sup>3</sup>	(); BEI
398	Sec-Hexyl acetate 108-84-9	50 295	- -	ppm mg/m <sup>3</sup>	-
399	Hexylene glycol 107-41-5	- -	C 25 C 121	ppm mg/m <sup>3</sup>	-
400	Hydrazine 302-01-2	0.01 0.013	- -	ppm mg/m <sup>3</sup>	Skin; A3
401	Hydrogen 1333-74-0	Simple asphyxiant <sup>(D)</sup>			
402	Hydrogenated terphenyls (nonirradiated) [61788-32-7]	0.5 4.9	- -	ppm mg/m <sup>3</sup>	-
403	Hydrogen bromide 10035-10-6	- -	C 2 C 6.8	ppm mg/m <sup>3</sup>	-
404	Hydrogen chloride 7647-01-0	- -	C 2 C 2.98	ppm mg/m <sup>3</sup>	A4

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
405	Hydrogen cyanide, as Cn 74-90-8	- -	C 4.7 C	ppm mg/m <sup>3</sup>	Skin
406	Hydrogen fluoride 7664-39-3	0.5 0.41	C 2 C 1.64	ppm mg/m <sup>3</sup>	Skin; BEI
407	Hydrogen peroxide 7722-84-1	1 1.4	- -	ppm mg/m <sup>3</sup>	A3
408	Hydrogen selenide 7783-07-5 as Se	0.05 0.16	- -	ppm mg/m <sup>3</sup>	-
409	± Hydrogen sulfide 7783-06-4	1 1.4	5 7	ppm mg/m <sup>3</sup>	-
410	Hydroquinone 123-31-9	- 1	- -	ppm mg/m <sup>3</sup>	SEN; A3
411	2-Hydroxypropyl acrylate 999-61-1	0.5 2.8	- -	ppm mg/m <sup>3</sup>	Skin; SEN
412	2- Imidazolidine thione [Ethylene thiourea] 96-45-7	- .02	- -	ppm mg/m <sup>3</sup>	A2
413	Indene 95-13-6	5 24	- -	ppm mg/m <sup>3</sup>	-
414	Indium 7440-74-6 and compounds, as In	- 0.1	- -	ppm mg/m <sup>3</sup>	-
415	Iodine 7553-56-2	0.01 <sup>(IFV)</sup> 0.01 <sup>(IFV)</sup>	0.1 <sup>(V)</sup> 1	ppm mg/m <sup>3</sup>	A4
416	Iodides	0.01 <sup>(IFV)</sup> 0.01 <sup>(IFV)</sup>		ppm mg/m <sup>3</sup>	A4
417	Iodoform 75-47-8	0.6 10	- -	ppm mg/m <sup>3</sup>	-
418	Iron oxide (Fe <sub>2</sub> O <sub>3</sub> ) 1309-37-1	- 5 <sup>(R)</sup>	- -	ppm mg/m <sup>3</sup>	A4
419	Iron pentacarbonyl [13463-40-6], as Fe	0.1 0.23	0.2 0.45	ppm mg/m <sup>3</sup>	-



الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
420	Iso amyl acetate 123-92-2	100 532	- -	ppm mg/m <sup>3</sup>	-
420	Isoamyl alcohol 123-51-3	100 361	125 452	ppm mg/m <sup>3</sup>	-
421	Isobutyl acetate 110-19-0	150 713	- -	ppm mg/m <sup>3</sup>	-
422	Isobutyl nitrite 542-56-3	- -	C 1 (IFV) C 4.2 (IFV)	ppm mg/m <sup>3</sup>	A3; BEI <sub>M</sub>
423	Iso butyl alcohol [Isobutanol] 78-83-1	50 152	- -	ppm mg/m <sup>3</sup>	-
424	Isooctyl alcohol 26952-21-6	50 266	- -	ppm mg/m <sup>3</sup>	Skin
425	Isopentyl acetate (Isoamyl acetate) 123-92-2	50 266	100 532	ppm mg/m <sup>3</sup>	-
426	Isophorone 78-59-1	- -	C 5 C 28	ppm mg/m <sup>3</sup>	A3
427	Isophorone diisocyanate 4098-71-9	0.005 0.045	- -	ppm mg/m <sup>3</sup>	-
428	Isopropyl acetate 108-21-4	100 418	200 836	ppm mg/m <sup>3</sup>	-
429	2-Isopropoxyethanol 109-59-1	25 106	- -	ppm mg/m <sup>3</sup>	Skin
430	Iso propyl alcohol [2-Propanol] 67-63-0	200 492	400 984	ppm mg/m <sup>3</sup>	A4; BEI
431	Isopropylamine 75-31-0	5 12	10 24	ppm mg/m <sup>3</sup>	-
432	N-Isopropylaniline 768-52-5	2 11	- -	ppm mg/m <sup>3</sup>	Skin; BEI <sub>M</sub>
433	Isopropyl ether 108-20-3	250 1040	310 1300	ppm mg/m <sup>3</sup>	-
434	Isopropyl glycidyl ether (GE) 4016-14-2	50 238	75 356	ppm mg/m <sup>3</sup>	-

