British Pharmacopoeia Reagent - Citric-Molybdic Acid Solution

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
SDS Reference Number: BPR082
Issue date: 31/08/2013 Revision date: 07/01/2025 Supersedes version of: 11/09/2017 Version: 1.2

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

1.1. Product identifier

Product form : Mixture
Product name : British Pharmacopoeia Reagent - Citric-Molybdic Acid Solution
Product code : BPR082

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

Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : Laboratory chemical

1.3. Details of the supplier of the safety data sheet

Spectracer UK Ltd.
20 Seymour Mews,
London,
W1H 6BQ,
United Kingdom.

Tel: +44 (0) 207 193 9114
Fax:+44 (0) 203 432 4686
Email: contact@spectracer.com
Web: www.spectracer.com

1.4. Emergency telephone number

Country/Area	Organisation	Emergency number
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.	112 +356 2545 6508
United Kingdom	National Poisons Information Service (NHS Direct). http://www.npis.org.	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]

Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Carcinogenicity, Category 2	H351
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335

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

Adverse physicochemical, human health and environmental effects

Suspected of causing cancer. May cause respiratory irritation. Causes skin irritation. Causes serious eye irritation.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07 GHS08

Signal word (CLP) : Warning

Contains : molybdenum trioxide; citric acid; hydrochloric acid

Hazard statements (CLP) : H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H351 - Suspected of causing cancer.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P312 - Call a POISON CENTRE or doctor if you feel unwell.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	citric acid (77-92-9), sodium hydroxide (1310-73-2), hydrochloric acid (7647-01-0), potassium bromate (7758-01-2)(1)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	citric acid (77-92-9), sodium hydroxide (1310-73-2), hydrochloric acid (7647-01-0), potassium bromate (7758-01-2)(1)

(1) Substance(s) in concentration below 0.1 % and displayed on a voluntary basis

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 substance(s) are 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

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
citric acid substance with national workplace exposure limit(s) (CZ, DE, CH)	CAS-No.: 77-92-9 EC-No.: 201-069-1 EC Index-No.: 607-750-00-3	5 – 10	Eye Irrit. 2, H319 STOT SE 3, H335
molybdenum trioxide substance with national workplace exposure limit(s) (FI, GB)	CAS-No.: 1313-27-5 EC-No.: 215-204-7 EC Index-No.: 042-001-00-9	< 10	Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335
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	5 – 10	Met. Corr. 1, H290 Skin Corr. 1B, H314 STOT SE 3, H335

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
sodium hydroxide substance with national workplace exposure limit(s) (AT, BE, BG, CZ, DK, EE, ES, FI, GB, GR, HR, HU, IE, LT, LV, PL, PT, SE, SI, SK, IS, NO, MK, CH)	CAS-No.: 1310-73-2 EC-No.: 215-185-5 EC Index-No.: 011-002-00-6 REACH-no: 01-2119457892-27-XXXX	1 – 5	Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318
potassium bromate substance with national workplace exposure limit(s) (PL)	CAS-No.: 7758-01-2 EC-No.: 231-829-8 EC Index-No.: 035-003-00-6	< 0.05	Ox. Sol. 1, H271 Acute Tox. 3 (Oral), H301 Carc. 1B, H350

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 ≤ C < 100) STOT SE 3; H335 (10 ≤ C < 25) Eye Irrit. 2; H319 (10 ≤ C < 25) Skin Irrit. 2; H315 (25 ≤ C < 100) Skin Corr. 1B; H314
sodium hydroxide	CAS-No.: 1310-73-2 EC-No.: 215-185-5 EC Index-No.: 011-002-00-6 REACH-no: 01-2119457892-27-XXXX	(0.5 ≤ C < 2) Eye Irrit. 2; H319 (0.5 ≤ C < 2) Skin Irrit. 2; H315 (2 ≤ C < 5) Skin Corr. 1B; H314 (5 ≤ C < 100) Skin Corr. 1A; 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 general : IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

Self protection of the first-aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Eye irritation.

