

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

Safety Data Sheet

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

Reference number: EQ0008

Issue date: 07.09.2016 Revision date: 21.08.2023 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	: Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525
Product code	: EQ0008

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

1.2.1. Relevant identified uses

Main use category	: Industrial use, Professional use
Use of the substance/mixture	: Certified reference material for laboratory use
Function or use category	: Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Spectracer UK Ltd.

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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

Web: 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)	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]

Corrosive to metals, Category 1

H290

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Skin corrosion/irritation, Category 1, Sub-Category 1B H314
 Serious eye damage/eye irritation, Category 1 H318
 Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage.

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) :

Danger

Contains :

nitric acid; hydrochloric acid; lithium nitrate; ammonium thiocyanate; germanium dioxide; rhodium trichloride; indium(III) nitrate, pentahydrate; terbium(III) nitrate, pentahydrate; lutetium trinitrate; bismuth(III)nitrate, pentahydrate

Hazard statements (CLP) :

H290 - May be corrosive to metals.
 H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) :

P260 - Do not breathe dusts or mists.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P330+P331+P310 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.
 P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor.
 P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
 P390 - Absorb spillage to prevent material damage.

2.3. Other hazards

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

Component	
nitric acid (7697-37-2)	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
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
lithium nitrate (7790-69-4)	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
ammonium thiocyanate (1762-95-4)	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
germanium dioxide (1310-53-8)	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
rhodium trichloride (10049-07-7)	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
indium(III) nitrate, pentahydrate (13465-14-0)	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 %

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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]
nitric 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.: 7697-37-2 EC-No.: 231-714-2 EC Index-No.: 007-004-00-1 REACH-no: 01-2119487297-23-XXXX	10 – 15	Ox. Liq. 2, H272 Met. Corr. 1, H290 Acute Tox. 1 (Inhalation), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318
hydrochloric acid substance with national workplace exposure limit(s) (BE, BG, 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, IS, NO, 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	0,1 – 0,25	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335
lithium nitrate substance with national workplace exposure limit(s) (DE, SE, CH)	CAS-No.: 7790-69-4 EC-No.: 232-218-9	< 0,05	Ox. Sol. 3, H272 Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
ammonium thiocyanate substance with national workplace exposure limit(s) (BG, LV)	CAS-No.: 1762-95-4 EC-No.: 217-175-6 EC Index-No.: 615-004-00-3 REACH-no: 01-2119543696-28-XXXX	< 0,05	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Chronic 3, H412
indium(III) nitrate, pentahydrate substance with national workplace exposure limit(s) (AT, BE, DE, DK, ES, FI, GB, GR, HR, IE, LT, PT, SE, SI, IS, NO, MK, CH)	CAS-No.: 13465-14-0	< 0,05	Ox. Sol. 2, H272 Skin Irrit. 2, H315 Eye Irrit. 2, H319
rhodium trichloride substance with national workplace exposure limit(s) (BE, DK, ES, FI, FR, GB, GR, HR, IE, PT, IS, NO, CH)	CAS-No.: 10049-07-7 EC-No.: 233-165-4	< 0,05	Acute Tox. 4 (Oral), H302 Aquatic Chronic 4, H413
germanium dioxide substance with national workplace exposure limit(s) (BG, DE, LT, LV, RO)	CAS-No.: 1310-53-8 EC-No.: 215-180-8 REACH-no: 01-2120759331-57-XXXX	< 0,05	Repr. 2, H361 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 3, H412

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
nitric acid	CAS-No.: 7697-37-2 EC-No.: 231-714-2 EC Index-No.: 007-004-00-1 REACH-no: 01-2119487297-23-XXXX	(5 ≤ C < 20) Skin Corr. 1B, H314 (20 ≤ C < 100) Skin Corr. 1A, H314 (65 ≤ C < 99) Ox. Liq. 3, H272 (99 ≤ C < 100) Ox. Liq. 2, H272

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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

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	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

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.
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5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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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.
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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. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.
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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".
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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. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
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

Storage conditions : Store in corrosive resistant container with a resistant inner liner. Keep only in original container. Store locked up. Store in a well-ventilated place. Keep cool.
Incompatible materials : Metals.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

nitric acid (7697-37-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Nitric acid
IOEL STEL	2,6 mg/m ³ 2,6 mg/m ³
IOEL STEL [ppm]	1 ppm 1 ppm
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC COMMISSION DIRECTIVE 2006/15/EC
Albania - Occupational Exposure Limits	
Local name	Acid nitrik
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 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"

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nitric acid (7697-37-2)	
Austria - Occupational Exposure Limits	
Local name	Salpetersäure
MAK (OEL STEL)	2,6 mg/m ³ (Mow)
MAK (OEL STEL) [ppm]	1 ppm (Mow)
OEL C	2,6 mg/m ³
OEL C [ppm]	1 ppm
Regulatory reference	BGBI. II Nr. 156/2021 BGBI. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Acide nitrique # Salpeterzuur
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Bulgaria - Occupational Exposure Limits	
Local name	Азотна киселина
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 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	Dušična kiselina
KGVI (OEL STEL)	2,6 mg/m ³
KGVI (OEL STEL) [ppm]	1 ppm
Remark	Direktiva: 2006/15/EZ
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Cyprus - Occupational Exposure Limits	
Local name	Νιτρικό οξύ
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Regulatory reference	Κανονισμοί του 2007 (Κ.Δ.Π. 295/2007)
Czech Republic - Occupational Exposure Limits	
Local name	Kyselina dusičná
PEL (OEL TWA)	1 mg/m ³
PEL (OEL TWA) [ppm]	0,4 ppm