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
435	Kaolin 1332-58-7	2 <sup>(E,R)</sup>	-	ppm mg/m <sup>3</sup>	A4
436	Kerosene/Jet fuels as total hydrocarbon vapor 8008-20-6; 64742-81-0	- 200 <sup>(P)</sup>	-	ppm mg/m <sup>3</sup>	Skin, A3
437	Ketene 463-51-4	0.5 0.86	1.5 2.6	ppm mg/m <sup>3</sup>	-
438	Lead [7439-92-1] and inorganic compounds, as Pb	- 0.05	-	ppm mg/m <sup>3</sup>	A3; BEI
439	Lead arsenate 3687-31-8	- 0.15	-	ppm mg/m <sup>3</sup>	A3
440	Lead chromate (as Pb) [7758-97-6]	- 0.05	--	ppm mg/m <sup>3</sup>	A2; BEI
441	Lead chromate (as Cr) [7758-97-6]	- 0.012	-	ppm mg/m <sup>3</sup>	A2
442	Tetraethyl lead [78-00-2], as Pb	- 0.1	-	ppm mg/m <sup>3</sup>	Skin; A4
443	Tetramethyl lead 75-74-1, as Pb	- 0.15	-	ppm mg/m <sup>3</sup>	Skin
444	Lindane 58-89-9	- 0.5	-	ppm mg/m <sup>3</sup>	Skin; A3
445	Lithium hydride 7580-67-8	- 0.025	-	ppm mg/m <sup>3</sup>	-
446	L.P.G (liquefied petroleum gas) 68476-85-7	1000 1800	-	ppm mg/m <sup>3</sup>	-
447	Magnesite 546-93-0	- 10	-	ppm mg/m <sup>3</sup>	
448	Magnesium oxide 1309-48-4	- 10 <sup>(I)</sup>	-	ppm mg/m <sup>3</sup>	A4
449	Malathion 121-75-5	- 1 <sup>(IFV)</sup>	--	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
450	± Maleic anhydride 108-31-6	0.1 0.4	- -	ppm mg/m <sup>3</sup>	SEN; A4
451	± Manganese [7439-96-5] and inorganic compounds, as Mn	- 0.2	- -	ppm mg/m <sup>3</sup>	(-)
452	Manganese cyclopentadienyl tricarbonyl [12079-65-1 ], as Mn	- 0.1	- -	ppm mg/m <sup>3</sup>	Skin
453	Mercury [7439-97-6], as Hg Elemental and inorganic forms	- 0.025	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI
454	Mercury [7439-97-6], as Hg Alkyls compounds	- 0.01	- 0.03	ppm mg/m <sup>3</sup>	Skin
455	Mercury [7439-97-6], as Hg Aryl compounds	- 0.1	- -	ppm mg/m <sup>3</sup>	Skin
456	Mesityl oxide 141-79-7	15 60	25 100	ppm mg/m <sup>3</sup>	-
457	Methacrylic acid 79-41-4	20 70	- -	ppm mg/m <sup>3</sup>	-
458	Methanol 67-56-1	200 262	250 328	ppm mg/m <sup>3</sup>	Skin; BEI
459	Methomyl 16752-77-5	- 2.5	- -	ppm mg/m <sup>3</sup>	A4; BEI <sub>A</sub>
460	2- Methoxy aniline [o-Anisidine] 90-04-0	0.1 0.5	- 1.5	ppm mg/m <sup>3</sup>	Skin, A3; BEI <sub>M</sub>
461	2-Methoxy chloride [Methoxychlo] 72-43-5	- 10	- -	ppm mg/m <sup>3</sup>	A4
462	2-Methoxyethanol 109-86-4	0.1 0.3	- -	ppm mg/m <sup>3</sup>	Skin; BEI
463	[2-Methoxyethyl acetate (EGMEA) [Ethylene glycol methyl ether] 110-49-6	0.1 0.5	- -	ppm mg/m <sup>3</sup>	Skin; BEI
464	(2-Methoxymethylethoxy) propanol (DPGME) [Dipropylene glycol methyl ether] 34590-94-8	100 606	150 909	ppm mg/m <sup>3</sup>	Skin

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
465	1-Methoxy-2-propanol (PGME) [Propylene glycol mono methyl ether] 107-98-2	100 369	150 553	ppm mg/m <sup>3</sup>	-
466	Methyl acetate 79-20-9	200 606	250 757	ppm mg/m <sup>3</sup>	-
467	Methyl acetylene 74-99-7	1000 1640	- -	ppm mg/m <sup>3</sup>	-
468	Methyl acetylene-propadiene mixture (MAPP)	1000 1640	1250 2050	ppm mg/m <sup>3</sup>	-
469	Methyl acrylate 96-33-3	2 7	- -	ppm mg/m <sup>3</sup>	Skin; SEN; A4
470	Methylacrylonitrile	1 2.7	- -	ppm mg/m <sup>3</sup>	Skin
471	Methylal [Dimethoxy methane] 109-87-5	1000 3110	- -	ppm mg/m <sup>3</sup>	-
472	Methylamine 74-89-5	5 6.4	15 19	ppm mg/m <sup>3</sup>	-
473	Methyl n-amyl ketone [2- Heptanone] 110-43-0	50 233	- -	ppm mg/m <sup>3</sup>	-
474	N-Methyl aniline 100-61-8	0.5 2.2	- -	ppm mg/m <sup>3</sup>	Skin; BEI <sub>M</sub>
475	Methyl bromide [Bromo methane] 74-83-9	1 3.9	- -	ppm mg/m <sup>3</sup>	Skin; A4
476	Methyl tert-butyl ether 1634-04-4	40 145	- -	ppm mg/m <sup>3</sup>	A3
477	Methyl n-butyl ketone [2- Hexanone] 591-78-6	5 20	10 40	ppm mg/m <sup>3</sup>	Skin; BEI
478	Methyl chloride 74-87-3	50 103	100 207	ppm mg/m <sup>3</sup>	Skin; A4
479	Methyl chloroform 71-55-6	350 1910	450 2460	ppm mg/m <sup>3</sup>	A4; BEI

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
480	Methyl 2-cyanoacrylate [2-Cyano acrylic acid methyl ester] 137-05-3	0.2 1	4 18	ppm mg/m <sup>3</sup>	-
481	Methylcyclohexane 108-87-2	400 1610	- -	ppm mg/m <sup>3</sup>	-
482	Methylcyclohexanol 25639-42-3	50 234	- -	ppm mg/m <sup>3</sup>	-
483	o-Methylcyclohexanone 583-60-8	50 229	75 344	ppm mg/m <sup>3</sup>	Skin
484	2-Methylcyclopentadienyl manganese tricarbonyl, as Mn 12108-13-3	- .02	- -	ppm mg/m <sup>3</sup>	Skin
485	Methyl demeton 8022-00-2	- 0.05 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; BEI <sub>A</sub>
486	Methylene bisphenyl isocyanate (MDI) [Diphenyl methane di isocyanate] 101-68-8	0.005 0.051	- -	ppm mg/m <sup>3</sup>	-
487	4,4'-Methylene bis(2-chloroaniline) [MBOCA] [2,2-Dichloro -4,4-methylene dianiline and salts] 101-14-4	0.01 0.11	- -	ppm mg/m <sup>3</sup>	Skin; A2; BEI
488	4,4'-Methylene dianiline [4,4-Diamino diphenyl methane] 101-77-9	0.1 0.81	- -	ppm mg/m <sup>3</sup>	Skin; A3
489	Methyl ethyl ketone (MEK) [2-Butanone] 78-93-3	200 590	300 885	ppm mg/m <sup>3</sup>	BEI
490	Methyl ethyl ketone peroxide [Butanone peroxide] 1338-23-4	- -	C 0.2 C 1.5	ppm mg/m <sup>3</sup>	-
491	Methyl formate (formic acid methyl ester) 107-31-3	100 246	150 368	ppm mg/m <sup>3</sup>	-
492	Methyl hydrazine 60-34-4	0.01 0.019	- -	ppm mg/m <sup>3</sup>	Skin; A3
493	Methyl iodide 74-88-4	2 12	- -	ppm mg/m <sup>3</sup>	Skin

