

Safety Data Sheet

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

Reference number: EQ0110

Issue date: 07.09.2016 Revision date: 21.08.2023 Supersedes version of: 26.12.2017 Version: 1.2

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

1.1. Product identifier

Product form : Mixture
Product name : Mercury In Water Hg 1.557mg/kg in HNO3 2% Equivalent to NIST Ref: 1641d
Product code : EQ0110

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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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]

Skin corrosion/irritation, Category 2 H315

Serious eye damage/eye irritation, Category 2 H319

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

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Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye irritation.

2.2. Label elements

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

Hazard pictograms (CLP)



GHS07

Signal word (CLP)

: Warning

Contains

: nitric acid; mercury nitrate

Hazard statements (CLP)

: H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

Precautionary statements (CLP)

: P264 - Wash hands, forearms and face thoroughly after handling.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P337+P313 - If eye irritation persists: Get medical advice/attention.

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
mercury nitrate (10045-94-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
nitric acid substance with national workplace exposure limit(s) (AT, 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, 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	1 – 5	Ox. Liq. 2, H272 Met. Corr. 1, H290 Acute Tox. 1 (Inhalation), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318
mercury nitrate substance with national workplace exposure limit(s) (AT, BE, BG, CZ, DE, DK, ES, FI, FR, GB, GI, GR, HR, HU, IE, LV, MT, NL, PL, PT, RO, SE, SI, SK, IS, NO, RS, CH); substance with a Community workplace exposure limit	CAS-No.: 10045-94-0 EC-No.: 233-152-3 EC Index-No.: 080-002-00-6	< 0,05	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 STOT RE 2, H373 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410

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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
mercury nitrate	CAS-No.: 10045-94-0 EC-No.: 233-152-3 EC Index-No.: 080-002-00-6	(0,1 ≤ C ≤ 100) STOT RE 2, H373

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. 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.

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

Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.

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.
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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. 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 a well-ventilated place. Keep cool.

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 SHËNDËTIT TË PUNËMARRËSVE NGA RISQET E LIDHURA ME AGJENTËT KIMIKË NË PUNË"
Austria - Occupational Exposure Limits	
Local name	Salpetersäure
MAK (OEL STEL)	2,6 mg/m ³ (Mow)

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nitric acid (7697-37-2)	
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, граниčnim vrijednostima izloženosti i biološkim граниčnim 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
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.)

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nitric acid (7697-37-2)	
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
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)

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nitric acid (7697-37-2)	
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	SALÉTRÓMSÁV
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	Slāpek skābe
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
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

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nitric acid (7697-37-2)	
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)
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)

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nitric acid (7697-37-2)	
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
WEL STEL (OEL STEL) [ppm]	1 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Saltþéurssýra
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)

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nitric acid (7697-37-2)	
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
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

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nitric acid (7697-37-2)	
Remark (ACGIH)	TLV® Basis: URT & eye irr; dental erosion
Regulatory reference	ACGIH 2022
mercury nitrate (10045-94-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Mercury
IOEL TWA	0,02 mg/m ³ (Mercury, divalent inorganic compounds; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Regulatory reference	COMMISSION DIRECTIVE 2009/161/EU
EU - Biological Limit Value (BLV)	
Local name	Mercury and inorganic divalent mercury compounds
BLV	10 µg/l Parameter: Hg - Medium: blood 30 µg/g creatinine Parameter: Hg - Medium: urine
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs
Austria - Occupational Exposure Limits	
Local name	Quecksilber und anorganische Quecksilberverbindungen
MAK (OEL TWA)	0,02 mg/m ³
MAK (OEL STEL)	0,08 mg/m ³
Remark	H,Sh
Regulatory reference	BGBl. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Mercure (composés alkylés) (en Hg) # Kwik (alkylverbindingen) (als Hg)
OEL TWA	2 mg/m ³ (Mercure et composés inorganiques bivalents du mercure, y compris l'oxyde de mercure et le chlorure mercurique (mesurés comme mercure) (8); Belgium; Time-weighted average exposure limit 8 h)
OEL STEL	0,03 mg/m ³
Remark	D: La mention D signifie que la résorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l'agent dans l'air. # De vermelding D betekent dat de opname van het agens via de huid, de slijmvliezen of de ogen een belangrijk deel van de totale blootstelling vormt. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Bulgaria - Occupational Exposure Limits	
Local name	Живак
OEL TWA	0,02 mg/m ³ Живак и двувалентни неорганични живачни съединения, включително живачен окис и живачен хлорид (измерени като живак) 0,05 mg/m ³ Пари на метала в елементно състояние 0,1 mg/m ³ Неорганични и арилни съединения 0,01 mg/m ³ Органични и алкилни съединения
Remark	(1) По време на наблюдение на експозицията на живак и двувалентни неорганични съединения следва да се вземат под внимание съответните методи за биологично наблюдение, допълващи индикативните гранични стойности за професионална експозиция; • (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)