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nitric acid (7697-37-2)	
NPK-P (OEL C)	2,5 mg/m ³
NPK-P (OEL C) [ppm]	1 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	Salpetersyre
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi); S (betyder, at grænseværdien ikke bør overskrides. Værdien gælder for en eksponeringsperiode på 15 minutter)
Regulatory reference	BEK nr 2203 af 29. november 2021
Estonia - Occupational Exposure Limits	
Local name	Lämmastikhape
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 15.05.2021, 1)
Finland - Occupational Exposure Limits	
Local name	Typpihappo
HTP (OEL TWA) [1]	1,3 mg/m ³
HTP (OEL TWA) [2]	0,5 ppm
HTP (OEL STEL)	2,6 mg/m ³
HTP (OEL STEL) [ppm]	1 ppm
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveystieteiden ministeriö)
France - Occupational Exposure Limits	
Local name	Acide nitrique
VLE (OEL C/STEL)	2,6 mg/m ³
VLE (OEL C/STEL) [ppm]	1 ppm
Remark	Valeurs réglementaires indicatives
Regulatory reference	Arrêté du 30 juin 2004 modifié (réf.: INRS ED 984, 2016)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Salpetersäure
AGW (OEL TWA) [1]	2,6 mg/m ³
AGW (OEL TWA) [2]	1 ppm
Remark	EU - Europäische Union (Von der EU wurde ein Luftgrenzwert festgelegt: Abweichungen bei Wert und Spitzenbegrenzung sind möglich); 13 - Eine Begründung für die Ableitung eines gesundheitsbasierten AGW liegt nicht vor; 16 - Der Arbeitsplatzgrenzwert ist nur als Kurzzeitwert festgelegt. Die betriebliche Überwachung soll durch messtechnische Mittelwertbildung über 15 Minuten erfolgen, z.B. durch eine 15-minütige Probenahme

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Regulatory reference	TRGS900
Gibraltar - Occupational Exposure Limits	
Local name	Nitric acid
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
Greece - Occupational Exposure Limits	
Local name	Νιτρικό οξύ
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Regulatory reference	Π.Δ. 162/2007 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Hungary - Occupational Exposure Limits	
Local name	SALÉTRÓMSAV
CK (OEL STEL)	2,6 mg/m ³
Remark	i (ingerlő anyag, amely izgatja a bőrt, nyálkahártyát, szemet vagy mindhármát), m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármát); EU2 (2006/15/EK irányelvben közölt érték)
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	Nitric acid
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
Italy - Occupational Exposure Limits	
Local name	Acido nitrico
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.
Latvia - Occupational Exposure Limits	
Local name	Slāpekšķābe
OEL TWA	2 mg/m ³
OEL TWA [ppm]	0,78 ppm
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325

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nitric acid (7697-37-2)	
Lithuania - Occupational Exposure Limits	
Local name	Nitrato rūgštis (azoto rūgštis)
TPRV (OEL STEL)	2,6 mg/m ³
TPRV (OEL STEL) [ppm]	1 ppm
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Luxembourg - Occupational Exposure Limits	
Local name	Acide nitrique
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 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
Malta - Occupational Exposure Limits	
Local name	Nitric acid
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Regulatory reference	S.L.424.24 - Chemical Agents at Work Regulations (L.N.356 of 2021)
Netherlands - Occupational Exposure Limits	
Local name	Salpeterzuur
TGG-15min (OEL STEL)	1,3 mg/m ³
TGG-15min (OEL STEL) [ppm]	0,5 ppm (Salpeterzuur; Netherlands; Short time value; Public occupational exposure limit value)
Regulatory reference	Arbeidsomstandighedenregeling 2022
Poland - Occupational Exposure Limits	
Local name	Kwas azotowy (V)
NDS (OEL TWA)	1,4 mg/m ³
NDSch (OEL STEL)	2,6 mg/m ³
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Occupational Exposure Limits	
Local name	Ácido nítrico
OEL TWA [ppm]	2 ppm
OEL STEL [ppm]	4 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Acid nitric/Acid azotic
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)

