



Tetrahydrofuran a.r.

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 3/17/2023 Version: 1.0

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

1.1. Product identifier

Product form	: Substance
Trade name	: Tetrahydrofuran a.r.
EC Index-No.	: 603-025-00-0
EC-No.	: 203-726-8
CAS-No.	: 109-99-9
REACH registration No.	: 01-2119444314-46
Product code	: CL00.2016
Type of product	: Pure substance, Commercial product is usually stabilized
Formula	: C ₄ H ₈ O
Synonyms	: 1,4-epoxybutane / agrisynth THF / butane, 1,4-epoxy- / butane, alpha,delta-oxide / butylene oxide / cyclotetramethylene oxide / diethylene oxide (=tetrahydrofuran) / furan, tetrahydro- / furanidine / hydrofuran / oxacyclopentane / oxolane / oxyl / tetrahydrofuran / tetramethylene oxide / THF
BIG No	: 53911

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemical

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Chem-Lab nv
Industriezone 'De arend 2'
Zedelgem – Belgium
Belgium
T +32 50 288320
info@chem-lab.be - <https://www.chem-lab.be>

1.4. Emergency telephone number

Emergency number : +32 50 28 83 20

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
Carcinogenicity, Category 2	H351
Acute toxicity (oral), Category 4	H302
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335

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

Specific concentration limits:

(25 ≤C < 100)

(25 ≤C < 100)

STOT SE 3, H335

Eye Irrit. 2, H319

Adverse physicochemical, human health and environmental effects

No additional information available

Tetrahydrofuran a.r.

Safety Data Sheet

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

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

Hazard statements (CLP)

Precautionary statements (CLP)

EUH-statements

- : Danger
- : H225 - Highly flammable liquid and vapour.
H351 - Suspected of causing cancer.
H302 - Harmful if swallowed.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
- : P210 - Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233 - Keep container tightly closed.
P243 - Take action to prevent static discharges.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- : EUH019 - May form explosive peroxides.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Tetrahydrofuran a.r.	CAS-No.: 109-99-9 EC-No.: 203-726-8 EC Index-No.: 603-025-00-0 REACH-no: 01-2119444314-46	100	Flam. Liq. 2, H225 Carc. 2, H351 Acute Tox. 4 (Oral), H302 (ATE=1650 mg/kg bodyweight) Eye Irrit. 2, H319 STOT SE 3, H335 EUH019

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Tetrahydrofuran a.r.	CAS-No.: 109-99-9 EC-No.: 203-726-8 EC Index-No.: 603-025-00-0 REACH-no: 01-2119444314-46	(25 ≤C < 100) STOT SE 3, H335 (25 ≤C < 100) Eye Irrit. 2, H319

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

3.2. Mixtures

Not applicable

Tetrahydrofuran a.r.

Safety Data Sheet

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.
First-aid measures after inhalation	: Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.
First-aid measures after skin contact	: If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation persists, consult a doctor/medical service.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.
First-aid measures after ingestion	: Rinse mouth with water. Immediately consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

Symptoms/effects after inhalation	: EXPOSURE TO HIGH CONCENTRATIONS: Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Nausea. Headache. Respiratory difficulties. Dizziness. Coughing. Disturbances of consciousness. Central nervous system depression. Feeling of weakness. Sensorial disturbances. Ringing in the ears.
Symptoms/effects after skin contact	: Dry skin. Red skin.
Symptoms/effects after eye contact	: Irritation of the eye tissue. Redness of the eye tissue.
Symptoms/effects after ingestion	: Dry/sore throat. Risk of aspiration pneumonia. Symptoms similar to those listed under inhalation.
Chronic symptoms	: Enlargement/affection of the liver. Affection of the renal tissue. Visual disturbances. Auditory disturbances.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (alcohol-resistant). Water spray if puddle cannot expand.
Unsuitable extinguishing media	: Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Highly flammable liquid and vapour. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD: May be ignited by sparks. May build up electrostatic charges: risk of ignition. Substance contains stabilizer against peroxidation.
Explosion hazard	: DIRECT EXPLOSION HAZARD: Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD: may be ignited by sparks. May form explosive peroxides. Reactions with explosion hazards: see "Reactivity Hazard".
Hazardous decomposition products in case of fire	: Upon combustion: CO and CO2 are formed.

5.3. Advice for firefighters

Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Take account of toxic fire-fighting water.
Protection during firefighting	: Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

Tetrahydrofuran a.r.

Safety Data Sheet

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Gloves (EN 374). Protective goggles (EN 166). Protective clothing (EN 14605 or EN 13034). Large spills/in enclosed spaces: self-contained breathing apparatus (EN 136 + EN 137).
- Emergency procedures : Keep upwind. Mark the danger area. Consider evacuation. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

- For containment : Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.
- Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite, kieselguhr, powdered limestone. Take up liquid spill into inert absorbent material. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Clean contaminated clothing. Before use: check for peroxides and eliminate them. Handle and open the container with care. Cool before opening. Keep container tightly closed. Handle uncleaned empty containers as full ones. Do not discharge the waste into the drain. Do not use compressed air for pumping over.
- Hygiene measures : Observe strict hygiene.

