Perchloric acid, 0.100 Normal (N/10) in glacial acetic acid

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) as amended

Date of issue: 22/11/2020 Revision date: 22/11/2020 Version: 1.1

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

1.1. Product identifier

Product form	: Mixture
Product name	: Perchloric acid, 0.100 Normal (N/10) in glacial acetic acid
Product code	: USPVS113
Other means of identification	: 5515-1, 5515-16, 5515-32, 5515-4, 5515-5, 5515-5PT

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

1.2.1. Relevant identified uses

Main use category	: Professional use,Industrial use
Use of the substance/mixture	: Laboratory chemical Reference material
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.
Third Floor,
55 Blandford Street,
London,
W1U 7HW,
United Kingdom.

Tel: +44 (0) 207 193 9114
Fax:+44 (0) 203 432 4686
Email: contact@spectracer.co.uk
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 MSD Msida	+356 2545 6504	
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 3	H226
Oxidising Liquids, Category 2	H272
Corrosive to metals, Category 1	H290
Skin corrosion/irritation, Category 1A	H314
Serious eye damage/eye irritation, Category 1	H318

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. May intensify fire; oxidiser. May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS03 GHS05

Signal word (CLP) : Danger

Hazardous ingredients : acetic acid

Hazard statements (CLP) : H226 - Flammable liquid and vapour.
H272 - May intensify fire; oxidiser.
H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 - Keep away from clothing and other combustible materials.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331+P310 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.
P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.. Immediately call a POISON CENTER or doctor.
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.Immediately call a POISON CENTER/doctor/….
P390 - Absorb spillage to prevent material damage.

2.3. Other hazards

No additional information available

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]
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	96.18	Flam. Liq. 3, H226 Skin Corr. 1A, H314 Eye Dam. 1, H318
acetic anhydride	(CAS-No.) 108-24-7 (EC-No.) 203-564-8 (EC Index-No.) 607-008-00-9 (REACH-no) 01-2119486470-36-XXXX	2.47	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1B, H314
perchloric acid substance with national workplace exposure limit(s) (BG, CZ)	(CAS-No.) 7601-90-3 (EC-No.) 231-512-4 (EC Index-No.) 017-006-00-4 (REACH-no) 01-2120066865-44-XXXX	0.95	Ox. Liq. 1, H271 Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT RE 2, H373

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

acetic anhydride	(CAS-No.) 108-24-7 (EC-No.) 203-564-8 (EC Index-No.) 607-008-00-9 (REACH-no) 01-2119486470-36-XXXX	(1 ≤C < 5) Eye Irrit. 2, H319 (5 ≤C < 100) STOT SE 3, H335 (5 ≤C < 25) Eye Dam. 1, H318 (5 ≤C < 25) Skin Irrit. 2, H315 (25 ≤C < 100) Skin Corr. 1B, H314
perchloric acid	(CAS-No.) 7601-90-3 (EC-No.) 231-512-4 (EC Index-No.) 017-006-00-4 (REACH-no) 01-2120066865-44-XXXX	(0 ≤C < 50) Ox. Liq. 2, H272 (1 ≤C < 10) Eye Irrit. 2, H319 (1 ≤C < 10) Skin Irrit. 2, H315 (10 ≤C < 50) Skin Corr. 1B, H314 (50 ≤C < 100) Ox. Liq. 1, H271 (50 ≤C < 100) Skin Corr. 1A, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after skin contact : Burns.

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

Symptoms/effects after ingestion : Burns.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour. May intensify fire; oxidiser.

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

5.3. Advice for firefighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

:

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. 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

Precautions for safe handling : Ensure good ventilation of the work station. 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. Do not breathe dust/fume/gas/mist/vapours/spray.

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. Store in corrosive resistant container with a resistant inner liner. Keep only in original container. Store locked up.