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nitric acid (7697-37-2)	
Serbia - Occupational Exposure Limits	
Local name	азотна киселина
OEL STEL	3 mg/m ³
OEL STEL [ppm]	1 ppm
Remark	ЕУ** – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2006/15/ЕЗ (друга 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	Kyselina dusičná
NPHV (OEL STEL)	2,6 mg/m ³
NPHV (OEL STEL) [ppm]	1 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	dušikova kislina
OEL TWA	2,6 mg/m ³
OEL TWA [ppm]	1 ppm
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Remark	EU
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
Spain - Occupational Exposure Limits	
Local name	Ácido nítrico
VLA-EC (OEL STEL)	2,6 mg/m ³
VLA-EC (OEL STEL) [ppm]	1 ppm
Remark	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Sweden - Occupational Exposure Limits	
Local name	Salpetersyra
NGV (OEL TWA)	1,3 mg/m ³
NGV (OEL TWA) [ppm]	0,5 ppm
KTV (OEL STEL)	2,6 mg/m ³
KTV (OEL STEL) [ppm]	1 ppm
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Nitric acid
WEL STEL (OEL STEL)	2,6 mg/m ³

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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nitric acid (7697-37-2)	
WEL STEL (OEL STEL) [ppm]	1 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Saltpéturssýra
OEL STEL	2,6 mg/m ³
OEL STEL [ppm]	1 ppm
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway - Occupational Exposure Limits	
Local name	Salpetersyre
Grenseverdi (OEL TWA) [1]	5 mg/m ³
Grenseverdi (OEL TWA) [2]	2 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	азотна киселина
OEL TWA	2,6 mg/m ³
OEL TWA [ppm]	1 ppm
KTV	1
Short time value [mg/m ³]	2,6 mg/m ³
Short time value [ppm]	1 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 ³ или во ml/m ³ (ppm) а е дадена како многукратни дозволени пречекорувања на граничната вредност; (EU) European Union – гранична вредност, определена на ниво на Европската унија; (*) дополнување на граничната вредност заради донесената Директива на Комисијата 2006/15ES од 7 февруари 2006 за создавање на втора листа на индикативни гранични вредности за професионална изложеност според директивата 98/24/ЕС и за измените на директивата 91/322/ЕЕС и директивата 2000/39/ ЕС (Сл. весник бр. 38 од ден 9.2.2006, стр. 36)
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)
Switzerland - Occupational Exposure Limits	
Local name	Acide nitrique / Salpetersäure
MAK (OEL TWA) [1]	5 mg/m ³
MAK (OEL TWA) [2]	2 ppm

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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nitric acid (7697-37-2)	
KZGW (OEL STEL)	5 mg/m ³
KZGW (OEL STEL) [ppm]	2 ppm
Critical toxicity	VRS, Yeux, Dent / OAW, Auge, Zahn
Remark	NIOSH, OSHA
Regulatory reference	www.suva.ch, 28.03.2022
USA - ACGIH - Occupational Exposure Limits	
Local name	Nitric acid
ACGIH OEL TWA [ppm]	2 ppm
ACGIH OEL STEL [ppm]	4 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr; dental erosion
Regulatory reference	ACGIH 2022
hydrochloric acid (7647-01-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Hydrogen chloride
IOEL TWA	8 mg/m ³
IOEL TWA [ppm]	5 ppm
IOEL STEL	15 mg/m ³
IOEL STEL [ppm]	10 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Belgium - Occupational Exposure Limits	
Local name	Hydrogène (chlorure d') # Waterstofchloride
OEL TWA	8 mg/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
OEL STEL [ppm]	10 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Bulgaria - Occupational Exposure Limits	
Local name	Хлороводород
OEL TWA	8 mg/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
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.)

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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hydrochloric acid (7647-01-0)	
Croatia - Occupational Exposure Limits	
Local name	Vodikov klorid
GVI (OEL TWA) [1]	8 mg/m ³
GVI (OEL TWA) [2]	5 ppm
KGVI (OEL STEL)	15 mg/m ³
KGVI (OEL STEL) [ppm]	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 1/2021)
Czech Republic - Occupational Exposure Limits	
Local name	Chlorovodík
PEL (OEL TWA)	8 mg/m ³
PEL (OEL TWA) [ppm]	5,3 ppm
NPK-P (OEL C)	15 mg/m ³
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 ³
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
OEL TWA	8 mg/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
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 ³
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)

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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hydrochloric acid (7647-01-0)	
VLE (OEL C/STEL)	7,6 mg/m ³
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 ³
AGW (OEL TWA) [2]	2 ppm
Peak exposure limitation factor	2(l)
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 ³
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
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 ³
OEL TWA [ppm]	5 ppm
OEL STEL	7 mg/m ³
OEL STEL [ppm]	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/m ³
CK (OEL STEL)	16 mg/m ³
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)

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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hydrochloric acid (7647-01-0)	
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 [1]	8 mg/m ³
OEL TWA [2]	5 ppm
OEL STEL	15 mg/m ³
OEL STEL [ppm]	10 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
Italy - Occupational Exposure Limits	
Local name	Acido cloridrico
OEL TWA	8 mg/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
OEL STEL [ppm]	10 ppm
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.
Latvia - Occupational Exposure Limits	
Local name	Hlorūdeņradis
OEL TWA	8 mg/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
OEL STEL [ppm]	10 ppm
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325
Lithuania - Occupational Exposure Limits	
Local name	Vandenilio chloridas
IPRV (OEL TWA)	8 mg/m ³
IPRV (OEL TWA) [ppm]	5 ppm
TPRV (OEL STEL)	15 mg/m ³
TPRV (OEL STEL) [ppm]	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/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
OEL STEL [ppm]	10 ppm

