

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Reference number: VL227

Issue date: 2013/4/9 Revision date: 2024/6/6 Supersedes version of: 2017/9/11 Version: 1.2

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : Hydrochloric acid 1M Volumetric solution  
Product code : VL227  
Product group : Blend

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Main use category : Professional use

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Spectracer UK Ltd.

Third Floor,  
55 Blandford Street,  
London,  
W1U 7HW,  
United Kingdom.

Tel: +44 (0) 207 193 9114

Fax: +44 (0) 203 432 4686

Email: [contact@spectracer.co.uk](mailto:contact@spectracer.co.uk)

Web: [www.spectracer.com](http://www.spectracer.com)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital Msida MSD 2090 Msida	+356 2545 6508	
United Kingdom	National Poisons Information Service (NHS Direct)	<a href="http://www.npis.org">http://www.npis.org</a>	111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland)	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

##### Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

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### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Contains : hydrochloric acid; water  
EUH-statements : EUH210 - Safety data sheet available on request.

### 2.3. Other hazards

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

Component	
hydrochloric acid (7647-01-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
hydrochloric acid substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, AL, IS, NO, MK, RS, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 7647-01-0 EC-No.: 231-595-7 EC Index-No.: 017-002-01-X REACH-no: 01-2119484862-27-XXXX	1 – 5	Met. Corr. 1, H290 Skin Corr. 1B, H314 STOT SE 3, H335

#### Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
hydrochloric acid	CAS-No.: 7647-01-0 EC-No.: 231-595-7 EC Index-No.: 017-002-01-X REACH-no: 01-2119484862-27-XXXX	(10 $\leq$ C < 100) STOT SE 3, H335 (10 $\leq$ C < 25) Eye Irrit. 2, H319 (10 $\leq$ C < 25) Skin Irrit. 2, H315 (25 $\leq$ C < 100) Skin Corr. 1B, H314

Full text of H- and EUH-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

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### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

### 7.3. Specific end use(s)

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

hydrochloric acid (7647-01-0)	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	Hydrogen chloride
IOEL TWA	8 mg/m <sup>3</sup> 8 mg/m <sup>3</sup>
IOEL TWA [ppm]	5 ppm 5 ppm
IOEL STEL	15 mg/m <sup>3</sup> 15 mg/m <sup>3</sup>
IOEL STEL [ppm]	10 ppm 10 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC COMMISSION DIRECTIVE 2000/39/EC
<b>Albania - Occupational Exposure Limits</b>	
Local name	Klorur hidrogjeni
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Regulatory reference	VENDIM Nr. 522, datë 6.8.2014 PËR MIRATIMIN E RREGULLORES "PËR MBROJTJEN E SIGURISË DHE SHËNDETIT TË PUNËMARRËSVE NGA RISQET E LIDHURA ME AGJENTËT KIMIKË NË PUNË"
<b>Austria - Occupational Exposure Limits</b>	
Local name	Chlorwasserstoff (Hydrogenchlorid; Salzsäure)
MAK (OEL TWA)	8 mg/m <sup>3</sup>
MAK (OEL TWA) [ppm]	5 ppm
MAK (OEL STEL)	15 mg/m <sup>3</sup> (8x 5(Mow) min)
MAK (OEL STEL) [ppm]	10 ppm (8x 5(Mow) min)
Regulatory reference	BGBl. II Nr. 156/2021
<b>Belgium - Occupational Exposure Limits</b>	
Local name	Hydrogène (chlorure d') # Waterstofchloride
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
<b>Bulgaria - Occupational Exposure Limits</b>	
Local name	Хлороводород
OEL TWA	8 mg/m <sup>3</sup>

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OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Remark	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
Croatia - Occupational Exposure Limits	
Local name	Vodikov klorid
GVI (OEL TWA) [1]	8 mg/m <sup>3</sup>
GVI (OEL TWA) [2]	5 ppm
KGVI (OEL STEL)	15 mg/m <sup>3</sup>
KGVI (OEL STEL) [ppm]	10 ppm
Remark	Direktiva: 2000/39/EZ
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, граниčnim vrijednostima izloženosti i biološkim граниčnim vrijednostima (NN 1/2021)
Cyprus - Occupational Exposure Limits	
Local name	Υδροχλωρίο
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Regulatory reference	Κανονισμοί του 2007 (Κ.Δ.Π. 295/2007)
Czech Republic - Occupational Exposure Limits	
Local name	Chlorovodík
PEL (OEL TWA)	8 mg/m <sup>3</sup>
PEL (OEL TWA) [ppm]	5,3 ppm
NPK-P (OEL C)	15 mg/m <sup>3</sup>
NPK-P (OEL C) [ppm]	9,9 ppm
Remark	I - dráždí sliznice (oči, dýchací cesty), respektive kůži.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Hydrogenchlorid (Chlorbrinte)
OEL C	8 mg/m <sup>3</sup>
OEL C [ppm]	5 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi)
Regulatory reference	BEK nr 2203 af 29. november 2021
Estonia - Occupational Exposure Limits	
Local name	Vesinikkloriid

