

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
SDS Reference Number: SOL033
Issue date: 29/10/2015 Revision date: 07/01/2025 Supersedes version of: 14/02/2018 Version: 1.3

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

1.1. Product identifier

Product form : Mixture
Product name : Buffer solution - pH 3.7
European Pharmacopoeia (Ph Eur) Ref: 4000900
Product code : SOL033

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

Relevant identified uses

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

1.3. Details of the supplier of the safety data sheet

Spectracer UK Ltd.

20 Seymour Mews,
London,
W1H 6BQ,
United Kingdom.

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

1.4. Emergency telephone number

Country/Area	Organisation/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	112 +356 2545 6508	
United Kingdom	National Poisons Information Service (NHS Direct)	http://www.npis.org	111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland)	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 2 H225
Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2 H319
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Causes skin irritation. Causes serious eye irritation.

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2.2. Label elements

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

Hazard pictograms (CLP)



GHS02

GHS07

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

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 and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	acetic acid (64-19-7), ethanol (64-17-5)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	acetic acid (64-19-7), ethanol (64-17-5)

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethanol substance with national workplace exposure limit(s) (AT, BE, BG, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, LT, LV, NL, PT, RO, SE, SI, SK, IS, NO, MK, CH)	CAS-No.: 64-17-5 EC-No.: 200-578-6 EC Index-No.: 603-002-00-5 REACH-no: 01-2119457610-43-XXXX	50 – 80	Flam. Liq. 2, H225
acetic 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, PL, PT, RO, SE, SK, AL, IS, NO, MK, RS, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 64-19-7 EC-No.: 200-580-7 EC Index-No.: 607-002-00-6 REACH-no: 01-2119475328-30-XXXX	15 – 20	Flam. Liq. 3, H226 Skin Corr. 1A, H314

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Specific concentration limits:		
Name	Product identifier	Specific concentration limits (%)
acetic acid	CAS-No.: 64-19-7 EC-No.: 200-580-7 EC Index-No.: 607-002-00-6 REACH-no: 01-2119475328-30-XXXX	(10 ≤ C < 25) Eye Irrit. 2; H319 (10 ≤ C < 25) Skin Irrit. 2; H315 (25 ≤ C < 90) Skin Corr. 1B; H314 (90 ≤ C < 100) Skin Corr. 1A; H314

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash with plenty of water/.... Wash contaminated clothing before reuse. Get medical advice/attention. Rinse skin with water/shower. Take off immediately all 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.
First-aid measures for first aider	: First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe fume, vapours. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.
Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.
Packaging materials : Store always product in container of same material as original container.

Germany

Storage class (LGK, TRGS 510) : LGK 3 - Flammable 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

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Joint storage not permitted for	: LGK 1, LGK 2A, LGK 4.1A, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1A, LGK 5.1C, LGK 5.2, LGK 6.1B, LGK 6.2, LGK 7
Joint storage with restrictions permitted for	: LGK 5.1B, LGK 6.1D, LGK 11, LGK 10-13
Joint storage permitted for	: LGK 2B, LGK 3, LGK 6.1A, LGK 6.1C, LGK 8A, LGK 8B, LGK 10, LGK 12, LGK 13

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

acetic acid (64-19-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Acetic acid
IOEL TWA	25 mg/m ³
	10 ppm
IOEL STEL	50 mg/m ³
	20 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2017/164
Albania - Occupational Exposure Limits	
Local name	Acid acetik
OEL TWA	25 mg/m ³
	10 ppm
Regulatory reference	VENDIM Nr. 522, datë 6.8.2014 PËR MIRATIMIN E RREGULLORES "PËR MBROJTJEN E SIGURISË DHE SHËNDETIT TË PUNËMARRËSVE NGA RISQET E LIDHURA ME AGJENTËT KIMIKË NË PUNË"
Austria - Occupational Exposure Limits	
Local name	Essigsäure
MAK (OEL TWA)	25 mg/m ³
	10 ppm
MAK (OEL STEL)	50 mg/m ³ (8x 5(Mow) min)
	20 ppm (8x 5(Mow) min)
Regulatory reference	BGBI. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Acide acétique # Azijnzuur
OEL TWA	25 mg/m ³
	10 ppm
OEL STEL	38 mg/m ³
	15 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023