Incompatible materials : combustible materials. Metals.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

acetic anhydride (108-24-7)		
Austria	Local name	Essigsäureanhydrid
Austria	MAK (mg/m³)	20 mg/m³
Austria	MAK (ppm)	5 ppm
Austria	MAK Short time value (mg/m³)	40 mg/m³
Austria	MAK Short time value (ppm)	10 ppm
Austria	Regulatory reference	BGBl. II Nr. 186/2015
Belgium	Local name	Anhydride acétique # Azijnzuuranhydride
Belgium	Limit value (mg/m³)	21 mg/m³ (Anhydride acétique; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	5 ppm (Anhydride acétique; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m³)	13 mg/m³
Belgium	Short time value (ppm)	3 ppm
Belgium	Regulatory reference	Koninklijk besluit/Arrêté royal 02/09/2018
Croatia	Local name	Acetanhidrid
Croatia	GVI (granična vrijednost izloženosti) (mg/m³)	2.5 mg/m³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	0.5 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m³)	10 mg/m³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	2 ppm
Croatia	Regulatory reference	Pravilnik o izmjenama i dopunama Pravilnika o graničnim vrijednostima izloženosti opasnim tvarima pri radu i o biološkim graničnim vrijednostima (NN 91/2018)
Czech Republic	Local name	Acetanhydrid (Anhydrid kyseliny octové)
Czech Republic	Expoziční limity (PEL) (mg/m³)	4 mg/m³
Czech Republic	Expoziční limity (PEL) (ppm)	1 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m³)	20 mg/m³
Czech Republic	Expoziční limity (NPK-P) (ppm)	5 ppm
Czech Republic	Remark (CZ)	I (dráždí sliznice (oči, dýchací cesty) resp. kůži)

acetic anhydride (108-24-7)		
Czech Republic	Regulatory reference	Nařízení vlády č. 361/2007 Sb. (zapracovány změny č. 246/2018 Sb.)
Denmark	Local name	Eddikesyreanhydrid
Denmark	Grænseværdie (ceiling) (ppm)	5 ppm
Denmark	Grænseværdie (ceiling) (mg/m³)	20 mg/m³
Denmark	Anmærkninger (DK)	L (markerer, at grænseværdien er en loftværdi, som ikke på noget tidspunkt må overskrides)
Denmark	Regulatory reference	BEK nr 655 af 31/05/2018
Estonia	Local name	Etaanhappe anhüdriid (äädikhappe anhüdriid, etaanhüdriid)
Estonia	OEL Ceiling (mg/m³)	20 mg/m³
Estonia	OEL Ceiling (ppm)	5 ppm
Estonia	Regulatory reference	Vabariigi Valitsuse 18. septembri 2001. a määruse nr 293 (RT I, 30.11.2011, 5)
Finland	Local name	Etikkahappoanhydridi
Finland	HTP-arvo (15 min)	21 mg/m³
Finland	HTP-arvo (15 min) (ppm)	5 ppm
Finland	Regulatory reference	HTP-ARVOT 2018 (Sosiaali- ja terveysministeriö)
France	Local name	Anhydride acétique
France	VLE (mg/m³)	20 mg/m³ (Anhydride acétique; France; Short time value; VL: Valeur non réglementaire indicative)
France	VLE (ppm)	5 ppm (Anhydride acétique; France; Short time value; VL: Valeur non réglementaire indicative)
France	Note (FR)	Valeurs recommandées/admises
France	Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
Germany	TRGS 900 Local name	Essigsäureanhydrid
Germany	TRGS 900 Occupational exposure limit value (mg/m³)	0.42 mg/m³
Germany	TRGS 900 Occupational exposure limit value (ppm)	0.1 ppm
Germany	Limitation of exposure peaks	2(I)
Germany	TRGS 900 Remark	DFG;Y
Germany	TRGS 900 Regulatory reference	TRGS900
Germany	TRGS 910 Acceptable concentration notes	
Greece	Local name	Οξικός ανυδρίτης
Greece	OEL TWA (mg/m³)	20 mg/m³
Greece	OEL TWA (ppm)	5 ppm
Greece	OEL STEL (mg/m³)	20 mg/m³
Greece	OEL STEL (ppm)	5 ppm
Greece	Regulatory reference	Π.Δ. 90/1999
Hungary	Local name	ECETSAV-ANHIDRID
Hungary	AK-érték	20 mg/m³
Hungary	CK-érték	20 mg/m³
Hungary	Megjegyzések (HU)	m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármat); I. (HELYILEG IRRITÁLÓ ANYAGOK)
Hungary	Regulatory reference	25/2000. (IX. 30.) EüM–SZCSM együttes rendelet a munkahelyek kémiai biztonságáról