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
494	Methyl isoamyl ketone 110-12-3	50 234	- -	ppm mg/m <sup>3</sup>	-
495	Methyl isobutyl carbinol 108-11-2	25 104	40 167	ppm mg/m <sup>3</sup>	Skin
496	Methyl isobutyl ketone [Hexone] 108-10-1	20 82	75 307	ppm mg/m <sup>3</sup>	A3; BEI
497	Methyl isocyanate 624-83-9	0.02 0.047	- -	ppm mg/m <sup>3</sup>	Skin
498	Methyl isopropyl ketone (KIIPK) 563-80-4	200 705	- -	ppm mg/m <sup>3</sup>	-
499	Methyl mercaptan 74-93-1	0.5 0.98	- -	ppm mg/m <sup>3</sup>	-
500	Methyl methacrylate 80-62-6	50 205	100 410	ppm mg/m <sup>3</sup>	SEN; A4
501	1-Methyl naphthalene 90-12-0	0.5 3	- -	ppm mg/m <sup>3</sup>	Skin
502	1-Methyl naphthalene 91-12-0	0.5 3	- -	ppm mg/m <sup>3</sup>	Skin
503	Methyl parathion 298-00-0	- 0.02 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
504	Methyl propyl ketone [2-Pentanone] 107-87-9	- -	150 529	ppm mg/m <sup>3</sup>	-
505	Methyl silicate 681-84-5	1 6	- -	ppm mg/m <sup>3</sup>	-
506	α-Methyl styrene 98-83-9	10 48	- -	ppm mg/m <sup>3</sup>	A3
507	Methyl vinyl ketone (3-Buten-2-one) 78-94-4	- -	C 0.2 C 0.6	ppm mg/m <sup>3</sup>	Skin; SEN
508	Metribuzin 21087-64-9	- 5	- -	ppm mg/m <sup>3</sup>	-
509	Mevinphos (Phosdrin®)	- 0.01 (IVF)	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
510	Mica 12001-26-2	- 3 <sup>(R)</sup>	- -	ppm mg/m <sup>3</sup>	-
511	Mineral oil, highly and severely refined	- 5 <sup>(I)</sup>	- -	ppm mg/m <sup>3</sup>	A4
512	Mineral oil, pure	- 5 <sup>(I)</sup>	- -	ppm mg/m <sup>3</sup>	A4
513	Molybdenum [7439-98-7] and insoluble compounds, as Mo	10 <sup>(I)</sup> 3 <sup>(R)</sup>	- -	mg/m <sup>3</sup> mg/m <sup>3</sup>	-
514	Molybdenum [7439-98-7] soluble compounds, as Mo	0.5 <sup>(R)</sup>	-	mg/m <sup>3</sup>	A3
515	Monochloroacetic acid 79-11-8	0.5 <sup>(IVF)</sup> 2 <sup>(IVF)</sup>	- -	mg/m <sup>3</sup> mg/m <sup>3</sup>	Skin; A4
516	Monocrotophos 6923-22-4	- 0.05 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
517	Morpholine 110-91-8	20 71	- -	ppm mg/m <sup>3</sup>	Skin; A4
518	Naled [Dimethyl-1,2- dibromo 2,2- di chloro ethyl phosphate] 300-76-5	- 0.1 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; SEN; A4; BEI <sub>A</sub>
519	Naphtha (coal tar) 8030-30-6	- 400	- -	ppm mg/m <sup>3</sup>	
520	Naphthalene 91-20-3	10 52	15 79	ppm mg/m <sup>3</sup>	Skin; A4
521	1-Naphthyl amine [α-Naphthylamine] 134-32-7	- <sup>(L)</sup> - <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	A1
522	β-Naphthylamine 91-59-8	- <sup>(L)</sup> - <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	A1
523	Natural rubber latex, as Inhalable allergenic proteins (Natsyn®) 9006-04-6; 9003-31-0	- 0.0001 <sup>(I)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; SEN
524	Neon 7440-01-9	Simple asphyxiant <sup>(D)</sup>			

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
525	Nickel Elemental [7440-02-0]	1.5 <sup>(1)</sup>	-	mg/m <sup>3</sup>	A5
526	Nickel Insoluble inorganic compounds (NOS) 7440-02-0	0.2 <sup>(1)</sup>	-	mg/m <sup>3</sup>	A1
527	Nickel Soluble inorganic compounds (NOS) 7440-02-0	0.1 <sup>(1)</sup>	-	mg/m <sup>3</sup>	A4
528	Nickel (formed in nickel) oreroasting process 7440-02-0	- 0.5	- -	ppm mg/m <sup>3</sup>	
529	Nickel carbonate 3333-67-3	- 0.1	- -	ppm mg/m <sup>3</sup>	
530	Nickel carbonyl, as Ni 13463-39-3	0.05 0.12	- -	ppm mg/m <sup>3</sup>	-
531	Nickel chloride, as Ni 7718-54-9	- 0.1 <sup>(1)</sup>	- -	ppm mg/m <sup>3</sup>	A4
532	Nickel chromium phosphate 13977-71-4	- 0.005	- -	ppm mg/m <sup>3</sup>	A3
533	Nickel mono oxide 1313-99-1	- 0.1	- -	ppm mg/m <sup>3</sup>	A1
534	Nickel -III- oxide 1314-06-3	- 0.1	- -	ppm mg/m <sup>3</sup>	A3
535	Nickel subsulfide 12035-72-2	0.01 <sup>(1)</sup>	-	mg/m <sup>3</sup>	A1
536	Nickel sulphide roasting (dust and/or fume) 16812-54-7	- 0.5	- -	ppm mg/m <sup>3</sup>	A1
537	Nicotine 54-11-5	- 0.5	- -	ppm mg/m <sup>3</sup>	Skin
538	Nitrapyrin [2-Chloro-6- (trichloro methyl)-pyridine] 1929-82-4	- 10	- 20	ppm mg/m <sup>3</sup>	A4
539	Nitric acid 7697-37-2	2 5.2	4 10	ppm mg/m <sup>3</sup>	-
540	Nitric oxide 10102-43-9	25 31	- -	ppm mg/m <sup>3</sup>	BEI <sub>M</sub>



الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
541	p-Nitroaniline 100-01-6	- 3	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>M</sub>
542	Nitrobenzene 98-95-3	1 5	- -	ppm mg/m <sup>3</sup>	Skin; A3; BEI
543	p-Nitrochlorobenzene [1-Chloro -4- nitro benzene] 100-00-5	0.1 0.64	- -	ppm mg/m <sup>3</sup>	Skin; A3; BEI <sub>M</sub>
544	4-Nitrodiphenyl (4-Nitrobiphenyl) 92-93-3	- (L) - (L)	- -	ppm mg/m <sup>3</sup>	Skin
545	Nitroethane 79-24-3	100 307	- -	ppm mg/m <sup>3</sup>	-
546	Nitrogen 7727-37-9	Simple asphyxiant <sup>(D)</sup>			
547	Nitrogen dioxide 10102-44-0	3 5.6	5 9.4	ppm mg/m <sup>3</sup>	A4
548	Nitrogen trifluoride 7783-54-2	10 29	- -	ppm mg/m <sup>3</sup>	BEI <sub>M</sub>
549	Nitroglycerin (NG) 55-63-0	0.05 0.46	- -	ppm mg/m <sup>3</sup>	Skin
550	Nitromethane 75-52-5	20 50	- -	ppm mg/m <sup>3</sup>	A3
551	1-Nitropropane 108-03-2	25 91	- -	ppm mg/m <sup>3</sup>	A4
552	2-Nitropropane 79-46-9	5 18	40 150	ppm mg/m <sup>3</sup>	A3
553	N-Nitrosodimethylamine [Dimethyl nitroso amine] 62-75-9	- (L) - (L)	- -	ppm mg/m <sup>3</sup>	Skin; A3
554	Nitrotoluene, All isomers [88-72-2; 99-08-1; 99-99-0]	2 11	- -	ppm mg/m <sup>3</sup>	Skin; BEI <sub>M</sub>
555	Nitrous oxide 10024-97-2	50 90	- -	ppm mg/m <sup>3</sup>	A4
556	Nonane [111-84-2], All isomers	200 1050	- -	ppm mg/m <sup>3</sup>	-