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acetic acid (64-19-7)	
Bulgaria - Occupational Exposure Limits	
Local name	Оцетна киселина
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	50 mg/m³
	20 ppm
Remark	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 28 от 2024 г., в сила от 05.04.2024 г.)
Croatia - Occupational Exposure Limits	
Local name	Octena kiselina
GVI (OEL TWA)	25 mg/m³
	10 ppm
KGV I (OEL STEL)	50 mg/m³
	20 ppm
Remark	Direktiva: 2017/164/EU
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Cyprus - Occupational Exposure Limits	
Local name	Οξικό οξύ
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	50 mg/m³
	20 ppm
Regulatory reference	Κανονισμοί του 2019 (Κ.Δ.Π. 16/2019)
Czech Republic - Occupational Exposure Limits	
Local name	Kyselina octová (Kyselina ethanová)
PEL (OEL TWA)	25 mg/m³
	10 ppm
NPK-P (OEL C)	50 mg/m³
	20 ppm
Remark	I - dráždí sliznice (oči, dýchací cesty) resp. kůže.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 330/2023 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Eddikesyre (Ethansyre)
OEL TWA	25 mg/m³
	10 ppm

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OEL STEL	50 mg/m ³
	20 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi)
Regulatory reference	BEK nr 291 af 19/03/2024
Estonia - Occupational Exposure Limits	
Local name	Etaanhape (äädikhape)
OEL TWA	25 mg/m ³
	10 ppm
OEL STEL	25 mg/m ³
	10 ppm
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13)
Finland - Occupational Exposure Limits	
Local name	Etikkahappo
HTP (OEL TWA)	13 mg/m ³
	5 ppm
HTP (OEL STEL)	25 mg/m ³
	10 ppm
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveystieteiden ministeriö)
France - Occupational Exposure Limits	
Local name	Acide acétique
VME (OEL TWA)	25 mg/m ³
	10 ppm
VLE (OEL C/STEL)	50 mg/m ³
	20 ppm
Remark	Valeurs réglementaires indicatives
Regulatory reference	Arrêté du 30 juin 2004 modifié (réf.: INRS ED 6443, 2022; Outil65; Arrête du 27 septembre 2019)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Essigsäure
AGW (OEL TWA)	25 mg/m ³
	10 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	Acetic acid

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acetic acid (64-19-7)	
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	50 mg/m³
	20 ppm
Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
Greece - Occupational Exposure Limits	
Local name	Οξικό οξύ
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	37 mg/m³
	15 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	ECETSAV
AK (OEL TWA)	25 mg/m³
	10 ppm
CK (OEL STEL)	50 mg/m³
	20 ppm
Remark	m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármat); EU4 (2017/164 EU irányelvben közölt érték); N (Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	Acetic acid
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	50 mg/m³
	20 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2024
Italy - Occupational Exposure Limits	
Local name	Acido acetico
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	50 mg/m³
	20 ppm
Regulatory reference	Allegato XXXVIII del Decreto Legislativo 4 settembre 2024, n. 135

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acetic acid (64-19-7)	
Latvia - Occupational Exposure Limits	
Local name	Etikškābe (etānskābe)
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	50 mg/m³
	20 ppm
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2024. gada 26. martā noteikumiem Nr. 191).
Lithuania - Occupational Exposure Limits	
Local name	Acto rūgštis
IPRV (OEL TWA)	25 mg/m³
	10 ppm
TPRV (OEL STEL)	50 mg/m³
	20 ppm
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Luxembourg - Occupational Exposure Limits	
Local name	Acide acétique
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	50 mg/m³
	20 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	Acetic acid
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	50 mg/m³
	20 ppm
Regulatory reference	S.L. 424.24 - Chemical Agents at Work Regulations (L.N. 356 of 2021) # L.S. 424.24 - Regolamenti dwar Aġenti Kimiċi fuq il-Post tax-Xogħol (A.L. 356 tal-2021)
Poland - Occupational Exposure Limits	
Local name	Kwas octowy
NDS (OEL TWA)	25 mg/m³
	10 ppm
NDSch (OEL STEL)	50 mg/m³
	20 ppm
Regulatory reference	Dz. U. 2024 poz. 1017 wraz z późn. zm.