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OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 15.05.2021, 1)
Finland - Occupational Exposure Limits	
Local name	Kloorivety, vedetön
HTP (OEL STEL)	7,6 mg/m <sup>3</sup>
HTP (OEL STEL) [ppm]	5 ppm
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Chlorure d'hydrogène (Acide chlorhydrique)
VLE (OEL C/STEL)	7,6 mg/m <sup>3</sup>
VLE (OEL C/STEL) [ppm]	5 ppm
Remark	Valeurs réglementaires contraignantes
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 984, 2016; Décret n° 2019-1487; Décret n° 2020-1546; Décret n° 2021-434; Décret n° 2021-1849)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Hydrogenchlorid
AGW (OEL TWA) [1]	3 mg/m <sup>3</sup>
AGW (OEL TWA) [2]	2 ppm
Peak exposure limitation factor	2(I)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); EU - Europäische Union (Von der EU wurde ein Luftgrenzwert festgelegt: Abweichungen bei Wert und Spitzenbegrenzung sind möglich); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900
Gibraltar - Occupational Exposure Limits	
Local name	Hydrogen chloride
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
Greece - Occupational Exposure Limits	
Local name	Υδροχλώριο
OEL TWA	7 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	7 mg/m <sup>3</sup>
OEL STEL [ppm]	5 ppm

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Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
<b>Hungary - Occupational Exposure Limits</b>	
Local name	SÓSAV
AK (OEL TWA)	8 mg/m <sup>3</sup>
CK (OEL STEL)	16 mg/m <sup>3</sup>
Remark	i (ingerlő anyag, amely izgatja a bőrt, nyálkahártyát, szemet vagy mindhármát), m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármát); EU1 (2000/39/EK irányelvben közölt érték); N (Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Hydrogen chloride
OEL TWA [1]	8 mg/m <sup>3</sup>
OEL TWA [2]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
<b>Italy - Occupational Exposure Limits</b>	
Local name	Acido cloridrico
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.
<b>Latvia - Occupational Exposure Limits</b>	
Local name	Hlorūdeņradis
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325
<b>Lithuania - Occupational Exposure Limits</b>	
Local name	Vandenilio chloridas
IPRV (OEL TWA)	8 mg/m <sup>3</sup>
IPRV (OEL TWA) [ppm]	5 ppm
TPRV (OEL STEL)	15 mg/m <sup>3</sup>
TPRV (OEL STEL) [ppm]	10 ppm
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)

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hydrochloric acid (7647-01-0)	
<b>Luxembourg - Occupational Exposure Limits</b>	
Local name	Chlorure d'hydrogène
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Regulatory reference	Mémorial A N° 226 de 2021 concernant la protection de la sécurité et de la santé des salariés contre les risques liés à des agents chimiques sur le lieu de travail
<b>Malta - Occupational Exposure Limits</b>	
Local name	Hydrogen chloride
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Regulatory reference	S.L.424.24 - Chemical Agents at Work Regulations (L.N.356 of 2021)
<b>Netherlands - Occupational Exposure Limits</b>	
Local name	Zoutzuur
TGG-8u (OEL TWA)	8 mg/m <sup>3</sup>
TGG-8u (OEL TWA) [ppm]	5 ppm
TGG-15min (OEL STEL)	15 mg/m <sup>3</sup>
TGG-15min (OEL STEL) [ppm]	10 ppm
Regulatory reference	Arbeidsomstandighedenregeling 2022
<b>Poland - Occupational Exposure Limits</b>	
Local name	Chlorowodór
NDS (OEL TWA)	5 mg/m <sup>3</sup>
NDSch (OEL STEL)	10 mg/m <sup>3</sup>
Regulatory reference	Dz. U. 2018 poz. 1286
<b>Portugal - Occupational Exposure Limits</b>	
Local name	Ácido clorídrico
OEL C	2 mg/m <sup>3</sup>
OEL C [ppm]	2 ppm
Remark	A4 (Agente não classificável como carcinogénico no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
<b>Romania - Occupational Exposure Limits</b>	
Local name	Acid clorhidric/Clorură de hidrogen
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm



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hydrochloric acid (7647-01-0)	
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
<b>Serbia - Occupational Exposure Limits</b>	
Local name	водоник хлорид, хлороводоник
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Remark	EУ* – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2000/39/ЕЗ (прва листа)
Regulatory reference	ПРАВИЛНИК о превентивним мерама за безбедан и здрав рад при излагању хемијским материјама („Службени гласник РС”, бр. 106/09, 117/17 и 107/21)
<b>Slovakia - Occupational Exposure Limits</b>	
Local name	Chlorovodík
NPHV (OEL TWA) [1]	8 mg/m <sup>3</sup>
NPHV (OEL TWA) [2]	5 ppm
NPHV (OEL STEL)	15 mg/m <sup>3</sup>
NPHV (OEL STEL) [ppm]	10 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
<b>Slovenia - Occupational Exposure Limits</b>	
Local name	vodikov klorid, brezvodni (klorovodik, brezvodni)
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
OEL STEL	16 mg/m <sup>3</sup>
OEL STEL [ppm]	10 ppm
Remark	Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti), EU
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
<b>Spain - Occupational Exposure Limits</b>	
Local name	Cloruro de hidrógeno
VLA-ED (OEL TWA) [1]	7,6 mg/m <sup>3</sup>
VLA-ED (OEL TWA) [2]	5 ppm
VLA-EC (OEL STEL)	15 mg/m <sup>3</sup>
VLA-EC (OEL STEL) [ppm]	10 ppm
Remark	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
<b>Sweden - Occupational Exposure Limits</b>	
Local name	Saltsyra (Väteklorid)
NGV (OEL TWA)	3 mg/m <sup>3</sup>

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NGV (OEL TWA) [ppm]	2 ppm
KTV (OEL STEL)	6 mg/m <sup>3</sup>
KTV (OEL STEL) [ppm]	4 ppm
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Hydrogen chloride
WEL TWA (OEL TWA) [1]	2 mg/m <sup>3</sup> gas and aerosol mists
WEL TWA (OEL TWA) [2]	1 ppm gas and aerosol mists
WEL STEL (OEL STEL)	8 mg/m <sup>3</sup> gas and aerosol mists
WEL STEL (OEL STEL) [ppm]	5 ppm gas and aerosol mists
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Vetnisklórfíð (klórvetni)
OEL STEL	8 mg/m <sup>3</sup>
OEL STEL [ppm]	5 ppm
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway - Occupational Exposure Limits	
Local name	Hydrogenklorid (Saltsyre)
Grenseverdi (OEL TWA) [1]	7 mg/m <sup>3</sup>
Grenseverdi (OEL TWA) [2]	5 ppm
Takverdi (OEL C) [1]	7 mg/m <sup>3</sup>
Takverdi (OEL C) [2]	5 ppm
Remark	E: EU har en veiledende grenseverdi og/eller anmerkning for stoffet.
Regulatory reference	FOR-2021-06-28-2248
North Macedonia - Occupational Exposure Limits	
Local name	хлороводород, безводен
OEL TWA	8 mg/m <sup>3</sup>
OEL TWA [ppm]	5 ppm
KTV	2
Short time value [mg/m <sup>3</sup> ]	16 mg/m <sup>3</sup>
Short time value [ppm]	10 ppm
Remark	(KTV) краткотрајна вредност (КТВ) значи концентрација на опасни хемиски супстанции во воздухот на работното место внатре во зона на дишење, на која работникот без опасност по здравјето може да е изложен на покусо време. Изложеноста на краткотрајни вредности може да трае највеќе 15 минути и не смее да се повтори повеќе од четирипати во работната смена, при што меѓу две изложености на оваа концентрација мора да измине најмалку 60 минути. Краткотрајната вредност е изразена во mg/m <sup>3</sup> или во ml/m <sup>3</sup> (ppm) а е дадена како многукратни дозволени пречекорувања на граничната вредност; (EU) European Union – гранична вредност, определена на ниво на Европската унија