Symptoms/effects after ingestion : None under normal conditions.

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.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	:	No fire hazard.
Explosion hazard	:	No direct explosion hazard.
Hazardous decomposition products in case of fire	:	Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions	:	Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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

General measures	:	Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

Protective equipment	:	Wear recommended personal protective equipment.
Emergency procedures	:	Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

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".
Emergency procedures	:	Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	:	Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up	:	Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
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

Additional hazards when processed	:	Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
Hygiene measures	:	Wash contaminated clothing before reuse. 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

Technical measures	:	Keep in a cool, well-ventilated place away from heat.
Storage conditions	:	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Packaging materials	:	Always store product in container of same material as original container.

Germany

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

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

molybdenum trioxide (1313-27-5)	
Finland - Occupational Exposure Limits	
Local name	Molybdeenitrioksidi
HTP (OEL TWA)	0.5 mg/m³ Mo
Regulatory reference	HTP-ARVOT 2025 (Sosiaali- ja terveysministeriö)
United Kingdom - Occupational Exposure Limits	
Local name	Molybdenum compounds (as Mo)
WEL TWA (OEL TWA)	10 mg/m³ insoluble compounds
WEL STEL (OEL STEL)	20 mg/m³ insoluble compounds

citric acid (77-92-9)	
Czech Republic - Occupational Exposure Limits	
Local name	Kyselina citrónová
PEL (OEL TWA)	4 mg/m³
Remark	Prachy s převážně dráždivým účinkem.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 330/2023 Sb.)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Zitronensäure
AGW (OEL TWA)	2 mg/m³ (E)
Peak exposure limitation factor	2(I)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900

citric acid (77-92-9)	
Switzerland - Occupational Exposure Limits	
Local name	Acide citrique / Zitronensäure
MAK (OEL TWA)	2 mg/m³ (i) / (e)
KZGW (OEL STEL)	4 mg/m³ (i) / (e)
Notation	SS_C / SS_C
Regulatory reference	www.suva.ch, 18.06.2025

sodium hydroxide (1310-73-2)	
Austria - Occupational Exposure Limits	
Local name	Natriumhydroxid (Ätznatron)
MAK (OEL TWA)	2 mg/m³ (E)
MAK (OEL STEL)	4 mg/m³ (E, 8x 5(Mow) min)
Regulatory reference	BGBl. II Nr. 330/2024
Belgium - Occupational Exposure Limits	
Local name	Sodium (hydroxyde de) # Natriumhydroxide
OEL TWA	2 mg/m³
Remark	M: la mention “M” indique que lors d’une exposition supérieure à la valeur limite, des irritations apparaissent ou un danger d’intoxication aiguë existe. Le procédé de travail doit être conçu de telle façon que l’exposition ne dépasse jamais la valeur limite. Lors des mesurages, la période d’échantillonnage doit être aussi courte que possible afin de pouvoir effectuer des mesurages fiables. Le résultat des mesurages est calculé en fonction de la période d’échantillonnage. # M: de vermelding “M” duidt aan dat bij de blootstelling boven de grenswaarde irritatie optreedt of er gevaar bestaat voor acute vergiftiging. Het werkprocédé moet zo zijn ontworpen dat de blootstelling de grenswaarde nooit overschrijdt. Bij een controle geldt dat de bemonsterde periode zo kort mogelijk moet zijn om een betrouwbare meting te kunnen verrichten. Het meetresultaat wordt dan gerelateerd aan de beschouwde periode.
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
Bulgaria - Occupational Exposure Limits	
Local name	Натриева основа
OEL TWA	2 mg/m³ (алкални аерозоли)
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. 28 от 2024 г., в сила от 05.04.2024 г.)
Croatia - Occupational Exposure Limits	
Local name	Natrijev hidroksid; kaustična soda
KGVI (OEL STEL)	2 mg/m³
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Czech Republic - Occupational Exposure Limits	
Local name	Hydroxid sodný
PEL (OEL TWA)	1 mg/m³
NPK-P (OEL C)	2 mg/m³