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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hydrochloric acid (7647-01-0)	
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
Malta - Occupational Exposure Limits	
Local name	Hydrogen chloride
OEL TWA	8 mg/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
OEL STEL [ppm]	10 ppm
Regulatory reference	S.L.424.24 - Chemical Agents at Work Regulations (L.N.356 of 2021)
Netherlands - Occupational Exposure Limits	
Local name	Zoutzuur
TGG-8u (OEL TWA)	8 mg/m ³
TGG-8u (OEL TWA) [ppm]	5 ppm
TGG-15min (OEL STEL)	15 mg/m ³
TGG-15min (OEL STEL) [ppm]	10 ppm
Regulatory reference	Arbeidsomstandighedenregeling 2022
Poland - Occupational Exposure Limits	
Local name	Chlorowodór
NDS (OEL TWA)	5 mg/m ³
NDSch (OEL STEL)	10 mg/m ³
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Occupational Exposure Limits	
Local name	Ácido clorídrico
OEL C	2 mg/m ³
OEL C [ppm]	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/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
OEL STEL [ppm]	10 ppm
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
Serbia - Occupational Exposure Limits	
Local name	водоник хлорид, хлороводоник
OEL TWA	8 mg/m ³

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hydrochloric acid (7647-01-0)	
OEL TWA [ppm]	5 ppm
OEL STEL	15 mg/m ³
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)
Slovakia - Occupational Exposure Limits	
Local name	Chlorovodík
NPHV (OEL TWA) [1]	8 mg/m ³
NPHV (OEL TWA) [2]	5 ppm
NPHV (OEL STEL)	15 mg/m ³
NPHV (OEL STEL) [ppm]	10 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	vodikov klorid, brezvodni (klorovodik, brezvodni)
OEL TWA	8 mg/m ³
OEL TWA [ppm]	5 ppm
OEL STEL	16 mg/m ³
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
Spain - Occupational Exposure Limits	
Local name	Cloruro de hidrógeno
VLA-ED (OEL TWA) [1]	7,6 mg/m ³
VLA-ED (OEL TWA) [2]	5 ppm
VLA-EC (OEL STEL)	15 mg/m ³
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).
Sweden - Occupational Exposure Limits	
Local name	Saltsyra (Väteklorid)
NGV (OEL TWA)	3 mg/m ³
NGV (OEL TWA) [ppm]	2 ppm
KTV (OEL STEL)	6 mg/m ³

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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hydrochloric acid (7647-01-0)	
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 ³ gas and aerosol mists
WEL TWA (OEL TWA) [2]	1 ppm gas and aerosol mists
WEL STEL (OEL STEL)	8 mg/m ³ 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 ³
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 ³
Grenseverdi (OEL TWA) [2]	5 ppm
Takverdi (OEL C) [1]	7 mg/m ³
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
Switzerland - Occupational Exposure Limits	
Local name	Chlorwasserstoff
MAK (OEL TWA) [1]	3 mg/m ³ 3 mg/m ³
MAK (OEL TWA) [2]	2 ppm 2 ppm
KZGW (OEL STEL)	6 mg/m ³ 6 mg/m ³
KZGW (OEL STEL) [ppm]	4 ppm 4 ppm
Critical toxicity	VRS / OAW
Notation	SS _c / SS _c
Remark	SS _c - OAW ^{KT AN} - DFG, NIOSH, OSHA
Regulatory reference	www.suva.ch, 28.03.2022

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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hydrochloric acid (7647-01-0)	
USA - ACGIH - Occupational Exposure Limits	
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
lithium nitrate (7790-69-4)	
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Lithiumverbindungen, anorganische, mit Ausnahme von Lithium und stärker reizenden Lithiumverbindungen
AGW (OEL TWA) [1]	0,2 mg/m³ (E)
Peak exposure limitation factor	1(I)
Remark	Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden; 10 - Der Arbeitsplatzgrenzwert bezieht sich auf den Elementgehalt des entsprechenden Metalls; DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission)
Regulatory reference	TRGS900
Sweden - Occupational Exposure Limits	
Local name	Litium och föreningar (som Li)
KTV (OEL STEL)	0,02 mg/m³ inhalerbar fraktion
Remark	3 (Med inhalerbar fraktion menas den mängd partiklar, av totalmängden partiklar i luften, som man inandas genom näsa och mun)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
Switzerland - Occupational Exposure Limits	
Local name	Lithium, comp. inorg. De / Lithiumverbindungen, anorganische
MAK (OEL TWA) [1]	0,2 mg/m³ (i) / (e)
KZGW (OEL STEL)	0,2 mg/m³ (i) / (e)
Critical toxicity	VRS, Peau, Yeux / OAW, Haut, Auge
Notation	SS _c / SS _c
Remark	OSHA
Regulatory reference	www.suva.ch, 28.03.2022
ammonium thiocyanate (1762-95-4)	
Bulgaria - Occupational Exposure Limits	
Local name	Амониев сулфоцианид (роданид)
OEL TWA	5 mg/m³
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.)