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acetic acid (64-19-7)	
Portugal - Occupational Exposure Limits	
Local name	Ácido acético
OEL TWA	10 ppm
OEL STEL	15 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Acid acetic
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	50 mg/m³
	20 ppm
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 179/2024)
Serbia - Occupational Exposure Limits	
Local name	сирћетна киселина
OEL TWA	25 mg/m³
	20 mg/m³
	50 mg/m³
	10 ppm
Remark	ЕУ**** – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2017/164/EУ (четврта 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 octová (kyselina etánová)
NPHV (OEL TWA)	25 mg/m³
	10 ppm
NPHV (OEL STEL)	50 mg/m³
	20 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (122/2024 Z. z.)
Spain - Occupational Exposure Limits	
Local name	Ácido acético
VLA-ED (OEL TWA)	25 mg/m³
	10 ppm
VLA-EC (OEL STEL)	50 mg/m³
	20 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 2024. INSHT
Sweden - Occupational Exposure Limits	
Local name	Ättiksyra

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acetic acid (64-19-7)	
NGV (OEL TWA)	13 mg/m³
	5 ppm
KGV (OEL STEL)	25 mg/m³
	10 ppm
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Acetic acid
WEL TWA (OEL TWA)	25 mg/m³
	10 ppm
WEL STEL (OEL STEL)	50 mg/m³
	20 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Ediksýra
OEL TWA	25 mg/m³
	10 ppm
OEL STEL	50 mg/m³
	20 ppm
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 1069/2018)
Norway - Occupational Exposure Limits	
Local name	Eddiksyre
Grenseverdi (OEL TWA)	25 mg/m³
	10 ppm
Kortidsverdi (OEL STEL)	50 mg/m³
	20 ppm
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-2024-04-05-581
North Macedonia - Occupational Exposure Limits	
Local name	Оцетна киселина
OEL TWA	25 mg/m³
	10 ppm
Remark	(EU) European Union – гранична вредност, определена на ниво на Европската унија
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанции („Службен весник на Република Македонија“ бр.46/10)
Switzerland - Occupational Exposure Limits	
Local name	Acide acétique / Essigsäure

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acetic acid (64-19-7)	
MAK (OEL TWA)	25 mg/m³
	10 ppm
KZGW (OEL STEL)	50 mg/m³
	20 ppm
Notation	SS _C / SS _C
Remark	NIOSH, OSHA
Regulatory reference	www.suva.ch, 01.01.2024
USA - ACGIH - Occupational Exposure Limits	
Local name	Acetic acid
ACGIH OEL TWA	10 ppm
ACGIH OEL STEL	15 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr; pulm func
Regulatory reference	ACGIH 2024
ethanol (64-17-5)	
Austria - Occupational Exposure Limits	
Local name	Ethanol (Ethylalkohol)
MAK (OEL TWA)	1900 mg/m³
	1000 ppm
MAK (OEL STEL)	3800 mg/m³ (3x 60(Mow) min)
	2000 ppm (3x 60(Mow) min)
Regulatory reference	BGBI. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Alcool éthylique # Ethanol
OEL TWA	1907 mg/m³
	1000 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
Bulgaria - Occupational Exposure Limits	
Local name	Етилов алкохол
OEL TWA	1000 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. 28 от 2024 г., в сила от 05.04.2024 г.)
Croatia - Occupational Exposure Limits	
Local name	Etanol; etil-alkohol
GVI (OEL TWA)	1900 mg/m³
	1000 ppm
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)

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ethanol (64-17-5)	
Czech Republic - Occupational Exposure Limits	
Local name	Ethanol (Ethylalkohol)
PEL (OEL TWA)	1000 mg/m³
	522 ppm
NPK-P (OEL C)	3000 mg/m³
	1566 ppm
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 330/2023 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Ethanol (Ethylalkohol)
OEL TWA	1900 mg/m³
	1000 ppm
Regulatory reference	BEK nr 291 af 19/03/2024
Estonia - Occupational Exposure Limits	
Local name	Etanool (etüülalkohol)
OEL TWA	1000 mg/m³
	500 ppm
OEL STEL	1900 mg/m³
	1000 ppm
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13)
Finland - Occupational Exposure Limits	
Local name	Etanoli
HTP (OEL TWA)	1900 mg/m³
	1000 ppm
HTP (OEL STEL)	2500 mg/m³
	1300 ppm
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Alcool éthylique
VME (OEL TWA)	1900 mg/m³
	1000 ppm
VLE (OEL C/STEL)	9500 mg/m³
	5000 ppm
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Ethanol
AGW (OEL TWA)	380 mg/m³
	200 ppm