acetic anhydride (108-24-7)		
Ireland	Local name	Acetic anhydride
Ireland	OEL (8 hours ref) (mg/m³)	2.5 mg/m³
Ireland	OEL (8 hours ref) (ppm)	1 ppm
Ireland	OEL (15 min ref) (mg/m3)	10 mg/m³
Ireland	OEL (15 min ref) (ppm)	3 ppm
Ireland	Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
Latvia	Local name	Etiķskābes anhidrīds
Latvia	OEL TWA (mg/m³)	5 mg/m³
Latvia	Regulatory reference	Ministru kabineta 2007.gada 15.maija noteikumiem Nr.325 (Grozījumi Ministru kabineta 2011.gada 1.februārī noteikumiem Nr.92)
Lithuania	Local name	Acto rūgšties anhidridas
Lithuania	NRV (mg/m³)	20 mg/m³
Lithuania	NRV (ppm)	5 ppm
Lithuania	Remark (LT)	Ū (ūmus poveikis)
Lithuania	Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Poland	Local name	Bezwodnik octowy
Poland	NDS (mg/m³)	12 mg/m³
Poland	NDSP (mg/m³)	24 mg/m³
Poland	Regulatory reference	Dz. U. 2018 poz. 1286
Portugal	Local name	Anidrido acético
Portugal	OEL TWA (ppm)	1 ppm
Portugal	OEL STEL (ppm)	3 ppm
Slovakia	Regulatory reference	Norma Portuguesa NP 1796:2014
Romania	Local name	Anhidridă acetică
Romania	OEL TWA (mg/m³)	15 mg/m³
Romania	OEL TWA (ppm)	3.6 ppm
Romania	OEL STEL (mg/m³)	25 mg/m³
Romania	OEL STEL (ppm)	6 ppm
Romania	Regulatory reference	Hotărârea nr. 584/2018
Slovakia	Local name	Acetanhydrid (anhydrid kyseliny octovej)
Slovakia	NPHV (priemerná) (mg/m³)	21 mg/m³
Slovakia	NPHV (priemerná) (ppm)	5 ppm
Slovakia	Regulatory reference	Nariadenie vlády č. 33/2018 Z.z.
Slovenia	Local name	anhidrid ocetne kisline acetanhidrid)
Slovenia	OEL TWA (mg/m³)	21 mg/m³
Slovenia	OEL TWA (ppm)	5 ppm
Slovenia	OEL STEL (mg/m³)	21 mg/m³
Slovenia	OEL STEL (ppm)	5 ppm
Slovenia	Regulatory reference	Uradni list RS, št. 78/2018 z dne 4.12.2018
Spain	Local name	Anhídrido acético
Spain	VLA-ED (mg/m³)	21 mg/m³

acetic anhydride (108-24-7)		
Spain	VLA-ED (ppm)	5 ppm
Spain	Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
Sweden	Local name	Ättiksyraanhydrid
Sweden	kortidsvärde (KTV) (mg/m³)	20 mg/m³
Sweden	kortidsvärde (KTV) (ppm)	5 ppm
Sweden	Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom	Local name	Acetic anhydride
United Kingdom	WEL TWA (mg/m³)	2.5 mg/m³ Acetic anhydride; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	0.5 ppm Acetic anhydride; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (mg/m³)	10 mg/m³ Acetic anhydride; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (ppm)	2 ppm Acetic anhydride; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	Regulatory reference	EH40/2005 (Third edition, 2018). HSE
Iceland	Local name	Ediksýruanhýdríð
Iceland	OEL (15 min ref) (mg/m3)	20 mg/m³
Iceland	OEL (15 min ref) (ppm)	5 ppm
Iceland	Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway	Local name	Eddiksyreanhydrid
Norway	Grenseverdier (Takverdi) (mg/m³)	20 mg/m³
Norway	Grenseverdier (Takverdi) (ppm)	5 ppm
Norway	Merknader (NO)	T (Takverdi er en øyeblikksverdi som angir maksimalkonsentrasjon av et kjemikalie i pustesonen som ikke skal overskrides)
Norway	Regulatory reference	FOR-2018-08-21-1255
Switzerland	Local name	Anhydride acétique / Essigsäureanhydrid [Acetanhydrid]
Switzerland	MAK (mg/m³)	4 mg/m³
Switzerland	MAK (ppm)	1 ppm
Switzerland	KZGW (mg/m³)	8 mg/m³
Switzerland	KZGW (ppm)	2 ppm
Switzerland	Critical toxicity	VR, Yeux / AW, Auge
Switzerland	Notation	SS_C / SS_C
Switzerland	Remark	NIOSH
Switzerland	Regulatory reference	www.suva.ch, 01.07.2019
USA - ACGIH	Local name	Acetic anhydride
USA - ACGIH	ACGIH TWA (ppm)	1 ppm (Acetic anhydride; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - ACGIH	ACGIH STEL (ppm)	3 ppm (Acetic anhydride; USA; Short time value; TLV - Adopted Value)
USA - ACGIH	Remark (ACGIH)	TLV® Basis: Eye & URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
USA - ACGIH	Regulatory reference	ACGIH 2019