sodium hydroxide (1310-73-2)	
Remark	I - dráždí sliznice (oči, dýchací cesty), resp. kůži.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 20/2025 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Natriumhydroxid
Loftværdi (OEL C)	2 mg/m³
Regulatory reference	BEK nr 1619 af 19/12/2024
Estonia - Occupational Exposure Limits	
Local name	Naatriumhüdroksiid
OEL TWA	1 mg/m³
OEL STEL	2 mg/m³ lühiajalise kokkupuute piirnorm, arvutatud viieminutisele kokkupuuteajale
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13)
Finland - Occupational Exposure Limits	
Local name	Natriumhydroksidi
HTP (OEL C)	2 mg/m³
Regulatory reference	HTP-ARVOT 2025 (Sosiaali- ja terveysministeriö)
Greece - Occupational Exposure Limits	
Local name	Υδροξείδιο του νατρίου
OEL TWA	2 mg/m³
OEL STEL	2 mg/m³
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Hungary - Occupational Exposure Limits	
Local name	NÁTRIUM-HIDROXID
AK (OEL TWA)	1 mg/m³
CK (OEL STEL)	2 mg/m³
Remark	m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármat); 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
Ireland - Occupational Exposure Limits	
Local name	Sodium hydroxide
OEL STEL	2 mg/m³
Remark	Advisory OELV (Advisory Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2024
Latvia - Occupational Exposure Limits	
Local name	Nātrija hidroksīds (nātrija sārms, kaustiskā soda)
OEL TWA	0.5 mg/m³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2024. gada 26. martā noteikumiem Nr. 191).

sodium hydroxide (1310-73-2)	
Lithuania - Occupational Exposure Limits	
Local name	Natrio hidroksidas
NRV (OEL C)	2 mg/m³
Remark	Ū (ūmus poveikis)
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Poland - Occupational Exposure Limits	
Local name	Wodorotlenek sodu
NDS (OEL TWA)	0.5 mg/m³
NDSCh (OEL STEL)	1 mg/m³
Regulatory reference	Dz. U. 2024 poz. 1017 wraz z późn. zm.
Portugal - Occupational Exposure Limits	
Local name	Hidróxido de sódio
OEL C	2 mg/m³
	2 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
Slovakia - Occupational Exposure Limits	
Local name	Hydroxid sodný
NPHV (OEL TWA)	2 mg/m³
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (122/2024 Z. z.)
Slovenia - Occupational Exposure Limits	
OEL STEL	2 mg/m³
Spain - Occupational Exposure Limits	
Local name	Hidróxido de sodio
VLA-EC (OEL STEL)	2 mg/m³
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2025. INSHT
Sweden - Occupational Exposure Limits	
Local name	Natriumhydroxid
NGV (OEL TWA)	1 mg/m³ (inhalerbar fraktion)
KGV (OEL STEL)	2 mg/m³ (inhalerbar fraktion)
Remark	25 (Med inhalerbar och respirabel fraktion menas de dammfraktioner som definieras i svensk standard SS-EN 481, Arbetsplatsluft – Partikelstorleksfraktioner för mätning av luftburna partiklar (utgåva 1, 1993). Med totaldamm menas de partiklar (aerosoler) som fastnar på ett filter i en totaldammprovtagare)
Regulatory reference	Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön
United Kingdom - Occupational Exposure Limits	
Local name	Sodium hydroxide
WEL STEL (OEL STEL)	2 mg/m³
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