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mercury nitrate (10045-94-0)	
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.)
Bulgaria - Biological limit values	
Local name	Живак, пари на метала в елементно състояние
BLV	100 µg/l Биомаркер за експозиция/биомаркер за ефект: живак - Биологична среда: урина - Време на пробовземане: Не се фиксира - Специфични ефекти: Няма
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	Živa anorganski spojevi (kao Hg)
GVI (OEL TWA) [1]	0,05 mg/m ³
Remark	T (otrovno); N (opasno za okoliš)
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, граничним vrijednostima izloženosti i biološkim граничним vrijednostima (NN 1/2021)
Croatia - Biological limit values	
Local name	Živa (elementarna i anorganski spojevi dvovalentne žive)
BLV	0,05 µmol/l Karakteristični pokazatelj: živa - Biološki uzorak: krv - Vrijeme uzorkovanja: nije kritično 10 µg/l Karakteristični pokazatelj: živa - Biološki uzorak: krv - Vrijeme uzorkovanja: nije kritično 16,9 µmol/mol creatinine Karakteristični pokazatelj: živa - Biološki uzorak: mokraća - Vrijeme uzorkovanja: jednokratni uzorak ili mokraća skupljen tijekom 24 sata 30 µg/g creatinine Karakteristični pokazatelj: živa - Biološki uzorak: mokraća - Vrijeme uzorkovanja: jednokratni uzorak ili mokraća skupljen tijekom 24 sata
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, граничним vrijednostima izloženosti i biološkim граничним vrijednostima (NN 91/2018)
Czech Republic - Occupational Exposure Limits	
Local name	Rtu
PEL (OEL TWA)	0,05 mg/m ³
PEL (OEL TWA) [ppm]	0,006 ppm
NPK-P (OEL C)	0,15 mg/m ³
NPK-P (OEL C) [ppm]	0,018 ppm
Remark	B - u látky je zaveden biologický expoziční test (BET) v moči nebo krvi, D - při expozici se významně uplatňuje pronikání faktoru kůží, T - toxický pro reprodukci kategorie 1A a 1B (s větou H360 včetně příslušných kódů). (5) Při kontrole expozice rtuti a anorganických sločenin dvojmocné rtuti se přihlíží k příslušným biologickým expozičním testům, které doplňují směrné limitní hodnoty expozice na pracovišti.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
Czech Republic - Biological limit values	
Local name	Rtuť
BLV	0,1 mg/g creatinine Ukazatel: Rtuť - Biologický vzorek: moči - Doba odběru: nerozhoduje 0,056 µmol/mmol Creatinine Ukazatel: Rtuť - Biologický vzorek: moči - Doba odběru: nerozhoduje