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ethanol (64-17-5)	
Peak exposure limitation factor	4(II)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900
Greece - Occupational Exposure Limits	
Local name	Αιθνόλη
OEL TWA	1900 mg/m³ 1000 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	ETIL-ALKOHOL
AK (OEL TWA)	1900 mg/m³ 1000 ppm
CK (OEL STEL)	3800 mg/m³ 2000 ppm
Remark	N (Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	Ethanol [Ethyl alcohol]
OEL STEL	1000 ppm
Remark	Advisory OELV (Advisory Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2024
Latvia - Occupational Exposure Limits	
Local name	Etilspirts (etanols)
OEL TWA	1000 mg/m³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2024. gada 26. martā noteikumiem Nr. 191).
Lithuania - Occupational Exposure Limits	
Local name	Etanolis (etilo alkoholis)
IPRV (OEL TWA)	1000 mg/m³ 500 ppm
TPRV (OEL STEL)	1900 mg/m³ 1000 ppm
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Netherlands - Occupational Exposure Limits	
Local name	Ethanol

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ethanol (64-17-5)	
TGG-8u (OEL TWA)	260 mg/m³
	136 ppm (Ethanol; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
TGG-15min (OEL STEL)	1900 mg/m³
	992 ppm (Ethanol; Netherlands; Short time value; Public occupational exposure limit value)
Remark	Kankerverwekkende stof. H (Huidopname) Stoffen die relatief gemakkelijk door de huid kunnen worden opgenomen, hetgeen een substantiële bijdrage kan betekenen aan de totale inwendige blootstelling, hebben in de lijst een H-aanduiding. Bij deze stoffen moeten naast maatregelen tegen inademing ook adequate maatregelen ter voorkoming van huidcontact worden genomen.
Regulatory reference	Arbeidsomstandighedenregeling 2024
Portugal - Occupational Exposure Limits	
Local name	Etanol (Álcool etílico)
OEL STEL	1000 ppm
Remark	A3 (Agente carcinogénico confirmado nos animais de laboratorio con relevância desconhecida no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Alcool etilic/Etanol
OEL TWA	1900 mg/m³
	1000 ppm
OEL STEL	9500 mg/m³
	5000 ppm
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 179/2024)
Slovakia - Occupational Exposure Limits	
Local name	Etylalkohol (etanol)
NPHV (OEL TWA)	960 mg/m³
	500 ppm
NPHV (OEL STEL)	1920 mg/m³
	1000 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (122/2024 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	etanol (etilalkohol)
OEL TWA	960 mg/m³
	500 ppm
OEL STEL	7600 mg/m³
	4000 ppm
Remark	Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti)

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ethanol (64-17-5)	
Regulatory reference	Uradni list RS, št. 29/2024 z dne 4. 4. 2024 - Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
Spain - Occupational Exposure Limits	
Local name	Etanol (Alcohol etílico)
VLA-EC (OEL STEL)	1910 mg/m³
	1000 ppm
Remark	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).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT
Sweden - Occupational Exposure Limits	
Local name	Etanol
NGV (OEL TWA)	1000 mg/m³
	500 ppm
KGV (OEL STEL)	1900 mg/m³
	1000 ppm
Remark	V (Vägledande kortidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Ethanol
WEL TWA (OEL TWA)	1920 mg/m³
	1000 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Etanól (etýlalkóhól)
OEL TWA	1900 mg/m³
	1000 ppm
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway - Occupational Exposure Limits	
Local name	Etanol
Grenseverdi (OEL TWA)	950 mg/m³
	500 ppm
Regulatory reference	FOR-2024-04-05-581
North Macedonia - Occupational Exposure Limits	
Local name	етанол (етилалкохол)
OEL TWA	1900 mg/m³