perchloric acid (7601-90-3)		
Bulgaria	Local name	Перхлорна киселина
Bulgaria	OEL TWA (mg/m³)	2 mg/m³
Bulgaria	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.73 от 4 септември 2018 г.)
Czech Republic	Local name	Kyselina chloristá
Czech Republic	Expoziční limity (PEL) (mg/m³)	1 mg/m³
Czech Republic	Expoziční limity (PEL) (ppm)	0.24 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m³)	2 mg/m³
Czech Republic	Expoziční limity (NPK-P) (ppm)	0.49 ppm
Czech Republic	Remark (CZ)	I (dráždí sliznice (oči, dýchací cesty) resp. kůži)
Czech Republic	Regulatory reference	Nařízení vlády č. 361/2007 Sb. (zapracovány změny č. 246/2018 Sb.)
Germany	TRGS 910 Acceptable concentration notes	

acetic acid (64-19-7)		
EU	Local name	Acetic acid
EU	IOELV TWA (mg/m³)	25 mg/m³
EU	IOELV TWA (ppm)	10 ppm
EU	IOELV STEL (mg/m³)	50 mg/m³
EU	IOELV STEL (ppm)	20 ppm
EU	Regulatory reference	COMMISSION DIRECTIVE (EU) 2017/164
Austria	Local name	Essigsäure
Austria	MAK (mg/m³)	25 mg/m³
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m³)	50 mg/m³
Austria	MAK Short time value (ppm)	20 ppm
Austria	Regulatory reference	BGBl. II Nr. 186/2015
Belgium	Local name	Acide acétique # Azijnzuur
Belgium	Limit value (mg/m³)	25 mg/m³
Belgium	Limit value (ppm)	10 ppm
Belgium	Short time value (mg/m³)	38 mg/m³
Belgium	Short time value (ppm)	15 ppm
Belgium	Regulatory reference	Koninklijk besluit/Arrêté royal 02/09/2018
Bulgaria	Local name	Оцетна киселина
Bulgaria	OEL TWA (mg/m³)	25 mg/m³
Bulgaria	OEL TWA (ppm)	10 ppm
Bulgaria	OEL STEL (mg/m³)	50 mg/m³
Bulgaria	OEL STEL (ppm)	20 ppm
Bulgaria	Notes	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)