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mercury nitrate (10045-94-0)	
Regulatory reference	Vyhláška č. 107/2013 Sb. (kterou se mění vyhláška č. 432/2003 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Kviksølv og uorganiske forbindelser inkl. dampe
OEL TWA [1]	0,02 mg/m ³ beregnet som Hg
Remark	H (betyder, at stoffet kan optages gennem huden)
Regulatory reference	BEK nr 2203 af 29. november 2021
Finland - Occupational Exposure Limits	
Local name	Elohopea-(II)-nitraatti
HTP (OEL TWA) [1]	0,02 mg/m ³ Hg
Remark	Iho, melu
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
Finland - Biological limit values	
Local name	Elohopea-(II)-nitraatti
BLV	50 nmol/l Parametri: Veren epäorgaaninen elohopea - Näytteenottoajankohta: Työviikon lopulla. Vuorokaudenajalla ei merkitystä. 140 nmol/l Parametri: Virtsan elohopea - Näytteenottoajankohta: Työpäivän jälkeinen aamu työviikon tai altistumisjakson lopulla.
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Mercure, en Hg
VME (OEL TWA)	0,01 mg/m ³ (composés alkylés) 0,1 mg/m ³ (composés arylés et inorganiques)
Remark	Valeurs recommandées/admises; risque de pénétration percutanée
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Quecksilber
AGW (OEL TWA) [1]	0,02 mg/m ³
Peak exposure limitation factor	8(II)
Remark	EU,DFG,,H,Sh
Regulatory reference	TRGS900
Germany - Biological limit values (TRGS 903)	
Local name	Quecksilber, metallisches und seine anorganischen Verbindungen
Biological limit value	25 µg/g creatinine Parameter: Quecksilber - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: a) keine Beschränkung - Festlegung/Begründung: 11/2012 DFG
Remark	30 µg/l Urin
Regulatory reference	TRGS 903
Gibraltar - Occupational Exposure Limits	
Local name	Mercury and divalent inorganic mercury compounds including mercuric oxide and mercuric chloride (measured as mercury)
OEL TWA	0,02 mg/m ³

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mercury nitrate (10045-94-0)	
Remark	During exposure monitoring for mercury and its divalent inorganic compounds, account should be taken of relevant biological monitoring techniques that complement the IOELV
Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
Greece - Occupational Exposure Limits	
Local name	Υδράργυρος και δισθενείς ανόργανες ενώσεις του υδραργύρου, συμπεριλαμβανομένων του οξειδίου του υδραργύρου και του χλωριούχου υδραργύρου (μετρημένες ως υδράργυρος)
OEL TWA	0,1 mg/m ³
Remark	Η ένδειξη «δέρμα» στις οριακές τιμές επαγγελματικής έκθεσης επισημαίνει το ενδεχόμενο σημαντικής διείσδυσης μέσω του δέρματος.
Regulatory reference	Π.Δ. 12/2012 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Hungary - Occupational Exposure Limits	
Local name	HIGANY ÉS SZERVETLEN VEGYÜLETEI*** (Hg-ra számítva)
AK (OEL TWA)	0,02 mg/m ³
Remark	sz (Túlérzékenységet okozó (szenzibilizáló) tulajdonságú anyag. Az anyagra érzékeny egyéneken „túlérzékenységen” alapuló bőr-, légzőrendszeri, esetleg más szervet/szervrendszert károsító megbetegedést okozhat), b (Bőrön át is felszívódik), BEM (biológiai expozíciós mutató); EU3 (2009/161 /EK irányelvben közölt érték); T (Azok az anyagok, amelyek egészségkárosító hatása TARTÓS expozíciót követően jelentkezik)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Hungary - Biological Exposure Indices	
Local name	Higany (szervetlen)
BEI	0,03 mg/g creatinine Biológiai expozíciós (hatás) mutató: higany - Biológiai minta: vizeletben - Mintavétel ideje: n.k. (nem kritikus) 0,017 μmol/mmol Creatinine Biológiai expozíciós (hatás) mutató: higany - Biológiai minta: vizeletben - Mintavétel ideje: n.k. (nem kritikus)
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	Mercury & divalent inorganic mercury compounds
OEL TWA [1]	0,02 mg/m ³
OEL STEL	0,03 mg/m ³
Remark	Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body)
Regulatory reference	Chemical Agents Code of Practice 2021
Latvia - Occupational Exposure Limits	
Local name	Dzīvsudrabsuntā neorganiskie savienojumi(pēc dzīvsudraba)
OEL TWA	0,02 mg/m ³
Remark	letekme uz dzirdi
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2015. gada 7. aprīlī noteikumiem Nr. 163)