sodium hydroxide (1310-73-2)	
Iceland - Occupational Exposure Limits	
Local name	Natríumhýdroxíð (vítissóti)
OEL STEL	2 mg/m³
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway - Occupational Exposure Limits	
Local name	Natriumhydroksid
Grenseverdi (OEL TWA)	2 mg/m³
Takverdi (OEL C)	2 mg/m³
Regulatory reference	FOR-2024-04-05-581
North Macedonia - Occupational Exposure Limits	
Local name	Натриум хидроксид
OEL TWA	2 mg/m³ (I) инхалабилна фракција – дел на вкупно суспендирани материи, кои работникот ги вдишува
KTV	1
OEL STEL*	2 mg/m³
Remark	(KTV) краткотрајна вредност (КТВ) значи концентрација на опасни хемиски супстанци 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/m3 или во ml/m3(ppm) а е дадена како многукратни дозволени пречекорувања на граничната вредност; (Y)
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанци („Службен весник на Република Македонија” бр.46/10)
Switzerland - Occupational Exposure Limits	
Local name	Soude caustique / Natriumhydroxid [Aetznatron]
MAK (OEL TWA)	2 mg/m³ (i) / (e)
KZGW (OEL STEL)	2 mg/m³ (i) / (e)
Remark	NIOSH, OSHA
Regulatory reference	www.suva.ch, 18.06.2025
USA - ACGIH® - Threshold Limit Values	
Local name	Sodium hydroxide
ACGIH® TLV® C	2 mg/m³
Remark (ACGIH®)	TLV® Basis: Eye, Skin & URT irr
Regulatory reference	ACGIH 2025

*STEL value is calculated based on the TWA limit

hydrochloric acid (7647-01-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Hydrogen chloride
IOEL TWA	8 mg/m³

hydrochloric acid (7647-01-0)	
	5 ppm
IOEL STEL	15 mg/m³
	10 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Albania - Occupational Exposure Limits	
Local name	Klorur hidrogjeni
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³
	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”
Austria - Occupational Exposure Limits	
Local name	Chlorwasserstoff (Hydrogenchlorid; Salzsäure)
MAK (OEL TWA)	8 mg/m³
	5 ppm
MAK (OEL STEL)	15 mg/m³ (8x 5(Mow) min)
	10 ppm (8x 5(Mow) min)
Regulatory reference	BGBl. II Nr. 330/2024
Belgium - Occupational Exposure Limits	
Local name	Hydrogène (chlorure d') # Waterstofchloride
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³
	10 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
Bulgaria - Occupational Exposure Limits	
Local name	Хлороводород
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³
	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. 28 от 2024 г., в сила от 05.04.2024 г.)
Croatia - Occupational Exposure Limits	
Local name	Vodikov klorid
GVI (OEL TWA)	8 mg/m³

hydrochloric acid (7647-01-0)	
	5 ppm
KGVI (OEL STEL)	15 mg/m³
	10 ppm
Remark	Direktiva: 2000/39/EZ
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Cyprus - Occupational Exposure Limits	
Local name	Υδροχλώριο
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³
	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/m³
	5 ppm
NPK-P (OEL C)	15 mg/m³
	10 ppm
Remark	I - dráždí sliznice (oči, dýchací cesty), resp. kůži.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 20/2025 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Hydrogenchlorid (Chlorbrinte)
Korttidsgrænseværdi (OEL STEL)	8 mg/m³
	5 ppm
Remark	E (betyder, at stoffet har en EU-grænseværdi)
Regulatory reference	BEK nr 1619 af 19/12/2024
Estonia - Occupational Exposure Limits	
Local name	Vesinikkloriid
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³
	10 ppm
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13)
Finland - Occupational Exposure Limits	
Local name	Kloorivety, vedetön
HTP (OEL STEL)	7.6 mg/m³
	5 ppm
Regulatory reference	HTP-ARVOT 2025 (Sosiaali- ja terveysministeriö)