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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ammonium thiocyanate (1762-95-4)	
Latvia - Occupational Exposure Limits	
Local name	Amonija rodanīds (amonija tiocianāts)
OEL TWA	5 mg/m ³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2011. gada 1. februārī noteikumiem Nr. 92)
germanium dioxide (1310-53-8)	
Bulgaria - Occupational Exposure Limits	
Local name	Германий - оксид
OEL TWA	2 mg/m ³
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.)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	0,85 mg/m ³ (E)
Peak exposure limitation factor	2(II)
Remark	AGS - Ausschuss für Gefahrstoffe; 10 - Der Arbeitsplatzgrenzwert bezieht sich auf den Elementgehalt des entsprechenden Metalls
Regulatory reference	TRGS900
Latvia - Occupational Exposure Limits	
Local name	Germānija dioksīds (germānija (IV) oksīds)
OEL TWA	2 mg/m ³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2011. gada 1. februārī noteikumiem Nr. 92)
Lithuania - Occupational Exposure Limits	
Local name	Germanio oksidas
IPRV (OEL TWA)	2 mg/m ³
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Romania - Occupational Exposure Limits	
Local name	Germaniu
OEL TWA	2 mg/m ³
OEL STEL	5 mg/m ³
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
rhodium trichloride (10049-07-7)	
Belgium - Occupational Exposure Limits	
Local name	Rhodium (composés solubles) (en Rh) # Rhodium (oplosbare verbindingen) (als Rh)
OEL TWA	0,01 mg/m ³
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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rhodium trichloride (10049-07-7)	
Croatia - Occupational Exposure Limits	
Local name	Rodij (kao Rh)
GVI (OEL TWA) [1]	0,1 mg/m ³ dim i prašina metala 0,001 mg/m ³ topivi spojevi
KGVI (OEL STEL)	0,3 mg/m ³ dim i prašina metala 0,003 mg/m ³ topivi spojevi
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Denmark - Occupational Exposure Limits	
Local name	Rhodiumforbindelser, opløselige
OEL TWA [1]	0,001 mg/m ³ beregnet som Rh
Regulatory reference	BEK nr 1054 af 28/06/2022
Finland - Occupational Exposure Limits	
Local name	Rodium, metallihuurut ja -pöly
HTP (OEL TWA) [1]	0,1 mg/m ³ Rh
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveystieteiden ministeriö)
France - Occupational Exposure Limits	
Local name	Rhodium (métal)
VME (OEL TWA)	1 mg/m ³
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
Greece - Occupational Exposure Limits	
Local name	Ρόδιο
OEL TWA	0,1 mg/m ³
OEL STEL	0,3 mg/m ³
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Ireland - Occupational Exposure Limits	
Local name	Rhodium (as Rh)
OEL TWA [1]	0,1 mg/m ³ metal fume and dust 0,001 mg/m ³ soluble salts
OEL STEL	0,3 mg/m ³ metal fume and dust 0,003 mg/m ³ soluble salts
Regulatory reference	Chemical Agents Code of Practice 2021
Portugal - Occupational Exposure Limits	
Local name	Ródio
OEL TWA	1 mg/m ³ Metal e compostos insolúveis, expresso em Rh 0,01 mg/m ³ Compostos solúveis, expresso em Rh
Remark	A4 (Agente não classificável como carcinogénico no Homem)

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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rhodium trichloride (10049-07-7)	
Regulatory reference	Norma Portuguesa NP 1796:2014
Spain - Occupational Exposure Limits	
Local name	Rodio metal
VLA-ED (OEL TWA) [1]	1 mg/m ³
Remark	c (Los términos "soluble" e "insoluble" se entienden con referencia al agua).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
United Kingdom - Occupational Exposure Limits	
Local name	Rhodium
WEL TWA (OEL TWA) [1]	0,1 mg/m ³ metal fume and dust (as Rh) 0,001 mg/m ³ soluble salts (as Rh)
WEL STEL (OEL STEL)	0,3 mg/m ³ metal fume and dust (as Rh) 0,003 mg/m ³ soluble salts (as Rh)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Ródíum, duft, ryk og reykur, sem Rh
OEL TWA	0,1 mg/m ³
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway - Occupational Exposure Limits	
Local name	Rhodium
Grenseverdi (OEL TWA) [1]	0,1 mg/m ³
Regulatory reference	FOR-2021-06-28-2248
Switzerland - Occupational Exposure Limits	
Local name	Rhodium, sels solubles / Rhodiumsalze (löslich)
MAK (OEL TWA) [1]	0,001 mg/m ³ (i) / (e)
Critical toxicity	Asthme / Asthma
Remark	OSHA
Regulatory reference	www.suva.ch, 01.01.2023
USA - ACGIH - Occupational Exposure Limits	
Local name	Rhodium, soluble compounds, as Rh
ACGIH OEL TWA	0,01 mg/m ³ (Rhodium, Soluble compounds, as Rh; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Remark (ACGIH)	TLV® Basis: Asthma. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2023
indium(III) nitrate, pentahydrate (13465-14-0)	
Austria - Occupational Exposure Limits	
Local name	Indium und seine Verbindungen
MAK (OEL TWA)	0,1 mg/m ³