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
557	Octachloronaphthalene 2234-13-1	- 0.1	- 0.3	ppm mg/m <sup>3</sup>	Skin
558	Octane, All isomers 111-65-9, 540-84-1	300 1401	- -	ppm mg/m <sup>3</sup>	-
559	± Oil mist, mineral	- 0.2	- -	ppm mg/m <sup>3</sup>	-
560	Osmium tetroxide (as Os) 20816-12-0	0.0002 0.0016	0.0006 0.0047	ppm mg/m <sup>3</sup>	-
561	Oxalic acid 144-62-7	- 1	- 2	ppm mg/m <sup>3</sup>	-
562	Oxygen difluoride 7783-41-7	- -	C 0.05 C 0.11	ppm mg/m <sup>3</sup>	-
563	Ozone 10028-15-6 Heavy work Moderate work Light work Heavy, moderate, or light workloads (≤2 hours)	0.05/0.1 0.08/0.16 0.10/0.2 0.20/0.4	- - - -	ppm/mg/m <sup>3</sup> ppm/mg/m <sup>3</sup> ppm/mg/m <sup>3</sup> ppm/mg/m <sup>3</sup>	A4 A4 A4 A4
564	Paraffin wax fume 8002-74-2	- 2	- -	ppm mg/m <sup>3</sup>	-
565	Paraquat (as the cation) 4685-14-7	0.5 0.1 <sup>(R)</sup>	- -	mg/m <sup>3</sup> mg/m <sup>3</sup>	-
566	Parathion 56-38-2	- 0.05 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI
567	Pentaborane 19624-22-7	0.005 0.013	0.015 0.039	ppm mg/m <sup>3</sup>	-
568	Pentachloronaphthalene 1321-64-8	- 0.5	- -	ppm mg/m <sup>3</sup>	Skin
569	Pentachlorophenol 87-86-5	- 0.5	- -	ppm mg/m <sup>3</sup>	Skin; A3; BEI
570	Pentaerythritol 115-77-5	- 10	- -	ppm mg/m <sup>3</sup>	-

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
571	Pentane, All isomers [78-78-4; 109-66-0; 463-82-1]	600 1770	- -	ppm mg/m <sup>3</sup>	-
572	1-Pentyl acetate (n-Amyl acetate) 628-63-7	50 266	100 532	ppm mg/m <sup>3</sup>	-
573	2-Pentyl acetate (sec-Amyl acetate) 626-38-0	50 266	100 532	ppm mg/m <sup>3</sup>	-
574	3-Pentyl acetate 620-11-1	50 266	100 532	ppm mg/m <sup>3</sup>	-
575	4-Pentyl acetate (tert-Amyl-acetate) 625-16-1	50 266	100 532	ppm mg/m <sup>3</sup>	-
576	2-Pentanone [Methyl propyl ketone] 107-87-9	- -	150 529	ppm mg/m <sup>3</sup>	-
577	Per chloro ethylene [Tetrachloroethylene] 127-18-4	25 170	100 685	ppm mg/m <sup>3</sup>	A3; BEI
578	Perchloromethyl mercaptan 594-42-3	0.1 0.76	- -	ppm mg/m <sup>3</sup>	-
579	Perchloryl fluoride 7616-94-6	3 13	6 25	ppm mg/m <sup>3</sup>	-
580	Perfluorobutyl ethylene (PFBE) 19430-93-4	100 1023	- -	ppm mg/m <sup>3</sup>	-
581	Perfluoroisobutylenes 382-21-8	- -	C 0.01 C 0.082	ppm mg/m <sup>3</sup>	-
582	Persulfates, as persulfate 7727-21-1; 7727-27-1	- 0.1	- -	ppm mg/m <sup>3</sup>	-
583	Phenol 108-95-2	5 19	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI
584	Phenothiazine 92-84-2	- 5	- -	ppm mg/m <sup>3</sup>	Skin
585	o-Phenylene diamine 95-54-5	- 0.1	- -	ppm mg/m <sup>3</sup>	A3

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
586	m-Phenylenediamine 108-45-2	- 0.1	- -	ppm mg/m <sup>3</sup>	A4
587	p-Phenylenediamine 106-50-3	- 0.1	- -	ppm mg/m <sup>3</sup>	A4
588	Phenyl ether 101-84-8, vapor	1 7	2 14	ppm mg/m <sup>3</sup>	-
589	Phenyl glycidyl ether (PGE) 122-60-1	0.1 0.6	- -	ppm mg/m <sup>3</sup>	Skin; SEN; A3
590	Phenylhydrazine 100-63-0	0.1 0.44	- -	ppm mg/m <sup>3</sup>	Skin; A3
591	Phenyl mercaptan 108-98-5	0.1 0.45	- -	ppm mg/m <sup>3</sup>	Skin
592	N-Phenyl-β-naphthylamine 135-88-6	- <sup>(L)</sup> - <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	A4
593	Phenylphosphine 638-21-1	- -	C 0.05 C 0.23	ppm mg/m <sup>3</sup>	-
594	Phorate 298-02-2	- 0.05 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
595	Phosgene [Carbonyl chloride] 75-44-5	0.1 0.4	- -	ppm mg/m <sup>3</sup>	-
596	Phosphine 7803-51-2	0.3 0.42	1 1.4	ppm mg/m <sup>3</sup>	-
597	Phosphoric acid 7664-38-2	- 1	- 3	ppm mg/m <sup>3</sup>	-
598	Phosphorus (yellow) 12185-10-3	0.02 0.1	- -	ppm mg/m <sup>3</sup>	-
599	Phosphorus oxychloride 10025-87-3	0.1 0.63	- -	ppm mg/m <sup>3</sup>	-
600	Phosphorus pentachloride 10026-13-8	0.1 0.85	- -	ppm mg/m <sup>3</sup>	-
601	Phosphorus pentasulfide 1314-80-3	- 1	- 3	ppm mg/m <sup>3</sup>	-