acetic acid (64-19-7)		
Bulgaria	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.73 от 4 септември 2018 г.)
Croatia	Local name	Octena kiselina
Croatia	GVI (granična vrijednost izloženosti) (mg/m³)	25 mg/m³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	10 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m³)	50 mg/m³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	20 ppm
Croatia	Naznake (HR)	Direktiva: 2017/164/EU
Croatia	Regulatory reference	Pravilnik o izmjenama i dopunama Pravilnika o graničnim vrijednostima izloženosti opasnim tvarima pri radu i o biološkim graničnim vrijednostima (NN 91/2018)
Czech Republic	Local name	Kyselina octová (Kyselina ethanová)
Czech Republic	Expoziční limity (PEL) (mg/m³)	25 mg/m³
Czech Republic	Expoziční limity (PEL) (ppm)	10.2 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m³)	50 mg/m³
Czech Republic	Expoziční limity (NPK-P) (ppm)	20.4 ppm
Czech Republic	Remark (CZ)	I (dráždí sliznice (oči, dýchací cesty) resp. kůži)
Czech Republic	Regulatory reference	Nařízení vlády č. 361/2007 Sb. (zapracovány změny č. 246/2018 Sb.)
Denmark	Local name	Eddikesyre (Ethansyre)
Denmark	Grænseværdie (langvarig) (mg/m³)	25 mg/m³
Denmark	Grænseværdie (langvarig) (ppm)	10 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi)
Denmark	Regulatory reference	BEK nr 655 af 31/05/2018
Estonia	Local name	Etaanhape (äädikhape)
Estonia	OEL TWA (mg/m³)	25 mg/m³
Estonia	OEL TWA (ppm)	10 ppm
Estonia	OEL STEL (mg/m³)	25 mg/m³
Estonia	OEL STEL (ppm)	10 ppm
Estonia	Regulatory reference	Vabariigi Valitsuse 18. septembri 2001. a määruse nr 293 (RT I, 30.11.2011, 5)
Finland	Local name	Etikkahappo
Finland	HTP-arvo (8h) (mg/m³)	13 mg/m³
Finland	HTP-arvo (8h) (ppm)	5 ppm
Finland	HTP-arvo (15 min)	25 mg/m³
Finland	HTP-arvo (15 min) (ppm)	10 ppm
Finland	Regulatory reference	HTP-ARVOT 2018 (Sosiaali- ja terveysministeriö)
France	Local name	Acide acétique
France	VME (mg/m³)	25 mg/m³
France	VME (ppm)	10 ppm
France	VLE (mg/m³)	50 mg/m³
France	VLE (ppm)	20 ppm

acetic acid (64-19-7)		
France	Note (FR)	Valeurs règlementaires indicatives. Les valeurs entrent en vigueur le 1er juillet 2020.
France	Regulatory reference	Circulaire du Ministère du travail (réf.: Arrête du 27 septembre 2019)
Germany	TRGS 900 Local name	Essigsäure
Germany	TRGS 900 Occupational exposure limit value (mg/m³)	25 mg/m³
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm
Germany	Limitation of exposure peaks	2(I)
Germany	TRGS 900 Remark	DFG;EU;Y
Germany	TRGS 900 Regulatory reference	TRGS900
Germany	TRGS 910 Acceptable concentration notes	
Gibraltar	Eight hours mg/m³	25 mg/m³
Gibraltar	Eight hours ppm	10 ppm
Gibraltar	Short term mg/m3	50 mg/m³
Gibraltar	Short-term ppm	20 ppm
Gibraltar	Name of agent	Acetic acid
Gibraltar	Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
Greece	Local name	Οξικό οξύ
Greece	OEL TWA (mg/m³)	25 mg/m³
Greece	OEL TWA (ppm)	10 ppm
Greece	OEL STEL (mg/m³)	37 mg/m³
Greece	OEL STEL (ppm)	15 ppm
Greece	Regulatory reference	Π.Δ. 90/1999
Hungary	Local name	ECETSAV
Hungary	AK-érték	25 mg/m³
Hungary	CK-érték	50 mg/m³
Hungary	Megjegyzések (HU)	m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármat); EU4 (2017/164 EU irányelvben közölt érték)
Hungary	Regulatory reference	25/2000. (IX. 30.) EüM–SZCSM együttes rendelet a munkahelyek kémiai biztonságáról
Ireland	Local name	Acetic acid
Ireland	OEL (8 hours ref) (mg/m³)	25 mg/m³
Ireland	OEL (8 hours ref) (ppm)	10 ppm
Ireland	OEL (15 min ref) (mg/m3)	50 mg/m³
Ireland	OEL (15 min ref) (ppm)	20 ppm
Ireland	Notes (IE)	IOELV (Indicative Occupational Exposure Limit Values)
Ireland	Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
Latvia	Local name	Etiķskābe (etānskābe)
Latvia	OEL TWA (mg/m³)	25 mg/m³
Latvia	OEL TWA (ppm)	10 ppm
Latvia	OEL STEL (mg/m³)	50 mg/m³
Latvia	OEL STEL (ppm)	20 ppm