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mercury nitrate (10045-94-0)	
Latvia - Biological Exposure Indices	
Local name	Dzīvsudrabam
BEI	10 µg/l Dzīvsudrabam asinīs (references lielums dzīvsudraba koncentrācijai asinīs aroda neekspozētai populācijai < 1µg/l) 30 µg/g creatinine Dzīvsudrabam urīnā (references lielums dzīvsudraba koncentrācijai urīnā < 5 µg Hg/g kreatinīna jeb 3,5 µg/L)
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2021. gada 18. februārī noteikumiem Nr. 110)
Malta - Occupational Exposure Limits	
Local name	Mercury and divalent inorganic mercury compounds including mercuric oxide and mercuric chloride (measured as mercury) # Merkurju u komposti divivalenti inorganīci tal-merkurju inkluži l-mercuric oxide u l-mercuric chloride (mkejllin bħala merkurju)
OEL TWA	0,02 mg/m ³
Remark	During exposure monitoring for mercury and its divalent inorganic compounds, account should be taken of relevant biological monitoring techniques that complement the OELV. # Matul il-monitoraġġ tal-esponiment għall-Merkurju u l-komposti divivalenti inorganīci tiegħu, għandhom jitqiesu t-tekniki bijoloġiċi ta' monitoraġġ li jikkomplementaw l-OELV.
Regulatory reference	S.L.424.24 - Chemical Agents at Work Regulations (L.N.356 of 2021)
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	0,02 mg/m ³ (Kwik en tweewaardige anorganische kwikverbindingen (gemeten als kwik); Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value; als Hg)
Poland - Occupational Exposure Limits	
Local name	Rtęć , pary i jej związki nieorganiczne w przeliczeniu na Hg
NDS (OEL TWA)	0,02 mg/m ³
Remark	Skóra (Oznakowanie substancji notacją „skóra” oznacza, że wchłanianie substancji przez skórę może być tak samo istotne jak przy narażeniu drogą oddechową).
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Occupational Exposure Limits	
OEL TWA	0,1 mg/m ³ 0,025 mg/m ³
OEL STEL	0,03 mg/m ³
Portugal - Biological Exposure Indices	
Local name	Mercúrio
BEI	20 µg/g creatinine Parâmetro: Mercúrio - Meio: urina - Momento da amostragem: Início do turno
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Mercur
OEL TWA	0,05 mg/m ³
OEL STEL	0,15 mg/m ³
Serbia - Occupational Exposure Limits	
Local name	жива и двовалентна неорганска једињења живе