7.2. Conditions for safe storage, including any incompatibilities

- Storage temperature : 2 – 8 °C
- Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
- Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases.
- Storage area : Meet the legal requirements. Detached building. Store in a cool area. Store in a dry area. Store in a dark area. Keep container in a well-ventilated place. Fireproof storeroom. Store only in a limited quantity. Provide for a tub to collect spills. Provide the tank with earthing. May be stored under nitrogen. May be stored under argon. Store only in a stabilised state.
- Special rules on packaging : SPECIAL REQUIREMENTS: closing. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: steel. stainless steel. aluminium. iron. glass. stoneware/porcelain. MATERIAL TO AVOID: synthetic material. tin.

Tetrahydrofuran a.r.

Safety Data Sheet

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

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Tetrahydrofuran a.r. (109-99-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	150 mg/m ³
IOEL TWA [ppm]	50 ppm
IOEL STEL	300 mg/m ³
IOEL STEL [ppm]	100 ppm
Belgium - Occupational Exposure Limits	
OEL TWA	150 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	300 mg/m ³
OEL STEL [ppm]	100 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	150 mg/m ³
VME (OEL TWA) [ppm]	50 ppm
VLE (OEL C/STEL)	300 mg/m ³
VLE (OEL C/STEL) [ppm]	100 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	300 mg/m ³
TGG-8u (OEL TWA) [ppm]	100 ppm
TGG-15min (OEL STEL)	600 mg/m ³
TGG-15min (OEL STEL) [ppm]	200 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	150 mg/m ³
WEL TWA (OEL TWA) [2]	50 ppm
WEL STEL (OEL STEL)	300 mg/m ³
WEL STEL (OEL STEL) [ppm]	100 ppm
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	50 ppm
ACGIH OEL STEL [ppm]	100 ppm

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

Tetrahydrofuran a.r.

Safety Data Sheet

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

8.1.4. DNEL and PNEC

Tetrahydrofuran a.r. (109-99-9)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	96 mg/m ³
Acute - local effects, inhalation	300 mg/m ³
Long-term - systemic effects, dermal	12.6 mg/kg bw/day
Long-term - systemic effects, inhalation	72.4 mg/m ³
Long-term - local effects, inhalation	150 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	52 mg/m ³
Acute - local effects, inhalation	150 mg/m ³
Long-term - systemic effects, oral	1.5 mg/kg bw/day
Long-term - systemic effects, inhalation	13 mg/m ³
Long-term - systemic effects, dermal	1.5 mg/kg bw/day
Long-term - local effects, inhalation	75 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	4.32 mg/l
PNEC aqua (marine water)	0.432 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	23.3 mg/kg dwt
PNEC sediment (marine water)	2.33 mg/kg dwt
PNEC (Soil)	
PNEC soil	2.13 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	67 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	4.6 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Protective goggles (EN 166)

Tetrahydrofuran a.r.

Safety Data Sheet

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

8.2.2.2. Skin protection

Skin and body protection:

Protective clothing (EN 14605 or EN 13034)

Hand protection:

Protective gloves against chemicals (EN 374)

Other skin protection

Materials for protective clothing:

Excellent resistance: Polyethylene. Good resistance: Tetrafluoroethylene. Less resistance: Polyvinylalcohol (PVA). Poor resistance: Butyl rubber. Chlorinated polyethylene. Natural rubber. Nitrile rubber. Polyvinylchloride (PVC). neoprene/natural rubber. Nitrile rubber/PVC. Viton

8.2.2.3. Respiratory protection

Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Appearance	: Liquid.
Molecular mass	: 72.11 g/mol
Odour	: Fruity odour. Ether-like odour.
Odour threshold	: Not available
Melting point	: -108 °C (1013 hPa)
Freezing point	: Not available
Boiling point	: 65 °C (1013 hPa)
Flammability	: Not available
Explosive properties	: May form explosive peroxides.
Explosive limits	: 1.8 – 11.8 vol %
Lower explosion limit	: 1.8 vol %
Upper explosion limit	: 11.8 vol %
Flash point	: -21 °C (Closed cup, 1013 hPa, DIN 51755: Abel-Pensky)
Auto-ignition temperature	: 215 °C (1013 hPa, DIN 51794 (2003))
Decomposition temperature	: No data available in the literature
pH	: No data available in the literature
Viscosity, kinematic	: No data available in the literature
Viscosity, dynamic	: 0.456 mPa.s (25 °C)
Solubility	: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in dimethyl sulfoxide. Soluble in oils/fats. Water: miscible Ethanol: > 10 g/100ml Acetone: > 10 g/100ml
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: 0.45 (Experimental value, Equivalent or similar to OECD 107, 25 °C)
Vapour pressure	: 170 hPa (20 °C)
Vapour pressure at 50°C	: 587 hPa (Antoine equation)
Critical pressure	: 51880 hPa
Saturation concentration	: 592 g/m ³
Density	: 883 kg/m ³ (25 °C)
Relative density	: 0.88 (25 °C)
Relative vapour density at 20°C	: 2.5
Relative density of saturated gas/air mixture	: 1.3

Tetrahydrofuran a.r.