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
602	Phosphorus trichloride 7719-12-2	0.2 1.1	0.5 2.8	ppm mg/m <sup>3</sup>	-
603	Phthalic anhydride 85-44-9	1 6.1	- -	ppm mg/m <sup>3</sup>	SEN; A4
604	m-Phthalodinitrile 626-17-5	- 5 (IFV)	- -	ppm mg/m <sup>3</sup>	-
605	Picloram 1918-02-1	- 10	- -	ppm mg/m <sup>3</sup>	A4
606	Picric acid 88-99-1	- 0.1	- -	ppm mg/m <sup>3</sup>	-
607	Pindone 83-26-1	- 0.1	- -	ppm mg/m <sup>3</sup>	-
608	Piperazine dihydrochloride 142-64-3	- 5	- -	ppm mg/m <sup>3</sup>	-
609	Platinum [7440-06-4]				
	Metal	1	-	mg/m <sup>3</sup>	-
	Soluble salts, as Pt	0.002	-	mg/m <sup>3</sup>	-
610	<u>Poly chlorinated biphenyl (PCBs)</u> 1336-36-2	- 0.5	- -	ppm mg/m <sup>3</sup>	A3
611	<u>Polyvinyl chloride (PVC)</u> 9002-86-2	- 1 (R)	- -	ppm mg/m <sup>3</sup>	A4
612	± Portland cement 65997-15-1	- 1 (R) (E)	- -	ppm mg/m <sup>3</sup>	A4
613	Potassium, cyanide as CN 151-50-8	- -	- C8	ppm mg/m <sup>3</sup>	-
614	Potassium hydroxide 1310-58-3	- -	- C 2	ppm mg/m <sup>3</sup>	-
615	Potassium zinc chromate hydroxide 11103-86-9	See Zinc Chromates #636	- -	ppm mg/m <sup>3</sup>	-
616	Propane sultone (1,2-Propane sultone) 1120-71-4	- (L) - (L)	- -	ppm mg/m <sup>3</sup>	A3

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
617	n-Propanol (n-Propyl alcohol) 71-23-8	100 246	250 614	ppm mg/m <sup>3</sup>	A4
618	Iso propyl alcohol [2-Propanol] 67-63-0	200 492	400 984	ppm mg/m <sup>3</sup>	A4; BEI
619	Propargyl alcohol 107-19-7	1 2.3	- -	ppm mg/m <sup>3</sup>	Skin
620	β-Propiolactone 57-57-8	0.5 1.5	- 2	ppm mg/m <sup>3</sup>	A3
621	Propionaldehyde 132-38-6	20 48	- -	ppm mg/m <sup>3</sup>	-
622	Propionic acid 79-09-4	10 30	- -	ppm mg/m <sup>3</sup>	-
623	Propoxur 114-26-1	- 0.5	- -	ppm mg/m <sup>3</sup>	A3; BEI <sub>A</sub>
624	n-Propyl acetate 109-60-4	200 835	250 1040	ppm mg/m <sup>3</sup>	-
625	Propylene 115-07-1	500 860	- -	ppm mg/m <sup>3</sup>	-
626	Propylene dichloride [1,2- /ducgkiri orioabe] 78-87-5	10 46	- -	ppm mg/m <sup>3</sup>	SEN; A4
627	Propylene glycol dinitrate 6423-43-4	0.05 0.34	- -	ppm mg/m <sup>3</sup>	Skin; BEI <sub>M</sub>
628	Propylene glycol mono methyl ether [1-Methoxy-2-propanol (PGME)] 107-98-2	100 369	150 553	ppm mg/m <sup>3</sup>	-
629	Propylene oxide 75-56-9	2 4.8	- -	ppm mg/m <sup>3</sup>	SEN; A3
630	Propyleneimine 75-55-8	0.2 0.5	0.4 1	ppm mg/m <sup>3</sup>	Skin; A3
631	n-Propyl nitrate 627-13-4	25 107	40 172	ppm mg/m <sup>3</sup>	BEI <sub>M</sub>

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
632	Pyrethrum 8003-34-7	- 5	- -	ppm mg/m <sup>3</sup>	A4
633	Pyridine 100-86-1	1 3.1	- -	ppm mg/m <sup>3</sup>	A3
634	Quartz Silica crystalline – α-Quartz [14808-60-7; 1317-95-9] and Cristobalite [14464-46-1]	- 0.025 <sup>(R)</sup>	- -	ppm mg/m <sup>3</sup>	A2
635	Quinone 106-51-4	0.1 0.44	- -	ppm mg/m <sup>3</sup>	-
636	Resorcinol 108-46-3	10 45	20 90	ppm mg/m <sup>3</sup>	A4
637	Rhodium, elemental 7440-16-6	- 1	- -	ppm mg/m <sup>3</sup>	A4
638	Rhodium (elemental), as Rh Metal and insoluble- compounds	- 1	- -	ppm mg/m <sup>3</sup>	A4
639	Rhodium, as Rh Soluble compounds	- 0.01	- -	ppm mg/m <sup>3</sup>	A4
640	Ronnel 299-84-3	- 5 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	A4; BEI <sub>A</sub>
641	Rosin core solder thermal decomposition products (colophony) 8050-09-7	- <sup>(L)</sup> - <sup>(L)</sup>	- -	ppm mg/m <sup>3</sup>	SEN
642	Rosin core solder, pyrolysis products, as formaldehyde	See Rosin core solder thermal decomposition products			
643	Rotenone (commercial) 83-79-4	- 5	- -	ppm mg/m <sup>3</sup>	A4
644	Selenium [7782-49-2] compounds, as Se	- 0.2	- -	ppm mg/m <sup>3</sup>	-
645	Selenium, metal	- 0.2	- -	ppm mg/m <sup>3</sup>	-

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
646	Selenium hexafluoride, as Se 7783-79-1	0.05 0.4	- -	ppm mg/m <sup>3</sup>	-
647	Selenium sulfide, as Se 7446-34-6	- 0.2	- -	ppm mg/m <sup>3</sup>	-
648	Sesone 136-78-7	- 10	- -	ppm mg/m <sup>3</sup>	A4
649	Silane [Silicon tetrahydride] 7803-62-5	5 6.6	- -	ppm mg/m <sup>3</sup>	-
650	Silica (inhalable particle)	- 10	- -	ppm mg/m <sup>3</sup>	
651	Silica (respirable particulate)	- 3	- -	ppm mg/m <sup>3</sup>	
652	Silica fume 69012-64-2	- 2	- -	ppm mg/m <sup>3</sup>	
653	Silica fused 60676-86-0	- 0.1	- -	ppm mg/m <sup>3</sup>	
654	Silic gel 112926-00-8	- 10	- -	ppm mg/m <sup>3</sup>	
655	Quartz Silica crystalline – α-Quartz [14808-60-7; 1317-95-9] and Cristobalite [14464-46-1]	- 0.025 <sup>(R)</sup>	- -	ppm mg/m <sup>3</sup>	A2
656	Silicon carbide [409-21-2]				
	Nonfibrous	10 <sup>(I,E)</sup> 3 <sup>(R,E)</sup>	- -	mg/m <sup>3</sup> mg/m <sup>3</sup>	- -
	Fibrous (including whiskers)	0.1 <sup>(F)</sup>	-	f/cc	A2
657	Silicon tetrahydride [Silane] 7803-62-5	5 6.6	- -	ppm mg/m <sup>3</sup>	-
658	Silver [7440-22-4] ► Metal, dust and fume ► Soluble compounds, as Ag	0.1 0.01	- -	mg/m <sup>3</sup> mg/m <sup>3</sup>	- -
659	Sodium azide [26628-22-8]				
	► as Sodium azide ► as Hydrazoic acid vapor	- -	C 0.29 C 0.11	mg/m <sup>3</sup> ppm	A4 A4



الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
660	Sodium bisulfite 7631-90-5	- 5	- -	ppm mg/m <sup>3</sup>	A4
661	Sodium cyanide, as CN 143-33-9	- -	- C5	ppm mg/m <sup>3</sup>	-
662	Sodium fluoroacetate 62-74-8	- 0.05	- -	ppm mg/m <sup>3</sup>	Skin
663	Sodium hydroxide 1310-73-2	- -	- C 2	ppm mg/m <sup>3</sup>	-
664	Sodium metabisulfite 7681-57-4	- 5	- -	ppm mg/m <sup>3</sup>	A4
665	Sodium persulfate, as S <sub>2</sub> O <sub>8</sub> 7775-27-1	- 0.1	- -	ppm mg/m <sup>3</sup>	A4
666	Sodium tetraborate, Anhydrous 1330-43-4	See Borate compounds, inorganic			
667	Sodium tetraborate, Decahydrate 1303-96-4	See Borate compounds, inorganic			
668	Sodium tetraborate, Pentahydrate 12179-04-3	See Borate compounds, inorganic			
669	Starch 9005-25-8	- 10	- -	ppm mg/m <sup>3</sup>	A4
670	Stearates	- 10 <sup>(J)</sup>	- -	ppm mg/m <sup>3</sup>	A4
671	Stoddard solvent 10048-13-2	100 525	- -	ppm mg/m <sup>3</sup>	-
672	Stibine [Antimony hydride] 7803-52-3	0.1 0.51	- -	ppm mg/m <sup>3</sup>	-
673	Stoddard solvent 8052-41-3	100 525	- -	ppm mg/m <sup>3</sup>	-
674	Strontium chromate (as Cr) 7789-06-2	- 0.0005	- -	ppm mg/m <sup>3</sup>	A2

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
675	Strychnine 57-24-9	- 0.15	- -	ppm mg/m <sup>3</sup>	-
676	Styrene, monomer 100-42-5	20 85	40 170	ppm mg/m <sup>3</sup>	A4; BEI
677	Subtilisins, as crystalline active enzyme 1395-21-7; 9014-01-1	- -	- C 0.00006	ppm mg/m <sup>3</sup>	-
678	Sucrose 57-50-1	- 10	- -	ppm mg/m <sup>3</sup>	A4
679	Sulfometuron methyl 74222-97-2	- 5	- -	ppm mg/m <sup>3</sup>	A4
680	Sulfotepp (TEDP) 3689-24-5	- 0.1 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
681	Sulfur dioxide 7446-09-5	- -	0.25 0.65	ppm mg/m <sup>3</sup>	A4
682	Sulfur hexafluoride 2551-62-4	1000 5970	- -	ppm mg/m <sup>3</sup>	-
683	Sulfuric acid 7664-93-9	- 0.2 (T)	- -	ppm mg/m <sup>3</sup>	A2 <sup>(M)</sup>
684	Sulfur monochloride 10025-67-9	- -	C 1 C 5.5	ppm mg/m <sup>3</sup>	-
685	Sulfur pentafluoride 5714-22-7	- -	C 0.01 C 0.10	ppm mg/m <sup>3</sup>	-
686	Sulfur tetrafluoride 7783-60-0	- -	C 0.1 C 0.44	ppm mg/m <sup>3</sup>	-
687	Sulfuryl fluoride 2699-79-8	5 21	10 42	ppm mg/m <sup>3</sup>	-
688	Sulprofos 35400-43-2	0.008 (IFV) 0.1 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
689	Synthetic vitreous fibers, continuous filament glass fivers	5 (I) -	- 1	mg/m <sup>3</sup> f/cc <sup>(F)</sup>	A4
690	Synthetic vitreous fibers, glass wool fibers	-	1	f/cc <sup>(F)</sup>	A3
691	Synthetic vitreous fibers, rock wool fibers	-	1	f/cc <sup>(F)</sup>	A3

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
692	Synthetic vitreous fibers,slag wool fibers	-	1	f/cc <sup>(F)</sup>	A3
693	Synthetic vitreous fibers,special purpose glass fibers	-	1	f/cc <sup>(F)</sup>	A3
694	Synthetic vitreous fibers,refractory ceramic fibers	-	2	f/cc <sup>(F)</sup>	A3
695	2,4,5-T (2,4,5-Trichloro-phenoxyacetic acid) 93-76-5	- 10	- -	ppm mg/m <sup>3</sup>	A4
696	± Talc [14807-96-6]				
	<ul style="list-style-type: none"> <li>▶ containing no asbestos fibers</li> <li>▶ containing asbestos fibers</li> </ul>	2 (E,R)	-	mg/m <sup>3</sup>	A4
		Use asbestos TLV <sup>®(K)</sup>	-	-	A1
697	± (Tantalum [7440-25-7] and Tantalum oxide [1314-61-0] dusts, as Ta)	5	-	mg/m <sup>3</sup>	(-)
698	Sulfotepp (TEDP) 3689-24-5	- 0.1 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
699	Tellurium [13494-80-9] and compounds (NOS), as Te, excluding hydrogen telluride	- 0.1	- -	ppm mg/m <sup>3</sup>	-
700	Tellurium hexafluoride [7783-80-4], as Te	0.02 0.2	- -	ppm mg/m <sup>3</sup>	-
701	Temephos 3383-96-8	- 1 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
702	Tetraethyl pyrophosphate (TEPP) 107-49-3	- 0.01 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; BEI <sub>A</sub>
703	Terbufos 1307-79-9	- 0.01 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; BEI <sub>A</sub>
704	Terephthalic acid 100-21-0	- 10	- -	ppm mg/m <sup>3</sup>	-
705	Terphenyl, o-, m-, p-iso-mers 26140-60-3; 84-15-1; 92-06-8; 92-94-4	- -	C 0.53 C 5	ppm mg/m <sup>3</sup>	-