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hydrochloric acid (7647-01-0)	
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанции („Службен весник на Република Македонија“ бр.46/10)
<b>Switzerland - Occupational Exposure Limits</b>	
Local name	Chlorwasserstoff
MAK (OEL TWA) [1]	3 mg/m <sup>3</sup> 3 mg/m <sup>3</sup>
MAK (OEL TWA) [2]	2 ppm 2 ppm
KZGW (OEL STEL)	6 mg/m <sup>3</sup> 6 mg/m <sup>3</sup>
KZGW (OEL STEL) [ppm]	4 ppm 4 ppm
Critical toxicity	VRS / OAW
Notation	SS <sub>c</sub> / SS <sub>c</sub>
Remark	SS <sub>c</sub> - OAW <sup>KT AN</sup> - DFG, NIOSH, OSHA
Regulatory reference	www.suva.ch, 28.03.2022
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Hydrogen chloride
ACGIH OEL C [ppm]	2 ppm
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2022

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

No additional information available

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Avoid all unnecessary exposure. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the protective equipment.

#### Personal protective equipment symbol(s):



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### 8.2.2.1. Eye and face protection

**Eye protection:**

Safety glasses

### 8.2.2.2. Skin protection

**Skin and body protection:**

Wear suitable protective clothing

**Hand protection:**

Protective gloves

### 8.2.2.3. Respiratory protection

**Respiratory protection:**

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

**Environmental exposure controls:**

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: $\approx 0\text{ }^{\circ}\text{C}$
Boiling point	: $\approx 100\text{ }^{\circ}\text{C}$
Flammability	: Non flammable.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: $< 2$
Viscosity, kinematic	: Not available
Solubility	: Miscible with water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: $\approx 1,02$
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
	pH: < 2

#### hydrochloric acid (7647-01-0)

pH	< 1
Serious eye damage/irritation	: Not classified
	pH: < 2

#### hydrochloric acid (7647-01-0)

pH	< 1
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

#### hydrochloric acid (7647-01-0)

IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

#### hydrochloric acid (7647-01-0)

STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

#### 11.2. Information on other hazards

No additional information available

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.  
Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : Not classified

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

Component	
hydrochloric acid (7647-01-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

#### 12.6. Endocrine disrupting properties

No additional information available

#### 12.7. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
European List of Waste (LoW) code : 16 05 06\* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
Not dangerous goods in terms of transport regulations				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.2. UN proper shipping name</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

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ADR	IMDG	IATA	ADN	RID
<b>14.4. Packing group</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

#### Air transport

Not regulated

#### Inland waterway transport

Not regulated

#### Rail transport

Not regulated

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

##### REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(b)	hydrochloric acid	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10

##### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

##### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

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### Drug Precursors Regulation (273/2004)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Name	CN designation	CAS-No.	CN code	Category	Threshold	Annex
Hydrochloric acid	Hydrogen chloride	7647-01-0	2806 10 00	Category 3		Annex I

### 15.1.2. National regulations

#### France

Occupational diseases	
Code	Description
RG 66	Occupational rhinitis and asthma

#### Germany

Water hazard class (WGK)

: WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).

Storage class (LGK, TRGS 510)

: LGK 12 - Non-combustible liquids.

Joint storage table

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for

: LGK 1, LGK 6.2, LGK 7.

Joint storage with restrictions permitted for

: LGK 4.1A, LGK 4.3, LGK 5.1C.

Joint storage permitted for

: LGK 2A, LGK 2B, LGK 3, LGK 4.1B, LGK 4.2, LGK 5.1A, LGK 5.1B, LGK 5.2, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13.

Hazardous Incident Ordinance (12. BImSchV)

: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

#### Netherlands

ABM category

: A(4) - low hazard for aquatic organisms, may have longterm hazardous effects in aquatic environment

SZW-lijst van kankerverwekkende stoffen

: None of the components are listed

SZW-lijst van mutagene stoffen

: None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding

: None of the components are listed

SZW-lijst van reprotoxische stoffen –

: None of the components are listed

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling

: None of the components are listed

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
	Supersedes version of	Added	
	Revision date	Modified	
	Flammability	Modified	
1.2	Main use category	Modified	
3	Composition/information on ingredients	Modified	



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Indication of changes			
Section	Changed item	Change	Comments
8.2	Personal protective equipment	Added	
9.1	Solubility	Added	
9.1	Freezing point	Added	
9.1	Relative density	Added	
9.1	Colour	Added	
9.1	Boiling point	Added	
15.1	REACH Annex XVII	Modified	
16	Abbreviations and acronyms	Added	

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant

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### Abbreviations and acronyms:

ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

### Full text of H- and EUH-statements:

EUH210	Safety data sheet available on request.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.