acetic acid (64-19-7)		
Latvia	Regulatory reference	Ministru kabineta 2007.gada 15.maija noteikumiem Nr.325 (Grozījumi Ministru kabineta 2018. gada 10. jūlijā noteikumiem Nr.407)
Lithuania	Local name	Acto rūgštis
Lithuania	IPRV (mg/m³)	25 mg/m³
Lithuania	IPRV (ppm)	10 ppm
Lithuania	TPRV (mg/m³)	50 mg/m³
Lithuania	TPRV (ppm)	20 ppm
Lithuania	Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Luxembourg	Local name	Acide acétique
Luxembourg	OEL TWA (mg/m³)	25 mg/m³
Luxembourg	OEL TWA (ppm)	10 ppm
Luxembourg	OEL STEL (mg/m³)	50 mg/m³
Luxembourg	OEL STEL (ppm)	20 ppm
Luxembourg	Regulatory reference	Mémorial A Nº 684 de 2018
Malta	Local name	Acetic acid
Malta	OEL TWA (mg/m³)	25 mg/m³
Malta	OEL TWA (ppm)	10 ppm
Malta	OEL STEL (mg/m³)	50 mg/m³
Malta	OEL STEL (ppm)	20 ppm
Malta	Regulatory reference	S.L.424.24 (L.N.57 of 2018)
Netherlands	Local name	Azijnzuur
Netherlands	Grenswaarde TGG 8H (mg/m³)	25 mg/m³
Netherlands	Grenswaarde TGG 15MIN (mg/m³)	50 mg/m³
Netherlands	Regulatory reference	Arbeidsomstandighedenregeling 2018
Poland	Local name	Kwas octowy
Poland	NDS (mg/m³)	25 mg/m³
Poland	NDSCh (mg/m³)	50 mg/m³
Poland	Regulatory reference	Dz. U. 2018 poz. 1286
Portugal	Local name	Ácido acético
Portugal	OEL TWA (ppm)	10 ppm
Portugal	OEL STEL (ppm)	15 ppm
Slovakia	Regulatory reference	Norma Portuguesa NP 1796:2014
Romania	Local name	Acid acetic
Romania	OEL TWA (mg/m³)	25 mg/m³ (Pentru substanțe chimice în fază gazoasă sau de vapori, valoarea-limită este exprimată la 20°C și la 101,3 kPa)
Romania	OEL TWA (ppm)	10 ppm
Romania	OEL STEL (mg/m³)	50 mg/m³ (Pentru substanțe chimice în fază gazoasă sau de vapori, valoarea-limită este exprimată la 20°C și la 101,3 kPa)
Romania	OEL STEL (ppm)	20 ppm
Romania	Regulatory reference	Hotărârea nr. 584/2018
Slovakia	Local name	Kyselina octová (kyselina etánová)
Slovakia	NPHV (priemerná) (mg/m³)	25 mg/m³

acetic acid (64-19-7)		
Slovakia	NPHV (priemerná) (ppm)	10 ppm
Slovakia	OEL STEL (mg/m³)	50 mg/m³
Slovakia	OEL STEL (ppm)	20 ppm
Slovakia	Regulatory reference	Nariadenie vlády č. 33/2018 Z.z.
Slovenia	Local name	ocetna kislina
Slovenia	OEL TWA (mg/m³)	25 mg/m³
Slovenia	OEL TWA (ppm)	10 ppm
Slovenia	OEL STEL (mg/m³)	50 mg/m³
Slovenia	OEL STEL (ppm)	20 ppm
Slovenia	Remark (SI)	Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti), EU
Slovenia	Regulatory reference	Uradni list RS, št. 78/2018 z dne 4.12.2018
Spain	Local name	Ácido acético
Spain	VLA-ED (mg/m³)	25 mg/m³
Spain	VLA-ED (ppm)	10 ppm
Spain	VLA-EC (mg/m³)	50 mg/m³
Spain	VLA-EC (ppm)	20 ppm
Spain	Notes	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo).
Spain	Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2019. INSHT
Sweden	Local name	Ättiksyra
Sweden	nivågränsvärde (NVG) (mg/m³)	13 mg/m³
Sweden	nivågränsvärde (NVG) (ppm)	5 ppm
Sweden	kortidsvärde (KTV) (mg/m³)	25 mg/m³
Sweden	kortidsvärde (KTV) (ppm)	10 ppm
Sweden	Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom	Local name	Acetic acid
United Kingdom	WEL TWA (mg/m³)	25 mg/m³
United Kingdom	WEL TWA (ppm)	10 ppm
United Kingdom	WEL STEL (mg/m³)	50 mg/m³
United Kingdom	WEL STEL (ppm)	20 ppm
United Kingdom	Regulatory reference	EH40/2005 (Third edition, 2018). HSE
Norway	Local name	Eddiksyre
Norway	Grenseverdier (AN) (mg/m³)	25 mg/m³
Norway	Grenseverdier (AN) (ppm)	10 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m3)	50 mg/m³
Norway	Grenseverdier (Korttidsverdi) (ppm)	20 ppm
Norway	Merknader (NO)	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 for stoffet)
Norway	Regulatory reference	FOR-2018-08-21-1255
Switzerland	Local name	Acide acétique / Essigsäure
Switzerland	MAK (mg/m³)	25 mg/m³