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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indium(III) nitrate, pentahydrate (13465-14-0)	
MAK (OEL STEL)	0,2 mg/m ³
Regulatory reference	BGBI. II Nr. 156/2021 BGBI. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Indium et composés (en In) # Indium en -verbindingen (als In)
OEL TWA	0,1 mg/m ³
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Croatia - Occupational Exposure Limits	
Local name	Indij i spojevi (kao In)
GVI (OEL TWA) [1]	0,1 mg/m ³
KGVI (OEL STEL)	0,3 mg/m ³
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Denmark - Occupational Exposure Limits	
Local name	Indium, pulver, støv og forbindelser
OEL TWA [1]	0,1 mg/m ³ beregnet som In
Regulatory reference	BEK nr 2203 af 29. november 2021
Finland - Occupational Exposure Limits	
Local name	Indium, metalli
HTP (OEL TWA) [1]	0,1 mg/m ³
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Indium
AGW (OEL TWA) [1]	0,0001 mg/m ³ (A)
Peak exposure limitation factor	8(II)
Remark	AGS - Ausschuss für Gefahrstoffe; 10 - Der Arbeitsplatzgrenzwert bezieht sich auf den Elementgehalt des entsprechenden Metalls
Regulatory reference	TRGS900
Greece - Occupational Exposure Limits	
Local name	Ινδίο και ενώσεις του (ως In)
OEL TWA	1 mg/m ³
OEL STEL	1 mg/m ³
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Ireland - Occupational Exposure Limits	
Local name	Indium & Compounds (as In)
OEL TWA [1]	0,1 mg/m ³
OEL STEL	0,3 mg/m ³

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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indium(III) nitrate, pentahydrate (13465-14-0)	
Regulatory reference	Chemical Agents Code of Practice 2021
Lithuania - Occupational Exposure Limits	
Local name	Indis
IPRV (OEL TWA)	0,1 mg/m ³ (ir neorganiniai jo junginiai); (kaip In)
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Portugal - Occupational Exposure Limits	
Local name	Índio e compostos, expressos em In
OEL TWA	0,1 mg/m ³
Regulatory reference	Norma Portuguesa NP 1796:2014
Slovenia - Occupational Exposure Limits	
Local name	indij in njegove spojine
OEL TWA	0,1 mg/m ³
OEL STEL	0,0008 mg/m ³
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
Spain - Occupational Exposure Limits	
Local name	Compuestos de indio
VLA-ED (OEL TWA) [1]	0,1 mg/m ³ como In
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Sweden - Occupational Exposure Limits	
Local name	Indium och oorg föreningar (som In)
NGV (OEL TWA)	0,1 mg/m ³ totaldamm
Remark	3 (Med totaldamm menas de partiklar (aerosoler) som fastnar på ett filter i den provtagare som beskrivs i Metodserien, Provtagnings av totaldamm och respirabelt damm, Metod nr 1010, Arbetarskyddsstyrelsen, numera Arbetsmiljöverket. Filterdiametern är normalt 37 mm, men kan även vara 25 mm. Trots sitt namn provtas inte den totala mängden luftburna partiklar med denna metod)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Indium
WEL TWA (OEL TWA) [1]	0,1 mg/m ³ and compounds (as In)
WEL STEL (OEL STEL)	0,3 mg/m ³ and compounds (as In)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Índíum, duft, ryk og bindiefni, sem In
OEL TWA	0,1 mg/m ³
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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Indium(III) nitrate, pentahydrate (13465-14-0)	
Norway - Occupational Exposure Limits	
Local name	Indium og Indiumforb. (beregnet som In)
Grenseverdi (OEL TWA) [1]	0,1 mg/m ³
Regulatory reference	FOR-2021-06-28-2248
North Macedonia - Occupational Exposure Limits	
Local name	индиум и негови соединенија
OEL TWA	0,1 mg/m ³ (l) инхалабилна фракција – дел на вкупно суспендирани материји, кои работникот ги вдишува
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)
Switzerland - Occupational Exposure Limits	
Local name	Indium und seine Verbindungen (als In berechnet)
MAK (OEL TWA) [1]	0,1 mg/m ³
Critical toxicity	Poumons, Dent / Lunge, Zahn
Remark	e(mg/m ³) - Lunge, Zahn - NIOSH, OSHA
Regulatory reference	www.suva.ch, 28.03.2022
USA - ACGIH - Occupational Exposure Limits	
Local name	Indium and compounds, as In
ACGIH OEL TWA	0,1 mg/m ³
Remark (ACGIH)	Pulm edema; pneumonitis
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.

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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Personal protective equipment symbol(s):



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:

In case of insufficient ventilation, wear suitable respiratory equipment

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	: 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	: Not available
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	: 1,06
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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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

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

metals.