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mercury nitrate (10045-94-0)	
OEL TWA	0 mg/m ³ (мерена као жива)
Remark	током праћења изложености живи и њеним двовалентним неорганским једињењима треба узети у обзир релевантне технике биолошког мониторинга којима се допуњују индикативне граничне вредности. ЕУ*** – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2009/161/ЕУ (трећа 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	Ortuť a bivalentné anorganické zlúčeniny vrátane oxidu ortuťnatého a chloridu ortuťnatého (ako Hg)
NPHV (OEL TWA) [1]	0,1 mg/m ³
Remark	Ortuť je látka s vážnymi kumulatívnymi účinkami, preto je potrebné doplniť monitorovanie ovzdušia zdravotným dohľadom podľa § 12 a prílohy č. 2.
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
Slovakia - Biological limit values	
Local name	Ortuť a anorganické zlúčeniny ortuti
BLV	25 µg/g creatinine Zisťovaný faktor: Ortuť - Vyšetovaný materiál: moč - Čas odberu vzorky: a) žiadne obmedzenie 15 µg/l Zisťovaný faktor: Ortuť - Vyšetovaný materiál: krv - Čas odberu vzorky: c) pri dlhodobej expozícii; po viacerých pracovných zmenách
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (Zmena: 471/2011 Z.z.)
Slovenia - Occupational Exposure Limits	
Local name	Živo srebro
OEL TWA	0,02 mg/m ³
OEL STEL	0,16 mg/m ³
Remark	BAT (Biološka mejna vrednost), K (Lastnost lažjega prehajanja snovi v organizem skozi kožo), EU
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
Slovenia - Biological limit values	
Local name	Živo srebro (elementarno in anorganske spojine)
BLV	0,25 µg/g creatinine Parameter: živo srebro - Biološki vzorec: urin - Čas vzorčenja: ni pomembno 30 µg/l Parameter: živo srebro - Biološki vzorec: urin - Čas vzorčenja: ni pomembno
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
Spain - Occupational Exposure Limits	
Local name	Mercurio
VLA-ED (OEL TWA) [1]	0,02 mg/m ³ elemental 0,02 mg/m ³ Compuestos inorgánicos divalentes de mercurio, como Hg 0,01 mg/m ³ Alquil-compuestos, como Hg 0,1 mg/m ³ Aril-compuestos, como Hg
VLA-EC (OEL STEL)	0,03 mg/m ³ Alquil-compuestos, como Hg

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mercury nitrate (10045-94-0)	
Remark	<p>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), VLB® (Agente químico que tiene Valor Límite Biológico específico en este documento), Hg (El mercurio es una sustancia con efectos sanitarios acumulativos posiblemente graves. En consecuencia, la evaluación de la exposición debería complementarse con una vigilancia sanitaria con control biológico de acuerdo con el artículo 6 del RD 374/2001), s (Esta sustancia tiene prohibida total o parcialmente su comercialización y uso como fitosanitario y/o como biocida. Para una información detallada acerca de las prohibiciones consúltese: Base de datos de productos biocidas: http://www.msssi.gob.es/ciudadanos/productos.do?tipo=plaguicidas Base de datos de productos fitosanitarios http://www.magrama.gob.es/agricultura/pags/fitos/registro/fichas/pdf/Lista_sa.pdf), r (Esta sustancia tiene establecidas restricciones a la fabricación, la comercialización o el uso en los términos especificados en el "Reglamento (CE) nº 1907/2006 sobre Registro, Evaluación, Autorización y Restricción de sustancias y preparados químicos" (REACH) de 18 de diciembre de 2006 (DOUE L 369 de 30 de diciembre de 2006). Las restricciones de una sustancia pueden aplicarse a todos los usos o sólo a usos concretos. El anexo XVII del Reglamento REACH contiene la lista de todas las sustancias restringidas y especifica los usos que se han restringido), TR1B (Cuando las pruebas utilizadas para la clasificación procedan principalmente de datos en animales).</p>
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Spain - Biological limit values	
Local name	Mercurio elemental y compuestos inorgánicos
BLV	<p>30 µg/g creatinine Parámetro: Mercurio inorgánico total - Medio: Orina - Momento de muestreo: Antes de la jornada laboral - Notas: F (Fondo. El indicador está generalmente presente en cantidades detectables en personas no expuestas laboralmente. Estos niveles de fondo están considerados en el valor VLB), M (El consumo de pescado, especialmente de especies de gran tamaño situadas normalmente al final de la cadena trófica, así como de marisco y moluscos bivalvos, puede aumentar considerablemente los niveles sanguíneos de mercurio, como catión de monometilmercurio, y en muy pequeña proporción (menos del 10% del total) los niveles en Orina. Dado que el VLB está definido para mercurio inorgánico total, debe tenerse en cuenta este hecho si el método analítico empleado determina mercurio total, tanto inorgánico como orgánico)</p> <p>10 µg/l Parámetro: Mercurio inorgánico total - Medio: sangre - Momento de muestreo: Final de la semana laboral - Notas: F (Fondo. El indicador está generalmente presente en cantidades detectables en personas no expuestas laboralmente. Estos niveles de fondo están considerados en el valor VLB), M (El consumo de pescado, especialmente de especies de gran tamaño situadas normalmente al final de la cadena trófica, así como de marisco y moluscos bivalvos, puede aumentar considerablemente los niveles sanguíneos de mercurio, como catión de monometilmercurio, y en muy pequeña proporción (menos del 10% del total) los niveles en Orina. Dado que el VLB está definido para mercurio inorgánico total, debe tenerse en cuenta este hecho si el método analítico empleado determina mercurio total, tanto inorgánico como orgánico)</p>
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Sweden - Occupational Exposure Limits	
Local name	Kvicksilver, och oorg. föreningar (som Hg)
NGV (OEL TWA)	0,02 mg/m³ inhalerbart damm