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ethanol (64-17-5)	
	1000 ppm
KTV	4
Short time value [mg/m³]	7600 mg/m³
Short time value [ppm]	4000 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 покусно време. Изложеноста на краткотрајни вредности може да трае највеќе 15 минути и не смее да се повтори повеќе од четирипати во работната смена, при што меѓу две изложености на оваа концентрација мора да измине најмалку 60 минути. Краткотрајната вредност е изразена во mg/m³ или во ml/m³(ppm) а е дадена како многукратни дозволени пречекорувања на граничната вредност; (Y)
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанции („Службен весник на Република Македонија“ бр.46/10)
Switzerland - Occupational Exposure Limits	
Local name	Ethanol
MAK (OEL TWA)	960 mg/m³
	960 mg/m³
	500 ppm
	500 ppm
KZGW (OEL STEL)	1920 mg/m³
	1920 mg/m³
	1000 ppm
	1000 ppm
Notation	SS _C / SS _C
Remark	SS _C - OAW, Formal ^{KT HU} - INRS, NIOSH
Regulatory reference	www.suva.ch, 01.01.2024
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethanol
ACGIH OEL STEL	1000 ppm
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2024

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

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

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Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Safety glasses

Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

Respiratory protection

Respiratory protection:

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

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	: > 78 °C
Flammability	: Highly flammable liquid and vapour.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: ≈ 20 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: 3.7
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	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable at normal handling and storage conditions. Highly flammable liquid and vapour.

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

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

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

acetic acid (64-19-7)

LD50 oral rat	3310 mg/kg bodyweight
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ethanol (64-17-5)

LD50 oral rat	15010 mg/kg bodyweight
LD50 oral	8300 mg/kg bodyweight (mouse)
LD50 dermal rabbit	> 16000 mg/kg

Skin corrosion/irritation : Causes skin irritation.
pH: 3.7

acetic acid (64-19-7)

pH	2.4
----	-----

Serious eye damage/irritation : Causes serious eye irritation.
pH: 3.7

acetic acid (64-19-7)

pH	2.4
----	-----

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

ethanol (64-17-5)

IARC group	1 - Carcinogenic to humans
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Reproductive toxicity : Not classified
STOT-single exposure : Not classified

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STOT-repeated exposure : Not classified

acetic acid (64-19-7)

NOAEL (oral, rat, 90 days)	290 mg/kg bodyweight
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ethanol (64-17-5)

NOAEL (subchronic, oral, animal/male, 90 days)	< 9700 mg/kg bodyweight (mouse)
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NOAEL (subchronic, oral, animal/female, 90 days)	> 9400 mg/kg bodyweight (mouse)
--	---------------------------------

Aspiration hazard : Not classified

acetic acid (64-19-7)

Viscosity, kinematic	1015.385 mm ² /s
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ethanol (64-17-5)

Viscosity, kinematic	1.481 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

acetic acid (64-19-7)

LC50 - Fish [1]	> 1000 mg/l Oncorhynchus mykiss (Rainbow trout)
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EC50 - Crustacea [1]	> 1000 mg/l Daphnia magna (Water flea)
----------------------	--

EC50 72h - Algae [1]	> 1000 mg/l Skeletonema costatum (marine diatom)
----------------------	--

ethanol (64-17-5)

LC50 - Fish [1]	14.2 g/l Pimephales promelas (Fathead minnow)
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NOEC (chronic)	9.6 mg/l
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12.2. Persistence and degradability

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Persistence and degradability	Rapidly degradable
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acetic acid (64-19-7)

Persistence and degradability	Readily biodegradable in water, Biodegradable in soil, Very mobile in soil.
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Biochemical oxygen demand (BOD)	0.6 – 0.74 g O ₂ /g substance
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Chemical oxygen demand (COD)	1.03 g O ₂ /g substance
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ThOD	1.07 g O ₂ /g substance
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ethanol (64-17-5)

Persistence and degradability	Readily biodegradable in water, Biodegradable in soil.
Biochemical oxygen demand (BOD)	0.8 – 0.967 g O ₂ /g substance
Chemical oxygen demand (COD)	1.7 g O ₂ /g substance
ThOD	2.1 g O ₂ /g substance

12.3. Bioaccumulative potential

acetic acid (64-19-7)

Partition coefficient n-octanol/water (Log Pow)	-0.17 (25 °C)
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

ethanol (64-17-5)

Partition coefficient n-octanol/water (Log Pow)	-0.31
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12.4. Mobility in soil

acetic acid (64-19-7)

Surface tension	0.028 N/m (20 °C)
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

ethanol (64-17-5)

Surface tension	0.0245 N/m (20 °C)
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12.5. Results of PBT and vPvB assessment