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
706	1.1.2.2-Tetrabromoethane (Acetylene tetrabromide) 79-27-6	0.1 (IFV) 1.4 (IFV)	- -	ppm mg/m <sup>3</sup>	-
707	1,1,1,2-Tetrachloro-2,2- difluoroethane 76-11-9	100 834	- -	ppm mg/m <sup>3</sup>	-
708	1,1,2,2-Tetrachloro-1,2- difluoroethane 76-12-0	50 417	- -	ppm mg/m <sup>3</sup>	-
709	1,1,2,2-Tetrachloroethane 79-34-5	1 6.9	3 21	ppm mg/m <sup>3</sup>	Skin; A3
710	Tetrachloroethylene [Per chloro ethylene] 127-18-4	25 170	100 685	ppm mg/m <sup>3</sup>	A3; BEI
711	Tetrachloronaphthalene 1335-88-2	- 2	- -	ppm mg/m <sup>3</sup>	-
712	Tetraethyl lead, as Pb 78-00-2	- 0.1	- -	ppm mg/m <sup>3</sup>	Skin; A4
713	Tetraethyl pyrophosphate (TEPP) 107-49-3	- 0.01 (IFV)	- -	ppm mg/m <sup>3</sup>	Skin; BEI <sub>A</sub>
714	Tetrafluoroethylene (Tetrafluoroethene) 116-14-3	2 8.0	- -	ppm mg/m <sup>3</sup>	A3
715	Tetrahydrofuran 109-99-9	50 147	100 295	ppm mg/m <sup>3</sup>	Skin; A3
716	Tetrakis (hydroxymethyl)- phosphonium chloride 124-64-1	- 2	- -	ppm mg/m <sup>3</sup>	A4
717	Tetrakis(hydroxymethyl)- phosphonium sulfate 55566-30-8	- 2	- -	ppm mg/m <sup>3</sup>	A3
718	Tetramethyl lead 75-74-1, as Pb	- 0.15	- -	ppm mg/m <sup>3</sup>	Skin
719	Tetramethyl succinonitrile 3333-52-6	0.5 2.8	- -	ppm mg/m <sup>3</sup>	Skin
720	Tetranitromethane 509-14-8	0.005 0.04	- -	ppm mg/m <sup>3</sup>	A3
721	Tetra sodium pyro phosphate 7722-88-5	- 5	- -	ppm mg/m <sup>3</sup>	

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
722	Tetryl 479-45-8	- 1.5	- -	ppm mg/m <sup>3</sup>	-
723	± Thallium [7440-28-0] and soluble compounds, as TI	- .02 <sup>(1)</sup>	--	ppm mg/m <sup>3</sup>	Skin
724	<u>Thimerosal (sodium ethyl- mercurithiosalicylate)</u> 54-64-8	See Mercury, aryl compounds, as Hg			
725	± 4,4'-Thiobis (6-tert-butyl-m- cresol) 96-69-5	- 10 <sup>(1)</sup>	- -	ppm mg/m <sup>3</sup>	A4
726	Thioglycolic acid 68-11-1	1 3.8	- -	ppm mg/m <sup>3</sup>	Skin
727	Thionyl chloride 7719-09-7	- -	C 0.2 -	ppm mg/m <sup>3</sup>	-
728	Thiram 137-26-8	- 0.05 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	SEN; A4
729	Tin 7440-31-5, as Sn ▶ Metal	2	-	mg/m <sup>3</sup>	-
	▶ Oxide & inorganic compounds except tin hydride (18282-10-5; 21651-19-4)	2	-	mg/m <sup>3</sup>	-
730	Tin 7440-31-5, as Sn ▶ Organic compounds	- 0.1	- 0.2	ppm mg/m <sup>3</sup>	Skin; A4
731	Titanium dioxide 13463-67-7	- 10	- -	ppm mg/m <sup>3</sup>	A4
732	Tolidine, o-isomer (3,3'- Dimethylbenzidine) 119-93-7	- -	- -	ppm mg/m <sup>3</sup>	Skin
733	Toluene 108-88-3	20 75	- -	ppm mg/m <sup>3</sup>	A4; BEI
734	± Toluene-2,4diisocyanate (TDI) 584-84-9	0.005 <sup>(IFV)</sup> 0.036 <sup>(IFV)</sup>	0.003 0.021	ppm mg/m <sup>3</sup>	Skin; SEN; A3
735	± Toluene-2,6-diisocyanate 91-08-7	0.005 <sup>(IFV)</sup> 0.036 <sup>(IFV)</sup>	0.003 0.021	ppm mg/m <sup>3</sup>	Skin; SEN; A3

الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
736	o-Toluidine 95-53-4	2 8.8	- -	ppm mg/m <sup>3</sup>	Skin; A3; BEI <sub>M</sub>
737	m-Toluidine 108-44-1	2 8.8	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>M</sub>
738	p-Toluidine 106-49-0	2 8.8	- -	ppm mg/m <sup>3</sup>	Skin; A3; BEI <sub>M</sub>
739	Tributyl phosphate 126-73-8	0.2 2.2	- -	ppm mg/m <sup>3</sup>	BEI <sub>A</sub>
740	Trichloroacetic acid 76-03-9	1 6.7	- -	ppm mg/m <sup>3</sup>	A3
741	1,2,4-Trichlorobenzene 120-82-1	- -	C 5 C 37	ppm mg/m <sup>3</sup>	-
742	1,1,2-Trichloroethane 79-00-5	10 55	- -	ppm mg/m <sup>3</sup>	Skin; A3
743	Trichloroethylene 79-01-6	10 54	25 135	ppm mg/m <sup>3</sup>	BEI; A2
744	Trichlorofluoromethane 75-69-4	- -	C 1000 C 5620	ppm mg/m <sup>3</sup>	A4
745	Trichloronaphthalene 1321-65-9	- 5	- -	ppm mg/m <sup>3</sup>	Skin
746	1,2,3-Trichloropropane 96-18-4	10 60	- -	ppm mg/m <sup>3</sup>	Skin; A3
747	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113) 76-13-1	1000 7670	1250 9590	ppm mg/m <sup>3</sup>	A4
748	Trichlorphon 52-68-6	- 5	- -	ppm mg/m <sup>3</sup>	A4
749	Tridymite [Silca, crystalline] 15468-32-2	- 0.05	- -	ppm mg/m <sup>3</sup>	
750	Triethanolamine 102-71-6	- 5	- -	ppm mg/m <sup>3</sup>	-
751	Triethylamine 121-44-8	1 4.1	3 12.4	ppm mg/m <sup>3</sup>	Skin; A4

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
752	Trifluorobromomethane [Bromotrifluoro methane] 75-63-8	1000 6090	- -	ppm mg/m <sup>3</sup>	-
753	1,3,5-Triglycidyl-s- triazinetrione 2451-62-9	- 0.05	- -	ppm mg/m <sup>3</sup>	-
754	Trimellitic anhydride 552-30-7	- 0.0005 (IFV)	- 0.002 (IFV)	ppm mg/m <sup>3</sup>	Skin; SEN
755	Trimethylamine 75-50-3	5 12	15 36	ppm mg/m <sup>3</sup>	-
756	Trimethyl benzene (mixed isomers) 25551-13-7; 526-73-8; 95-63-6; 108-67-8	25 123	- -	ppm mg/m <sup>3</sup>	-
757	Trimethyl phosphate	0.5 2.6	10 52	ppm mg/m <sup>3</sup>	Slin; A3
758	Trimethyl phosphite 121-45-9	2 10	- -	ppm mg/m <sup>3</sup>	-
759	2,4,6-Trinitrotoluene (TNT) 118-96-7	- 0.1	- -	ppm mg/m <sup>3</sup>	Skin; BEI <sub>M</sub>
760	Triortho cresyl phosphate 78-30-8	- 0.1	- -	ppm mg/m <sup>3</sup>	Skin; A4; BEI <sub>A</sub>
761	Triphenyl amine 603-34-9	- 5	- -	ppm mg/m <sup>3</sup>	
762	Triphenyl phosphate 115-86-6	- 3	- -	ppm mg/m <sup>3</sup>	A4
763	Tungsten [7440-33-7], as W Metal and insoluble compounds	5	10	mg/m <sup>3</sup>	-
764	Tungsten [7440-33-7], as W soluble compounds	1	3	mg/m <sup>3</sup>	-
765	Turpentine [8006-64-2] and selected monoterpenes [80-56-8; 127-91-3; 13466-78-9]	20 112	- -	ppm mg/m <sup>3</sup>	SEN; A4
766	Uranium (natural) [7440-61-1] insoluble compounds, as U	- 0.2	- 0.6	ppm mg/m <sup>3</sup>	A1; BEI