Safety Data Sheet

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

Particle characteristics : Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosion limits : 1.8 – 11.8 vol %
Critical temperature : 267 °C

9.2.2. Other safety characteristics

Minimum ignition energy : 0.54 mJ
Relative evaporation rate (butylacetate=1) : 8
Relative evaporation rate (ether=1) : 2.3
VOC content : 100 %
Other properties : Gas/vapour heavier than air at 20°C, Clear, Hygroscopic, Volatile, Neutral reaction, May generate electrostatic charges

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Reacts with (some) bases. Unstabilised product reacts on exposure to air: peroxidation resulting in increased fire or explosion risk. Unstabilised product: on exposure to light: peroxidation resulting in increased fire or explosion risk. May form explosive peroxides.

10.2. Chemical stability

Unstable on exposure to light. Unstable on exposure to air. Unstable on exposure to moisture.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Tetrahydrofuran a.r. (109-99-9)	
LD50 oral rat	1650 mg/kg bodyweight (Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	> 14.7 mg/l air (US EPA, 6 h, Rat, Male / female, Experimental value, Inhalation, 15 day(s))

Skin corrosion/irritation : Not classified
pH: No data available in the literature
Serious eye damage/irritation : Causes serious eye irritation.
pH: No data available in the literature
Respiratory or skin sensitisation : Not classified

Tetrahydrofuran a.r.

Safety Data Sheet

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

Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

Tetrahydrofuran a.r. (109-99-9)

Viscosity, kinematic	No data available in the literature
----------------------	-------------------------------------

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Potential adverse human health effects and symptoms : Harmful if swallowed, Not irritant to skin, Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg), May cause respiratory irritation, Causes serious eye irritation, Caution! Substance is absorbed through the skin

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air	: Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Photooxidation in the air. Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Not harmful to crustacea (Daphnia). Not harmful to fishes. Groundwater pollutant. Inhibition of activated sludge. Not harmful to algae. Slightly harmful to bacteria.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified
Not rapidly degradable	

Tetrahydrofuran a.r. (109-99-9)

LC50 - Fish [1]	2160 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
-----------------	--

12.2. Persistence and degradability

Tetrahydrofuran a.r. (109-99-9)

Persistence and degradability	Biodegradable in the soil. Not readily biodegradable in water.
Chemical oxygen demand (COD)	1.855 g O ₂ /g substance
ThOD	2.44 g O ₂ /g substance

12.3. Bioaccumulative potential

Tetrahydrofuran a.r. (109-99-9)

Partition coefficient n-octanol/water (Log Pow)	0.45 (Experimental value, Equivalent or similar to OECD 107, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Tetrahydrofuran a.r.

Safety Data Sheet

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

12.4. Mobility in soil

Tetrahydrofuran a.r. (109-99-9)

Surface tension	26.4 mN/m (25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.26 – 1.37 (log Koc, Experimental value)
Ecology - soil	Highly mobile in soil.

12.5. Results of PBT and vPvB assessment

Tetrahydrofuran a.r. (109-99-9)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Do not discharge into drains or the environment. Dispose of at authorized waste collection point. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.
Additional information	: Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.
European List of Waste (LoW) code	: 15 01 10* - packaging containing residues of or contaminated by dangerous substances 07 01 04* - other organic solvents, washing liquids and mother liquors

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 2056	UN 2056	UN 2056	UN 2056	UN 2056
14.2. UN proper shipping name				
tetrahydrofuran	tetrahydrofuran	tetrahydrofuran	tetrahydrofuran	tetrahydrofuran
Transport document description				
UN 2056 tetrahydrofuran, 3, II, (D/E)	UN 2056 tetrahydrofuran, 3, II	UN 2056 tetrahydrofuran, 3, II	UN 2056 tetrahydrofuran, 3, II	UN 2056 tetrahydrofuran, 3, II
14.3. Transport hazard class(es)				
3	3	3	3	3

Tetrahydrofuran a.r.

Safety Data Sheet

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

ADR	IMDG	IATA	ADN	RID
				
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

Transport regulations (ADR) : Subject to the provisions
Classification code (ADR) : F1
Hazard identification number (Kemler No.) : 33
Orange plates :



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

Transport by sea

Transport regulations (IMDG) : Subject to the provisions
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D

Air transport

Transport regulations (IATA) : Subject to the provisions

Inland waterway transport

Classification code (ADN) : F1
Carriage permitted (ADN) : T

Rail transport

Transport regulations (RID) : Subject to the provisions
Classification code (RID) : F1

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

Tetrahydrofuran a.r.

Safety Data Sheet

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

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

VOC Directive (2004/42)

VOC content : 100 %

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)

15.1.2. 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

Germany

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).

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 190).

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

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.

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

Netherlands

ABM category : B(4) - low hazard for aquatic organisms

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

Tetrahydrofuran a.r.

Safety Data Sheet

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

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

Switzerland

Storage class (LK) : LK 3 - Flammable liquids
Chemicals Ordinance (SR 813.11) : Group 2

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Carc. 2	Carcinogenicity, Category 2
EUH019	May form explosive peroxides.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

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