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mercury nitrate (10045-94-0)	
Remark	B (Ämnet kan orsaka hörselskada. Exponering för ämnet nära det befintliga yrkeshygieniska gränsvärdet och vid samtidig exponering för buller nära insatsvärdet 80 dB kan orsaka hörselskada); M (Medicinska kontroller kan krävas för hantering av ämnet. Se vidare föreskrifterna om medicinska kontroller i arbetslivet. För vissa ämnen ska arbetsgivaren erbjuda läkarundersökning och för andra ämnen gäller krav på periodisk läkarundersökning och tjänstbarhetsbedömning); 14 (För bly och kadmium finns biologiska gränsvärden. Även kvicksilver kan mätas biologiskt)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Mercury
WEL TWA (OEL TWA) [1]	0,02 mg/m ³ Mercury divalent inorganic compounds including mercuric oxide and mercuric chloride (measured as mercury); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
United Kingdom - Biological limit values	
Local name	Mercury
BMGV	20 µmol/mol creatinine Parameter: mercury - Medium: urine - Sampling time: Random
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Kvikasilfur og ólfræn sambönd þess, þar með talin gufa sem Hg
OEL TWA	0,025 mg/m ³
Remark	H
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway - Occupational Exposure Limits	
Local name	Kvikksølv og kvikksølvforb. (unntatt alkylforbindelser) (beregnet som Hg)
Grenseverdi (OEL TWA) [1]	0,02 mg/m ³
Remark	A: Kjemikalier som skal betraktes som at de fremkaller allergi eller annen overfølsomhet i øynene eller luftveier, eller som skal betraktes som at de fremkaller allergi ved hudkontakt; E: EU har en veiledende grenseverdi og/eller anmerkning for stoffet.
Regulatory reference	FOR-2021-06-28-2248
Switzerland - Occupational Exposure Limits	
Local name	Quecksilber (Dampf u. Aerosol)
MAK (OEL TWA) [1]	0,05 mg/m ³ 0,01 mg/m ³ 0,02 mg/m ³
MAK (OEL TWA) [2]	0,005 ppm
KZGW (OEL STEL)	0,4 mg/m ³ 0,16 mg/m ³
KZGW (OEL STEL) [ppm]	0,04 ppm
Critical toxicity	Rein, SNC / Niere, ZNS
Notation	R, S, B / H, S, B
Remark	S B - ZNS, Niere - HSE, NIOSH, OSHA

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mercury nitrate (10045-94-0)	
Regulatory reference	www.suva.ch, 28.03.2022
USA - ACGIH - Occupational Exposure Limits	
Local name	Mercury, elemental and inorganic forms, as Hg
ACGIH OEL TWA	0,025 mg/m ³ (Mercury, Inorganic forms, as Hg; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Remark (ACGIH)	TLV® Basis: CNS impair; kidney dam. Notations: Skin; A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	MERCURY, ELEMENTAL
BEI	20 µg/g creatinine Parameter: Mercury - Medium: urine - Sampling time: Prior to shift
Regulatory reference	ACGIH 2019

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

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

Personal protective equipment symbol(s):



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

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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

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.