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

nitric acid (7697-37-2)	
LC50 Inhalation - Rat	> 2,65 mg/L air
lithium nitrate (7790-69-4)	
LD50 oral rat	1426 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight
LC50 Inhalation - Rat	> 5,93 mg/l/4h
ammonium thiocyanate (1762-95-4)	
LD50 oral rat	750 mg/kg
LD50 oral	508 mg/kg Japanese quail (Coturnix coturnix faponica)
LD50 dermal rat	> 2000 mg/kg
LC50 Inhalation - Rat	232 mg/kg

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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germanium dioxide (1310-53-8)	
LD50 oral rat	> 2000 mg/kg bodyweight
LC50 Inhalation - Rat	1,42 mg/l/4h
rhodium trichloride (10049-07-7)	
LD50 oral rat	1302 mg/kg
indium(III) nitrate, pentahydrate (13465-14-0)	
LD50 oral rat	> 2000 mg/kg
Skin corrosion/irritation	: Causes severe skin burns.
nitric acid (7697-37-2)	
pH	< 1
hydrochloric acid (7647-01-0)	
pH	< 1
ammonium thiocyanate (1762-95-4)	
pH	4,8 (20.1 °C : 1070 g/L)
Serious eye damage/irritation	: Causes serious eye damage.
nitric acid (7697-37-2)	
pH	< 1
hydrochloric acid (7647-01-0)	
pH	< 1
ammonium thiocyanate (1762-95-4)	
pH	4,8 (20.1 °C : 1070 g/L)
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
nitric acid (7697-37-2)	
NOAEL (oral, rat, 90 days)	1500 mg/kg bodyweight
NOAEC (inhalation, rat, gas, 90 days)	2,15 ppm
ammonium thiocyanate (1762-95-4)	
NOAEL (oral, rat, 90 days)	20 mg/kg bodyweight
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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germanium dioxide (1310-53-8)	
LOAEL (oral, rat, 90 days)	37,5 mg/kg bodyweight
STOT-repeated exposure	May cause damage to organs (kidneys) through prolonged or repeated exposure (inhalation, oral).

Aspiration hazard : Not classified

nitric acid (7697-37-2)	
Viscosity, kinematic	0,595 mm ² /s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.
 Hazardous to the aquatic environment, short-term (acute) : Not classified
 Hazardous to the aquatic environment, long-term (chronic) : Not classified

nitric acid (7697-37-2)	
EC50 - Crustacea [1]	180 mg/l Daphnia magna (Water flea)
Threshold limit - Algae [1]	> 19 mg/l

lithium nitrate (7790-69-4)	
LC50 - Fish [1]	158 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 - Crustacea [1]	249 mg/l Daphnia magna (Water flea)
LOEC (chronic)	2,53 mg/l Daphnia magna (Water flea)
NOEC (chronic)	1,7 mg/l Daphnia magna (Water flea)

ammonium thiocyanate (1762-95-4)	
LC50 - Fish [1]	65 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 - Crustacea [1]	3,56 mg/l Daphnia magna (Water flea)
EC50 72h - Algae [1]	116 mg/l Pseudokirchneriella subcapitata
LOEC (chronic)	2,5 mg/l Daphnia magna (Water flea)
NOEC (chronic)	1,25 mg/l Daphnia magna (Water flea)
NOEC chronic fish	1,84 mg/l Pimephales promelas (Fathead minnow)

germanium dioxide (1310-53-8)	
LC50 - Fish [1]	103,5 mg/l Brachydanio rerio (zebra-fish)
EC50 - Crustacea [1]	67,5 mg/l Daphnia magna (Water flea)
EC50 72h - Algae [1]	0,206 mg/l Navicula pelliculosa
NOEC chronic algae	0,1 mg/l Navicula pelliculosa

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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12.2. Persistence and degradability

ammonium thiocyanate (1762-95-4)

Persistence and degradability	Readily biodegradable in water. Biodegradable in soil.
Biochemical oxygen demand (BOD)	< 0,01 g O ₂ /g substance
Chemical oxygen demand (COD)	0,8545 g O ₂ /g substance

12.3. Bioaccumulative potential

nitric acid (7697-37-2)

Partition coefficient n-octanol/water (Log Pow)	-2,3
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lithium nitrate (7790-69-4)

Partition coefficient n-octanol/water (Log Pow)	-0,79
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ammonium thiocyanate (1762-95-4)

Partition coefficient n-octanol/water (Log Pow)	-2,29 (calculated value)
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

12.4. Mobility in soil

lithium nitrate (7790-69-4)

Mobility in soil	13,22
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12.5. Results of PBT and vPvB assessment

Component

nitric acid (7697-37-2)	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
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
lithium nitrate (7790-69-4)	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
ammonium thiocyanate (1762-95-4)	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
germanium dioxide (1310-53-8)	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
rhodium trichloride (10049-07-7)	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
indium(III) nitrate, pentahydrate (13465-14-0)	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