acetic acid (64-19-7)		
Switzerland	MAK (ppm)	10 ppm
Switzerland	KZGW (mg/m³)	50 mg/m³
Switzerland	KZGW (ppm)	20 ppm
Switzerland	Critical toxicity	Poumons, VRS, Yeux / Lunge, OAW, Auge
Switzerland	Notation	SS_C / SS_C
Switzerland	Remark	NIOSH, OSHA
Switzerland	Regulatory reference	www.suva.ch, 01.07.2019
USA - ACGIH	Local name	Acetic acid
USA - ACGIH	ACGIH TWA (ppm)	10 ppm
USA - ACGIH	ACGIH STEL (ppm)	15 ppm
USA - ACGIH	Remark (ACGIH)	TLV® Basis: URT & eye irr; pulm func
USA - ACGIH	Regulatory reference	ACGIH 2019

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

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

Personal protective equipment symbol(s):

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
Appearance	: Colourless. light yellow.
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: < 2
Relative evaporation rate (butylacetate=1)	: 0.97
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: ≈ 118 °C
Flash point	: 39 °C Acetic acid
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable

Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1.05
Solubility	: Miscible.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity
10.1. Reactivity
Flammable liquid and vapour. May intensify fire; oxidiser.
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
Combustible materials. metals.
10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

acetic anhydride (108-24-7)	
LD50 oral rat	630 mg/kg

perchloric acid (7601-90-3)	
LD50 oral rat	200 – 2000 mg/kg

acetic acid (64-19-7)	
LD50 oral rat	3310 mg/kg
LC50 inhalation rat (mg/l)	> 40 mg/l

Skin corrosion/irritation	: Causes severe skin burns. pH: < 2
Serious eye damage/irritation	: Causes serious eye damage. pH: < 2
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

acetic acid (64-19-7)	
NOAEL (oral, rat, 90 days)	290 mg/kg bodyweight/day

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

acetic anhydride (108-24-7)	
LC50 fish 1	300.82 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 Daphnia 1	> 300.82 mg/l

perchloric acid (7601-90-3)	
LC50 fish 1	1470 mg/l Lepomis macrochirus (Bluegill)
EC50 Daphnia 1	> 100 mg/l

acetic acid (64-19-7)	
LC50 fish 1	> 300 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 Daphnia 1	> 300 mg/l
EC50 72h algae (1)	> 300 mg/l
NOEC chronic fish	34.3 mg/l Oncorhynchus mykiss (Rainbow trout)
NOEC chronic crustacea	31.4 mg/l

12.2. Persistence and degradability

acetic anhydride (108-24-7)	
Persistence and degradability	Readily biodegradable in water. Inherently biodegradable. Hydrolysis in water. Very mobile in soil.