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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

nitric acid (7697-37-2)

LC50 Inhalation - Rat	> 2,65 mg/L air
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mercury nitrate (10045-94-0)

LD50 oral rat	26 mg/kg
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LD50 dermal rat	75 mg/kg
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Skin corrosion/irritation : Causes skin irritation.

nitric acid (7697-37-2)

pH	< 1
----	-----

Serious eye damage/irritation : Causes serious eye irritation.

nitric acid (7697-37-2)

pH	< 1
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Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

mercury nitrate (10045-94-0)

IARC group	3 - Not classifiable
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Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

nitric acid (7697-37-2)

NOAEL (oral, rat, 90 days)	1500 mg/kg bodyweight
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NOAEC (inhalation, rat, gas, 90 days)	2,15 ppm
---------------------------------------	----------

mercury nitrate (10045-94-0)

STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
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Aspiration hazard : Not classified

nitric acid (7697-37-2)

Viscosity, kinematic	0,595 mm ² /s
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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

nitric acid (7697-37-2)

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

mercury nitrate (10045-94-0)

EC50 - Crustacea [1]	0,0052 mg/l Daphnia magna (Water flea)
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12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

nitric acid (7697-37-2)

Partition coefficient n-octanol/water (Log Pow)	-2,3
-------------------------------------------------	------

mercury nitrate (10045-94-0)

Bioaccumulative potential	bioaccumulable.
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12.4. Mobility in soil

No additional information available

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
mercury nitrate (10045-94-0)	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

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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				
Not dangerous goods in terms of transport regulations				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
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

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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
18.	mercury nitrate	Mercury compounds
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)	Mercury In Water Hg 1.557mg/kg in HNO3 2% Equivalent to NIST Ref: 1641d ; 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 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 substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals): mercury dinitrate (10045-94-0)

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.

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

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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 2	Occupational diseases caused by mercury and its compounds

Germany

Water hazard class (WGK)

: WGK nwg, Non-hazardous to water (Classification according to AwSV, Annex 1).

Storage class (LGK, TRGS 510)

: LGK 12 - Non-combustible liquids.

Joint storage table

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

Joint storage not permitted for

: LGK 1, LGK 6.2, LGK 7.

Joint storage with restrictions permitted for

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

Joint storage permitted for

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

Hazardous Incident Ordinance (12. BImSchV)

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

Netherlands

ABM category

: B(4) - low hazard for aquatic organisms

SZW-lijst van kankerverwekkende stoffen

: None of the components are listed

SZW-lijst van mutagene stoffen

: None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding

: None of the components are listed

SZW-lijst van reprotoxische stoffen –

: None of the components are listed

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling

: None of the components are listed

Denmark

Danish National Regulations

: Pregnant/breastfeeding women working with the product must not be in direct contact with the product

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	

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Indication of changes			
Section	Changed item	Change	Comments
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Added	
2.2	Hazard pictograms (CLP)	Added	
2.2	Precautionary statements (CLP)	Added	
2.2	Hazard statements (CLP)	Added	
2.2	Signal word (CLP)	Added	
7.1	Precautions for safe handling	Modified	
7.1	Hygiene measures	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
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

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Abbreviations and acronyms:	
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 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 1 (Inhalation)	Acute toxicity (inhal.), Category 1
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H300	Fatal if swallowed.
H310	Fatal 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.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
Met. Corr. 1	Corrosive to metals, Category 1
Ox. Liq. 2	Oxidising Liquids, Category 2
Ox. Liq. 3	Oxidising Liquids, Category 3
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

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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

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.