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No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
767	Uranium (natural) [7440-61-1] soluble compounds, as U	- 0.2	- 0.6	ppm mg/m <sup>3</sup>	A1; BEI
768	n-Valeraldehyde 110-62-3	50 176	- -	ppm mg/m <sup>3</sup>	-
769	Vanadium pentoxide, as V 1314-62-1	- 0.05 <sup>(1)</sup>	- -	ppm mg/m <sup>3</sup>	A3
770	Vinyl acetate 108-05-4	10 35	15 53	ppm mg/m <sup>3</sup>	A3
771	Vinyl bromide 593-60-2	0.5 2.2	10 40	ppm mg/m <sup>3</sup>	A2
772	Vinyl chloride 75-01-4	1 2.6	2.5 5	ppm mg/m <sup>3</sup>	A1
773	4-Vinyl cyclohexene 100-40-3	0.1 0.44	- -	ppm mg/m <sup>3</sup>	A3
774	Cinyl cyclohexeneide [Vinyl cyclohexene dioxide] 106-87-6	0.1 0.57	- -	ppm mg/m <sup>3</sup>	Skin; A3
775	Vinylidene chloride [1,1-Dichloro ethylene] 75-35-4	5 20	- -	ppm mg/m <sup>3</sup>	A4
776	Vinylidene fluoride (1,1-Difluoroethylene) 75-38-7	500 1310	- -	ppm mg/m <sup>3</sup>	A4
777	N-Vinyl-2-pyrrolidone 88-12-0	0.05 0.23	- -	ppm mg/m <sup>3</sup>	A3
778	Vinyl toluene 25013-15-4	50 242	100 483	ppm mg/m <sup>3</sup>	A4
779	Warfarin 81-81-2	- 0.1	- -	ppm mg/m <sup>3</sup>	A4
780	VM & P-naphtha 8032-32-4	300 1370	- -	ppm mg/m <sup>3</sup>	
781	Welding fumes – Not otherwise specified	- 5	- -	ppm mg/m <sup>3</sup>	
782	Wood dusts	-	-		
	▶ Western red cedar	0.5 <sup>(1)</sup>	-	mg/m <sup>3</sup>	SEN; A4
	▶ Beech and oak	1 <sup>(1)</sup>	-	mg/m <sup>3</sup>	A2



الرقم	المادة	قيم حدود العتبة		الوحدة	ملاحظات
No.	SUBSTANCE CAS No.	Threshold Limit Value (TLV)		Unit	Notations
		TWA	STEL		
	► Birch, mahogany, teak, walnut	1 <sup>(l)</sup>	-	mg/m <sup>3</sup>	A2
	All other species	1 <sup>(l)</sup>	-	mg/m <sup>3</sup>	A4
783	Xylene [1330-20-7] (o, m & p isomers) [95-47-6; 108-38-3; 106-42-3]	100 434	150 651	ppm mg/m <sup>3</sup>	A4; BEI
784	m-Xylene α,α'-diamine 1477-55-0	- -	- C0.1	ppm mg/m <sup>3</sup>	Skin
785	Xylidine, mixed isomers 1300-73-8; 87-59-2; 95-67-7; 108-69-0	0.5 <sup>(IFV)</sup> 2.5 <sup>(IFV)</sup>	- -	ppm mg/m <sup>3</sup>	Skin; A3; BEI <sub>M</sub>
786	2,4- Xylidine 95-68-1	2 10	- -	ppm mg/m <sup>3</sup>	
787	Yttrium 7440-65-5 and compounds, as Y	- 1	- -	ppm mg/m <sup>3</sup>	-
788	Zinc beryllium silicate, as Be 39413-47-3	- 0.00005 <sup>(l)</sup>	- -	ppm mg/m <sup>3</sup>	A1
789	Zinc chloride fume 7646-85-7	- 1	- 2	ppm mg/m <sup>3</sup>	-
790	Zinc chromate [13530-65-9, 11103-86-9, 3730-23-5], as Cr	- 0.01	- -	ppm mg/m <sup>3</sup>	A1
791	Zinc oxide, fume 1314-13-2	- 2 <sup>(R)</sup>	- 10 <sup>(R)</sup>	ppm mg/m <sup>3</sup>	-
792	Zinc stearate 557-05-1	- 10	- -	ppm mg/m <sup>3</sup>	A4
793	Zirconium, elemental 7440-67-7	- 5	- 10	ppm mg/m <sup>3</sup>	A4
794	Zirconium [7440-67-7] and compounds, as Zr	- 5	- 10	ppm mg/m <sup>3</sup>	A4

الجدول (ب): حدود التعرض المهني للضوضاء  
**Schedule B: Occupational Noise Exposure Limits**

(Combinations of noise exposure levels and durations not to be exceeded)

مستوى التعرض	الفترة الزمنية			مستوى التعرض	الفترة الزمنية		
Exposure Level, L	Duration, T			Exposure Level, L	Duration, T		
(dBA)	Hours	Minutes	Seconds	(dBA)	Hours	Minutes	Seconds
80	25	24	-	106	-	3	45
81	20	10	-	107	-	2	59
82	16	-	-	108	-	2	22
83	12	42	-	109	-	1	53
84	10	5	-	110	-	1	29
85	8	-	-	111	-	1	11
86	6	21	-	112	-	-	56
87	5	2	-	113	-	-	45
88	4	-	-	114	-	-	35
89	3	10	-	115	-	-	28
90	2	31	-	116	-	-	22
91	2	-	-	117	-	-	18
92	1	35	-	118	-	-	14
93	1	16	-	119	-	-	11
94	1	-	-	120	-	-	9
95	-	47	37	121	-	-	7
96	-	37	48	122	-	-	6
97	-	30	-	123	-	-	4
98	-	23	49	124	-	-	3
99	-	18	59	125	-	-	3
100	-	15	-	126	-	-	2
101	-	11	54	127	-	-	1
102	-	9	27	128	-	-	1
103	-	7	30	129	-	-	1
104	-	5	57	130-140	-	-	<1
105	-	4	43	-	-	-	-