12.3. Bioaccumulative potential

acetic anhydride (108-24-7)	
BCF fish 1	3.16
Partition coefficient n-octanol/water (Log Pow)	-0.2
Bioaccumulative potential	Not bioaccumulative.

perchloric acid (7601-90-3)	
BCF fish 1	≤ 1
Partition coefficient n-octanol/water (Log Pow)	-4.63 (estimated value)
Bioaccumulative potential	Not bioaccumulative.

acetic acid (64-19-7)	
Bioconcentration factor (BCF REACH)	3.16 Quantitative structure-activity relationship (QSAR)
Partition coefficient n-octanol/water (Log Pow)	-0.17

12.4. Mobility in soil

acetic anhydride (108-24-7)	
Surface tension	0.033 N/m (20°C)

perchloric acid (7601-90-3)	
Surface tension	0.031 N/m (25 °C)

acetic acid (64-19-7)	
Surface tension	26.3 mN/m 30°C

12.5. Results of PBT and vPvB assessment

Component	
acetic anhydride (108-24-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
perchloric acid (7601-90-3)	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
acetic acid (64-19-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 2789	UN 2789	UN 2789	UN 2789	UN 2789
14.2. UN proper shipping name				
ACETIC ACID, GLACIAL / ACETIC ACID SOLUTION	ACETIC ACID SOLUTION	Acetic acid solution	ACETIC ACID SOLUTION	ACETIC ACID SOLUTION
Transport document description				
UN 2789 ACETIC ACID, GLACIAL / ACETIC ACID SOLUTION, 8 (3), II, (D/E)	UN 2789 ACETIC ACID SOLUTION, 8 (3), II	UN 2789 Acetic acid solution, 8 (3), II	UN 2789 ACETIC ACID SOLUTION, 8 (3), II	UN 2789 ACETIC ACID SOLUTION, 8 (3), II
14.3. Transport hazard class(es)				
8 (3)	8 (3)	8 (3)	8 (3)	8 (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	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) : CF1

Limited quantities (ADR) : 1l

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P001, IBC02

Mixed packing provisions (ADR) : MP15

Portable tank and bulk container instructions (ADR)	: T7
Portable tank and bulk container special provisions (ADR)	: TP2
Tank code (ADR)	: L4BN
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Operation (ADR)	: S2
Hazard identification number (Kemler No.)	: 83
Orange plates	: 
Tunnel restriction code (ADR)	: D/E
EAC code	: •2P
APP code	: A(fl)

Transport by sea

Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-C
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: Colourless flammable liquid with a pungent odour. When pure, crystallizes below 16°C. Flashpoint: 40°C c.c. (pure product) 60°C c.c. (80% solution) Explosive limits: 4% to 17% Miscible with water. Corrosive to lead and most other metals. Corrosive to skin, eyes and mucous membranes.

Air transport

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

Inland waterway transport

Classification code (ADN)	: CF1
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
Equipment required (ADN)	: PP, EP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

Rail transport

Classification code (RID)	: CF1
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02
Mixed packing provisions (RID)	: MP15
Portable tank and bulk container instructions (RID)	: T7
Portable tank and bulk container special provisions (RID)	: TP2
Tank codes for RID tanks (RID)	: L4BN
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE6

Hazard identification number (RID) : 83

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:	
3(a) 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	Perchloric acid, 0.100 Normal (N/10) in glacial acetic acid ; acetic anhydride ; perchloric acid ; acetic acid
3(b) 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	Perchloric acid, 0.100 Normal (N/10) in glacial acetic acid ; acetic anhydride ; perchloric acid ; acetic acid
40. 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.	Perchloric acid, 0.100 Normal (N/10) in glacial acetic acid ; acetic anhydride ; acetic acid

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

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

Storage class (LGK) : LGK 5.1B - Oxidising substances

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)

Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

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

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H226;H272;H290;H314>; 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

The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

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
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard
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
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Classification according to Regulation (EC) No. 1272/2008 [CLP]:	
Flam. Liq. 3	H226
Ox. Liq. 2	H272
Met. Corr. 1	H290
Skin Corr. 1A	H314
Eye Dam. 1	H318

Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3

Met. Corr. 1	Corrosive to metals, Category 1
Ox. Liq. 1	Oxidising Liquids, Category 1
Ox. Liq. 2	Oxidising Liquids, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Flam. Liq. 3	H226	On basis of test data
Ox. Liq. 2	H272	Calculation method
Met. Corr. 1	H290	On basis of test data
Skin Corr. 1A	H314	Calculation method
Eye Dam. 1	H318	Calculation method

SDS EU Mod H F (REACH ANNEX II)

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.