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 2031	UN 2031	UN 2031	UN 2031	UN 2031
14.2. UN proper shipping name				
NITRIC ACID	NITRIC ACID	Nitric acid	NITRIC ACID	NITRIC ACID
Transport document description				
UN 2031 NITRIC ACID, 8, II, (E)	UN 2031 NITRIC ACID, 8, II	UN 2031 Nitric acid, 8, II	UN 2031 NITRIC ACID, 8, II	UN 2031 NITRIC ACID, 8, II
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR) : C1
 Limited quantities (ADR) : 1I
 Excepted quantities (ADR) : E2
 Packing instructions (ADR) : P001, IBC02
 Special packing provisions (ADR) : PP81, B15
 Mixed packing provisions (ADR) : MP15
 Portable tank and bulk container instructions (ADR) : T8
 Portable tank and bulk container special provisions (ADR) : TP2
 Tank code (ADR) : L4BN
 Vehicle for tank carriage : AT
 Transport category (ADR) : 2
 Hazard identification number (Kemler No.) : 80

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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Orange plates



Tunnel restriction code (ADR) : E
EAC code : 2P
APP code : B

Transport by sea

Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
Special packing provisions (IMDG) : PP81
IBC packing instructions (IMDG) : IBC02
IBC special provisions (IMDG) : B15, B20
Tank instructions (IMDG) : T8
Tank special provisions (IMDG) : TP2
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Stowage category (IMDG) : D
Segregation (IMDG) : SG6, SG16, SG17, SG19

Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y840
PCA limited quantity max net quantity (IATA) : 0.5L
PCA packing instructions (IATA) : 851
PCA max net quantity (IATA) : 1L
CAO packing instructions (IATA) : 855
CAO max net quantity (IATA) : 30L
ERG code (IATA) : 8L

Inland waterway transport

Classification code (ADN) : C1
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : C1
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02
Special packing provisions (RID) : PP81, B15
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T8
Portable tank and bulk container special provisions (RID) : TP2
Tank codes for RID tanks (RID) : L4BN
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE6
Hazard identification number (RID) : 80

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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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(a)	nitric 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 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F
3(b)	Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525 ; nitric acid ; 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
65.	ammonium thiocyanate	Inorganic ammonium salts

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 substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

ANNEX I RESTRICTED EXPLOSIVES PRECURSORS

List of substances which shall not be made available to, or introduced, possessed or used by, members of the general public, whether on their own or in mixtures or substances that include those substances, unless the concentration is equal to or lower than the limit values set out in column 2, and for which suspicious transactions and significant disappearances and thefts are to be reported to the relevant national contact point within 24 hours.

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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Name	CAS-No.	Limit value	Upper limit value for licensing under Article 5(3)	Combined Nomenclature (CN) code for a separate chemically defined compound meeting the requirements of Note 1 to Chapter 28 or 29 of the CN, respectively	Combined Nomenclature code for mixture without constituents which would determine classification under another CN code
Nitric acid	7697-37-2	3 % w/w	10% w/w	ex 2808 00 00	ex 3824 99 96

Please see https://home-affairs.ec.europa.eu/policies/internal-security/counter-terrorism-and-radicalisation/protection/legislation-chemicals-used-home-made-explosives_en

Drug Precursors Regulation (273/2004)

Contains no 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)

15.1.2. National regulations

France

Occupational diseases	
Code	Description
RG 66	Occupational rhinitis and asthma

Germany

Water hazard class (WGK)

Storage class (LGK, TRGS 510)

Joint storage table

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

: LGK 8B - Non-combustible corrosive substances.

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

Joint storage with restrictions permitted for

Joint storage permitted for

: LGK 1, LGK 5.1A, LGK 5.2, LGK 6.2, LGK 7.

: LGK 4.1A, LGK 4.2, LGK 4.3, LGK 5.1C.

: LGK 2A, LGK 2B, LGK 3, LGK 4.1B, LGK 5.1B, 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

SZW-lijst van kankerverwekkende stoffen

SZW-lijst van mutagene stoffen

SZW-lijst van reprotoxische stoffen – Borstvoeding

SZW-lijst van reprotoxische stoffen –

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling

: B(4) - low hazard for aquatic organisms

: lithium nitrate is listed

: lithium nitrate is listed

: None of the components are listed

: None of the components are listed

: None of the components are listed

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 the product

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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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	
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	
8.2	Personal protective equipment	Modified	
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

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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Abbreviations and acronyms:	
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
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:	
Acute Tox. 1 (Inhalation)	Acute toxicity (inhal.), Category 1
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.

Internal standard mix for ICP-MS systems - 8 components; 10ug/ml each of 6Li ; Sc ; Ge ; Rh ; In ; Tb ; Lu ; Bi in HNO3 10% /tr HCl Equivalent to Agilent Ref: 5188-6525

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Full text of H- and EUH-statements:	
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
Met. Corr. 1	Corrosive to metals, Category 1
Ox. Liq. 2	Oxidising Liquids, Category 2
Ox. Liq. 3	Oxidising Liquids, Category 3
Ox. Sol. 2	Oxidising Solids, Category 2
Ox. Sol. 3	Oxidising Solids, Category 3
Repr. 2	Reproductive toxicity, Category 2
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 RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Met. Corr. 1	H290	On basis of test data
Skin Corr. 1B	H314	Calculation method
Eye Dam. 1	H318	Calculation method

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.