hydrochloric acid (7647-01-0)	
France - Occupational Exposure Limits	
Local name	Chlorure d'hydrogène (Acide chlorhydrique)
VLEP CT (OEL STEL)	7.6 mg/m³
	5 ppm
Remark	Valeurs réglementaires contraignantes
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 6443, 2022; Outil65; Décret n° 2019-1487; Décret n° 2020-1546; Décret n° 2021-434; Décret n° 2021-1849; Décret n° 2024-307)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Hydrogenchlorid
AGW (OEL TWA)	3 mg/m³
	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/m³
	5 ppm
OEL STEL	15 mg/m³
	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/m³
	5 ppm
OEL STEL	7 mg/m³
	5 ppm
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Hungary - Occupational Exposure Limits	
Local name	SÓSAV
AK (OEL TWA)	8 mg/m³
	5 ppm
CK (OEL STEL)	15 mg/m³
	10 ppm

hydrochloric acid (7647-01-0)	
Remark	i (ingerlő anyag, amely izgatja a bőrt, nyálkahártyát, szemet vagy mindhármat), m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármat); 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
Ireland - Occupational Exposure Limits	
Local name	Hydrogen chloride
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³
	10 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2024
Italy - Occupational Exposure Limits	
Local name	Acido cloridrico
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³
	10 ppm
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i. (D.Lgs. 4 settembre 2024, n. 135)
Latvia - Occupational Exposure Limits	
Local name	Hlorūdeņradis
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³
	10 ppm
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2024. gada 26. martā noteikumiem Nr. 191).
Lithuania - Occupational Exposure Limits	
Local name	Vandenilio chloridas
IPRV (OEL TWA)	8 mg/m³
	5 ppm
TPRV (OEL STEL)	15 mg/m³
	10 ppm
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Luxembourg - Occupational Exposure Limits	
Local name	Chlorure d'hydrogène
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³

hydrochloric acid (7647-01-0)	
	10 ppm
Regulatory reference	Mémorial A Nº 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
Malta - Occupational Exposure Limits	
Local name	Hydrogen chloride
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³
	10 ppm
Regulatory reference	S.L. 424.24 - Chemical Agents at Work Regulations (L.N. 356 of 2021) # L.S. 424.24 - Regolamenti dwar Aġenti Kimiċi fuq il-Post tax-Xogħol (A.L. 356 tal-2021)
Netherlands - Occupational Exposure Limits	
Local name	Zoutzuur
TGG-8u (OEL TWA)	8 mg/m³
	5 ppm
TGG-15min (OEL STEL)	15 mg/m³
	10 ppm
Regulatory reference	Arbeidsomstandighedenregeling 2024
Poland - Occupational Exposure Limits	
Local name	Chlorowodór
NDS (OEL TWA)	5 mg/m³
NDSCh (OEL STEL)	10 mg/m³
Regulatory reference	Dz. U. 2024 poz. 1017 wraz z późn. zm.
Portugal - Occupational Exposure Limits	
Local name	Ácido clorídrico
OEL C	2 mg/m³
	2 ppm
Remark	A4 (Agente não classificável como carcinogénico no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Acid clorhidric/Clorură de hidrogen
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	15 mg/m³
	10 ppm
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 179/2024)
Serbia - Occupational Exposure Limits	
Local name	водоник хлорид, хлороводоник
OEL TWA	8 mg/m³
	5 ppm

hydrochloric acid (7647-01-0)	
OEL STEL	15 mg/m³
	10 ppm
Remark	ЕУ* – 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)
Slovakia - Occupational Exposure Limits	
Local name	Chlorovodík
NPHV (OEL TWA)	8 mg/m³
	5 ppm
NPHV (OEL STEL)	15 mg/m³
	10 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (122/2024 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	vodikov klorid, brezvodni (klorovodik, brezvodni)
OEL TWA	8 mg/m³
	5 ppm
OEL STEL	16 mg/m³
	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. 26/2025 z dne 18.4.2025 - Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
Spain - Occupational Exposure Limits	
Local name	Cloruro de hidrógeno
VLA-ED (OEL TWA)	7.6 mg/m³
	5 ppm
VLA-EC (OEL STEL)	15 mg/m³
	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).
Sweden - Occupational Exposure Limits	
Local name	Saltsyra (Väteklorid)
NGV (OEL TWA)	3 mg/m³
	2 ppm
KGV (OEL STEL)	6 mg/m³
	4 ppm