Component

Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	acetic acid (64-19-7), ethanol (64-17-5)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	acetic acid (64-19-7), ethanol (64-17-5)

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Disposal must be done according to official regulations.
Additional information	: Flammable vapours may accumulate in the container. Do not re-use empty containers.
Ecological waste information	: Avoid release to the environment.
European List of Waste (LoW, EC 2000/532)	: 16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

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SECTION 14: Transport information

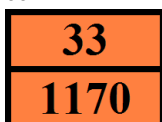
In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1170	UN 1170	UN 1170	UN 1170	UN 1170
14.2. UN proper shipping name				
ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)	Ethanol solution	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Transport document description				
UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II, (D/E)	UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II	UN 1170 Ethanol solution, 3, II	UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II	UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II
14.3. Transport hazard class(es)				
3	3	3	3	3
				
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 EmS-No. (Fire): F-E EmS-No. (Spillage): S-D	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)	: F1
Special provisions (ADR)	: 144, 601
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Operation (ADR)	: S2, S20
Hazard identification number (Kemler No.)	: 33
Orange plates	:



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Tunnel restriction code (ADR) : D/E
EAC code : •2YE

Transport by sea

Special provisions (IMDG) : 144
Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1
Stowage category (IMDG) : A
Properties and observations (IMDG) : Colourless, volatile liquids. Pure ETHANOL: flashpoint 13°C c.c. Explosive limits: 3.3% to 19%. Miscible with water.

Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 353
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L
Special provisions (IATA) : A3, A58, A180
ERG code (IATA) : 3L

Inland waterway transport

Classification code (ADN) : F1
Special provisions (ADN) : 144, 601
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 1

Rail transport

Classification code (RID) : F1
Special provisions (RID) : 144, 601
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02, R001
Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T4
Portable tank and bulk container special provisions (RID) : TP1
Tank codes for RID tanks (RID) : LGBF
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE7
Hazard identification number (RID) : 33

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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(a)	Buffer solution - pH 3.7 European Pharmacopoeia (Ph Eur) Ref: 4000900 ; acetic acid ; ethanol	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)	Buffer solution - pH 3.7 European Pharmacopoeia (Ph Eur) Ref: 4000900 ; acetic 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
40.	acetic acid	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.

REACH Annex XIV (Authorisation List)

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

REACH Candidate List (SVHC)

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

PIC Regulation (Prior Informed Consent)

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

POP Regulation (Persistent Organic Pollutants)

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

Ozone Regulation (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

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

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

Explosives Precursors Regulation (2019/1148)

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

Drug Precursors Regulation (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)

National regulations

France

Occupational diseases	
Code	Description
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

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Germany

VOC ordinance (ChemVOCFarbV) :
Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).
Hazardous Incident Ordinance (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

ABM category : A(4) - low hazard for aquatic organisms, may have longterm hazardous effects in aquatic environment
SZW-lijst van kankerverwekkende stoffen : ethanol is listed
SZW-lijst van mutagene stoffen : None of the components are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding : ethanol is listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : ethanol is listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling : ethanol is listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed
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

Poland

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

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes

Section	Changed item	Comments
1.2	Main use category	Modified

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Indication of changes		
Section	Changed item	Comments
2.2	Precautionary statements (CLP)	Modified
4.1	First-aid measures for first aider	Added
4.1	First-aid measures general	Added
4.2	Symptoms/effects after inhalation	Added
4.2	Symptoms/effects after ingestion	Added
5.1	Unsuitable extinguishing media	Added
5.2	Explosion hazard	Added
5.3	Firefighting instructions	Added
6.1	Emergency procedures	Added
6.1	Protective equipment	Added
6.1	General measures	Added
6.3	For containment	Added
7.1	Additional hazards when processed	Added
7.2	Packaging materials	Added
8.2	Personal protective equipment	Added
9	Flammability	Modified
13.1	Sewage disposal recommendations	Added
13.1	Regional waste regulation	Added
13.1	Additional information	Modified
13.1	Product/Packaging disposal recommendations	Modified
15.1	REACH Annex XVII	Modified
16	Abbreviations and acronyms	Added

Abbreviations and acronyms:	
ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level

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Abbreviations and acronyms:	
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2

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Full text of H- and EUH-statements:

Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable 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
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Flam. Liq. 2	H225	On basis of test data
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method

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