hydrochloric acid (7647-01-0)	
Regulatory reference	Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön
United Kingdom - Occupational Exposure Limits	
Local name	Hydrogen chloride
WEL TWA (OEL TWA)	2 mg/m³ gas and aerosol mists
	1 ppm gas and aerosol mists
WEL STEL (OEL STEL)	8 mg/m³ gas and aerosol mists
	5 ppm gas and aerosol mists
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Vetnisklóríð (klórvetni)
OEL STEL	8 mg/m³
	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)	7 mg/m³
	5 ppm
Takverdi (OEL C)	7 mg/m³
	5 ppm
Remark	E: EU har en veiledende grenseverdi og/eller anmerkning for stoffet.
Regulatory reference	FOR-2024-04-05-581
North Macedonia - Occupational Exposure Limits	
Local name	хлороводород, безводен
OEL TWA	8 mg/m³
	5 ppm
KTV	2
OEL STEL*	16 mg/m³
	10 ppm
Remark	(KTV) краткотрајна вредност (КТВ) значи концентрација на опасни хемиски супстанци 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/m3 или во ml/m3(ppm) а е дадена како многукратни дозволени пречекорувања на граничната вредност; (EU) European Union – гранична вредност, определена на ниво на Европската унија
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанци („Службен весник на Република Македонија” бр.46/10)

hydrochloric acid (7647-01-0)	
Switzerland - Occupational Exposure Limits	
Local name	Chlorwasserstoff
MAK (OEL TWA)	3 mg/m³ 3 mg/m³
	2 ppm 2 ppm
KZGW (OEL STEL)	6 mg/m³ 6 mg/m³
	4 ppm 4 ppm
Notation	SS_C / SS_C
Remark	SSc - $OAW^{KT\ AN}$ - DFG, NIOSH, OSHA
Regulatory reference	www.suva.ch, 18.06.2025
USA - ACGIH® - Threshold Limit Values	
Local name	Hydrogen chloride
ACGIH® TLV® C	2 ppm
Remark (ACGIH®)	TLV® Basis: Irritation; Corrosion. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2025

*STEL value is calculated based on the TWA limit

potassium bromate (7758-01-2)	
Austria - Occupational Exposure Limits	
Local name	Kaliumbromat
Remark	Krebserzeugend: III A2
Regulatory reference	BGBl. II Nr. 330/2024
Poland - Occupational Exposure Limits	
Local name	Bromian(V) potasu
NDS (OEL TWA)	0.44 mg/m³ frakcja wdychalna
Remark	Frakcja wdychalna – frakcja aerozolu wnikająca przez nos i usta, która stwarza zagrożenie dla zdrowia po zdeponowaniu w drogach oddechowych.
Regulatory reference	Dz. U. 2024 poz. 1017 wraz z późn. zm.

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

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):

Eye and face protection

Eye protection:
Safety glasses

Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

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	:	Not available
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	Not applicable
Freezing point	:	Not available
Boiling point	:	Not available
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	:	< 3
Viscosity, kinematic	:	Not available
Solubility	:	Not available
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	:	Not available
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

No additional information available

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

molybdenum trioxide (1313-27-5)	
LD50 oral rat	2690 mg/kg Cyprus Copper Company. Vol. 18JUN1991,
LD50 dermal rat	> 2000 mg/kg Cyprus Copper Company. Vol. 18JUN1991,
LC50 Inhalation - Rat	> 5.84 mg/l/4h Cyprus Copper Company. Vol. 18JUN1991,

citric acid (77-92-9)	
LD50 oral	5400 mg/kg bodyweight mouse
LD50 dermal rat	> 2000 mg/kg bodyweight

potassium bromate (7758-01-2)	
LD50 oral rat	157 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.
pH: < 3

citric acid (77-92-9)	
pH	2 (1 %)

sodium hydroxide (1310-73-2)	
pH	14 (5%)

hydrochloric acid (7647-01-0)	
pH	< 1

Serious eye damage/irritation : Causes serious eye irritation.
pH: < 3

citric acid (77-92-9)	
pH	2 (1 %)

sodium hydroxide (1310-73-2)	
pH	14 (5%)

hydrochloric acid (7647-01-0)	
pH	< 1

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.

hydrochloric acid (7647-01-0)	
IARC group	3 - Not classifiable

potassium bromate (7758-01-2)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified
STOT-single exposure : May cause respiratory irritation.

molybdenum trioxide (1313-27-5)	
STOT-single exposure	May cause respiratory irritation.

citric acid (77-92-9)	
STOT-single exposure	May cause respiratory irritation.

hydrochloric acid (7647-01-0)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

citric acid (77-92-9)	
LOAEL (oral, rat, 90 days)	8000 mg/kg bodyweight
NOAEL (oral, rat, 90 days)	4000 mg/kg bodyweight

Aspiration hazard : Not classified

11.2. Information on other hazards

No additional information available

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

molybdenum trioxide (1313-27-5)	
LC50 - Fish [1]	96h 628 (577 – 678) mg/l Kimball, G. 1978. The Effects of Lesser Known Metals and One Organic to Fathead Minnows (Pimephales promelas) and Daphnia magna. Manuscr., Dep.of Entomol., Fish.and Wildl., Univ.of Minnesota, Minneapolis, MN :88 p.
LC50 - Other aquatic organisms [1]	48h 207 (203 – 210) mg/l Crustaceans; Kimball, G. 1978. The Effects of Lesser Known Metals and One Organic to Fathead Minnows (Pimephales promelas) and Daphnia magna. Manuscr., Dep.of Entomol., Fish.and Wildl., Univ.of Minnesota, Minneapolis, MN :88 p.

citric acid (77-92-9)	
EC50 - Crustacea [1]	120 mg/l Daphnia magna (Water flea)

sodium hydroxide (1310-73-2)	
LC50 - Fish [1]	45.4 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 - Crustacea [1]	40.4 mg/l Ceriodaphnia sp.

potassium bromate (7758-01-2)	
EC50 - Crustacea [1]	> 100 mg/l Daphnia magna (Water flea)
EC50 72h - Algae [1]	> 100 mg/l Desmodesmus subspicatus

12.2. Persistence and degradability

British Pharmacopoeia Reagent - Citric-Molybdic Acid Solution	
Persistence and degradability	Rapidly degradable

molybdenum trioxide (1313-27-5)	
Persistence and degradability	Rapidly degradable

citric acid (77-92-9)	
Persistence and degradability	Readily biodegradable in water, Biodegradable in soil.
Biochemical oxygen demand (BOD)	0.481 g O_2/g substance
Chemical oxygen demand (COD)	0.665 g O_2/g substance
BOD (% of ThOD)	0.889 (20 days)

sodium hydroxide (1310-73-2)	
Persistence and degradability	Rapidly degradable

hydrochloric acid (7647-01-0)	
Persistence and degradability	Rapidly degradable

potassium bromate (7758-01-2)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

citric acid (77-92-9)	
Partition coefficient n-octanol/water (Log Pow)	-1.72
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

potassium bromate (7758-01-2)	
Partition coefficient n-octanol/water (Log Pow)	-7.18 (estimated value)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	citric acid (77-92-9), sodium hydroxide (1310-73-2), hydrochloric acid (7647-01-0), potassium bromate (7758-01-2)(1)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	citric acid (77-92-9), sodium hydroxide (1310-73-2), hydrochloric acid (7647-01-0), potassium bromate (7758-01-2)(1)

(1) Substance(s) in concentration below 0.1 % and displayed on a voluntary basis

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

Regional waste regulation	:	Disposal must be done according to official regulations.
Waste treatment methods	:	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	:	Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	:	Disposal must be done according to official regulations.
Additional information	:	Do not re-use empty containers.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not dangerous goods in terms of transport regulations				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(b)	British Pharmacopoeia Reagent - Citric-Molybdic Acid Solution ; 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 (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)
Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (EU 2019/1148)

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

Drug Precursors Regulation (EC 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, Subcategory	Threshold	Annex
Hydrochloric acid	Hydrogen chloride	7647-01-0	2806 10 00	Category 3		Annex I

National regulations

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with it.
If an employee is pregnant or breastfeeding and the person in question uses or is exposed to this product at work, the employer must always carry out a risk assessment of the work. The assessment must both deal with the dangerousness of the impact and its strength and duration. The employer's decision that a pregnant or lactating woman can perform a specific work task must therefore be made in the context of her specific working conditions. See also WEA-Guideline A.1.8-7 on the working environment of pregnant and breastfeeding workers.
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

Finland

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).

Netherlands

ABM category : B(4) - low hazard for aquatic organisms
SZW-lijst van kankerverwekkende stoffen : potassium bromate is 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 – Vruchtbaarheid : None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

Poland

Polish National Regulations : Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).
Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).
The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).
Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923).
Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154).
Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).
The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)
Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended).
Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).
ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891)
Regulation of the Minister of Health of 25 August 2015 on the method of marking places, pipelines, and containers and tanks used for storing or containing hazardous substances or hazardous mixtures (J.o.L. 2015, item 1368 as amended)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes		
Section	**Changed item**	**Comments**
1.2	Main use category	**Modified**
2.1	Adverse physicochemical, human health and environmental effects	**Modified**
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	**Modified**
2.2	Precautionary statements (CLP)	**Modified**
2.2	Hazard statements (CLP)	**Modified**
4.1	First-aid measures for first aider	**Added**
4.1	First-aid measures after inhalation	**Modified**
4.2	Symptoms/effects after skin contact	**Added**
4.2	Symptoms/effects after inhalation	**Added**
4.2	Symptoms/effects after ingestion	**Added**
5.1	Unsuitable extinguishing media	**Added**
5.2	Fire hazard	**Added**
5.2	Explosion hazard	**Added**
5.3	Firefighting instructions	**Added**
6.1	Emergency procedures	**Added**
6.1	Protective equipment	**Added**
6.1	General measures	**Added**
6.1	Emergency procedures	**Modified**
6.3	For containment	**Added**
7.1	Additional hazards when processed	**Added**
7.1	Precautions for safe handling	**Modified**
7.2	Technical measures	**Added**
7.2	Packaging materials	**Added**
7.2	Storage conditions	**Modified**
8.2	Personal protective equipment	**Added**
9	Flammability	**Modified**
13.1	Product/Packaging disposal recommendations	**Added**
13.1	Sewage disposal recommendations	**Added**
13.1	Additional information	**Added**
13.1	Regional waste regulation	**Added**
15.1	REACH Annex XVII	**Modified**
16	Abbreviations and acronyms	**Added**

Abbreviations and acronyms:	
ACGIH	American Conference of Governmental Industrial Hygienists

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)
CAS-No.	Chemical Abstracts Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
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
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant

Abbreviations and acronyms:	
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:	
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Carc. 1B	Carcinogenicity, Category 1B
Carc. 2	Carcinogenicity, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Met. Corr. 1	Corrosive to metals, Category 1
Ox. Sol. 1	Oxidising Solids, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
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
H271	May cause fire or explosion; strong oxidiser.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H350	May cause cancer.
H351	Suspected of causing cancer.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Carc. 2	H351	Calculation method
STOT SE 3	H335	Calculation method

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.