

acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

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

#### 1.1 Product identifier

Identification of the substance **Tetrahydrofuran** 

Registration number (REACH) 01-2119444314-46-xxxx

EC number 203-726-8 CAS number 109-99-9

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

Relevant identified uses Industrial use

#### 1.3 Details of the supplier of the safety data sheet

FRIEDRICH SCHARR KG Liebknechtstraße 50 70565 Stuttgart Germany

Telephone: +49 711 7868-0 Telefax: +49 711 7868-489 e-mail: info@scharr.de Website: www.scharr.de

e-mail (competent person) produktsicherheit@scharr.de (Produktsicherheit)

#### 1.4 Emergency telephone number

Emergency information service +49 711 7868-237

This number is only available during the follow-

ing office hours: Mon-Fri 07:00 - 17:00

#### Poison centre

Country	Name	Postal code/city	Telephone
Germany	Giftinformation Freiburg	79106 Freiburg im Bre- isgau	+49 (0)761 19240

#### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

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

Hazard class	Category	Hazard class and cat- egory	Hazard state- ment
flammable liquid	2	Flam. Liq. 2	H225
acute toxicity (oral)	4	Acute Tox. 4	H302
serious eye damage/eye irritation	2	Eye Irrit. 2	H319
carcinogenicity	2	Carc. 2	H351
specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

For full text of abbreviations: see SECTION 16.

Germany: en Page: 1 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

The most important adverse physicochemical, human health and environmental effects
The product is combustible and can be ignited by potential ignition sources.

#### 2.2 Label elements

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

- signal word danger

- pictograms

GHS02, GHS07, GHS08







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.

#### - precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

P312 Call a POISON CENTRE/doctor if you feel unwell.

P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container to industrial combustion plant.

#### - supplemental hazard information

EUH019 May form explosive peroxides.

#### 2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### **SECTION 3: Composition/information on ingredients**

#### 3.1 Substances

Name of substance tetrahydrofuran

Identifiers

REACH Reg. No 01-2119444314-46-xxxx

EC No 203-726-8 CAS No 109-99-9

Specific Conc. Limits	M-Factors	ATE	Exposure route
Eye Irrit. 2; H319: C ≥ 25 % STOT SE 3; H335: C ≥ 25 %		500 <sup>mg</sup> / <sub>kg</sub>	oral

Germany: en Page: 2 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

#### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

#### General notes

Do not leave affected person unattended. Remove victim out of the danger area. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Self-protection of the first aider.

#### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

#### Following skin contact

Wash with plenty of soap and water.

#### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Call a doctor.

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

Breathing difficulties. Headache. Vertigo.

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

Subsequent observance for pneumonia and pulmonary oedema. Supervise the blood circulation.

#### **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO2), Sand

Unsuitable extinguishing media

Water jet

#### 5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Danger of bursting container.

#### Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Germany: en Page: 3 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

#### **SECTION 6: Accidental release measures**

#### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Provision of sufficient ventilation.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

#### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

#### **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

#### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

#### 7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

Germany: en Page: 4 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

#### - flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

- ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

- specific designs for storage rooms or vessels
- Lagerklasse (storage class according to TRGS 510, 3 (flammable and desensitizing explosive liquids) Germany)
- packaging compatibilities

  Only packagings which are approved (e.g. acc. to ADR) may be used.

#### 7.3 Specific end use(s)

See section 16 for a general overview.

#### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

#### Occupational exposure limit values (Workplace Exposure Limits)

Coun- try	Name of sub- stance	CAS No	Identifi- er	TWA [ppm]	TWA [mg/ m³]	STEL [ppm]	STEL [mg/ m³]	Source
AT	tetrahy- drofuran	109-99-9	MAK	50	150	100	300	GKV
СН	tetrahy- drofuran	109-99-9	MAK	50	150	100	300	SUVA
DE	tetrahy- drofuran	109-99-9	AGW	50	150	100	300	TRGS 900
EU	tetrahy- drofuran	109-99-9	IOELV	50	150	100	300	2000/39/EC

#### Notation

STEL

short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA

time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

#### Biological limit values

Coun- try	Name of agent	Parameter	Nota- tion	Identifier	Value	Source
СН	tetrahydrofuran (THF)	tetrahydrofuran		BAT	2 mg/l	SUVA
DE	tetrahydrofuran	tetrahydrofuran		BLV	2 mg/l	TRGS 903

#### **Human health values**

Germany: en Page: 5 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## Tetrahydrofuran

Version number: 1.0 Date of compilation: 19.05.2021

#### Relevant DNELs and other threshold levels

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	72,4 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	96 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	150 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
DNEL	300 mg/m³	human, inhalatory	worker (industry)	acute - local effects
DNEL	12,6 mg/kg bw/ day	human, dermal	worker (industry)	chronic - systemic effects

#### **Environmental values**

#### Relevant PNECs and other threshold levels

End- point	Threshold level	Organism	Environmental compart- ment	Exposure time
PNEC	67 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	water	short-term (single instance)
PNEC	21,6 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	water	intermittent release
PNEC	4,32 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (single instance)
PNEC	0,432 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (single instance)
PNEC	4,6 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	23,3 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	2,33 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (single instance)
PNEC	2,13 <sup>mg</sup> / <sub>kg</sub>	terrestrial organisms	soil	short-term (single instance)

#### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- type of material PE: polyethylene

- material thickness

0,1 mm

- breakthrough times of the glove material

>480 minutes (permeation: level 6)

Germany: en Page: 6 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

- protective gloves splash protection Type of material PE: polyethylene
- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

#### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

#### **SECTION 9: Physical and chemical properties**

#### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	like ether
Melting point/freezing point	-108,4 °C
Boiling point or initial boiling point and boiling range	65 °C at 101,3 kPa
Evaporation rate	not determined
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	1,5 vol% - 12,4 vol%
Flash point	-21,2 °C at 101,3 kPa
Auto-ignition temperature	215 °C at 101,3 kPa
pH (value)	7 (in aqueous solution: 200 <sup>g</sup> / <sub>l</sub> , 20 °C)

#### Solubility(ies)

Water solubility	miscible in any proportion
------------------	----------------------------

#### Partition coefficient

Partition coefficient n-octanol/water (log value)	0,45 (pH value: 7, 25 °C)

Vapour pressure	17 kPa at 20 °C
-----------------	-----------------

#### Density and/or relative density

Density	0,883 <sup>g</sup> / <sub>cm³</sub> at 25 °C
---------	--

Germany: en Page: 7 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

Particle characteristics	not relevant (liquid)
--------------------------	-----------------------

#### 9.2 Other information

Information with regard to physical hazard classes	there is no additional information

#### Other safety characteristics

Miscibility	Completely miscible with water.
Temperature class (EU, acc. to ATEX)	T3 (maximum permissible surface temperature on the equipment: 200°C)

#### **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. The mixture contains reactive substance(s). Risk of ignition.

#### If heated:

Risk of ignition

#### 10.2 Chemical stability

See below "Conditions to avoid".

#### 10.3 Possibility of hazardous reactions

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.

#### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

#### 10.5 Incompatible materials

Acids, Oxidisers, Potassium

#### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

#### **SECTION 11: Toxicological information**

# 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if swallowed.

GHS of the United Nations, annex 4: May be harmful in contact with skin.

- acute toxicity estimate (ATE)

Oral 500 <sup>mg</sup>/<sub>kg</sub>

Germany: en Page: 8 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

Acute toxicity			
Exposure route	Endpoint	Value	Species
inhalation: vapour	LC50	53,9 <sup>mg</sup> / <sub>l</sub> /4h	rat
oral	LD50	1.650 <sup>mg</sup> / <sub>kg</sub>	rat
dermal	LD50	>2.000 <sup>mg</sup> / <sub>kg</sub>	rat

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

#### Carcinogenicity

Suspected of causing cancer.

#### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

#### Specific target organ toxicity - single exposure

May cause respiratory irritation.

#### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### 11.2 Information on other hazards

There is no additional information.

#### **SECTION 12: Ecological information**

#### 12.1 Toxicity

Acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment. Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV): WGK 1, slightly hazardous to water (Germany)

#### Aquatic toxicity (acute)

Endpoint	Value	Species	Exposure time
LC50	2.160 <sup>mg</sup> / <sub>l</sub>	fish	96 h
EC50	1.930 <sup>mg</sup> / <sub>l</sub>	fish	96 h

#### Biodegradation

Data are not available.

Germany: en Page: 9 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

#### 12.2 Persistence and degradability

Process of degradability

Process	Degradation rate	Time
biotic/abiotic	39 %	28 d
oxygen depletion	39 %	28 d

#### 12.3 Bioaccumulative potential

Data are not available.

n-octanol/water (log KOW)	0,45 (pH value: 7, 25 °C)
---------------------------	---------------------------

#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

Data are not available.

#### 12.6 Endocrine disrupting properties

Information on this property is not available.

#### 12.7 Other adverse effects

Data are not available.

### **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### **Remarks**

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

Germany: en Page: 10 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

#### **SECTION 14: Transport information**

#### 14.1 UN number or ID number

ADR/RID/ADN UN 2056 IMDG-Code UN 2056 ICAO-TI UN 2056

#### 14.2 UN proper shipping name

ADR/RID/ADN TETRAHYDROFURAN IMDG-Code TETRAHYDROFURAN ICAO-TI Tetrahydrofuran

#### 14.3 Transport hazard class(es)

ADR/RID/ADN 3
IMDG-Code 3
ICAO-TI 3

#### 14.4 Packing group

ADR/RID/ADN II
IMDG-Code II
ICAO-TI II

## **14.5 Environmental hazards** non-environmentally hazardous acc. to the dan-

gerous goods regulations

#### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

#### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

#### Information for each of the UN Model Regulations

## Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - additional information

Classification code F1
Danger label(s) 3



Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	33

Germany: en Page: 11 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

#### International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant Danger label(s) 3



Special provisions (SP)

Excepted quantities (EQ) E2
Limited quantities (LQ) 1 L

EmS F-E, S-D

Stowage category B

#### International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Danger label(s) 3



Excepted quantities (EQ) E2
Limited quantities (LQ) 1 L

#### **SECTION 15: Regulatory information**

# 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

#### **VOC Deco-Paint Directive 2004/42/EC**

VOC content	100 %
-------------	-------

#### **Industrial Emissions Directive (IED)**

VOC content	100 %
-------------	-------

#### **National regulations (Austria)**

Ordinance on combustible liquids (VbF)

- VbF (group and hazard class)

BI (combustible liquids of group B, hazard class I)

#### **National regulations (Germany)**

## Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV)

Wassergefährdungsklasse, WGK 1 slightly hazardous to water

(water hazard class)

Index number 190

#### **National regulations Switzerland**

#### Ordinance on the incentive tax on volatile organic compounds (VOCV)

VOC content (object of taxation): 100 % 2932.1100 (tetrahydrofuran (oxolan))

#### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

Germany: en Page: 12 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## Tetrahydrofuran

Version number: 1.0 Date of compilation: 19.05.2021

### **SECTION 16: Other information**

#### **Abbreviations and acronyms**

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de naviga- tion intérieures (European Agreement concerning the International Carriage of Dangerous Goods by In land Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (Europear Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	European Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
AGW	Workplace exposure limit
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an ident fier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na tions
GKV	Grenzwerteverordnung
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic

Germany: en Page: 13 / 14



acc. to Regulation (EC) No. 1907/2006 (REACH)

## **Tetrahydrofuran**

Version number: 1.0 Date of compilation: 19.05.2021

Abbr.	Descriptions of used abbreviations
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
SUVA	Grenzwerte am Arbeitsplatz, Suva
TRGS	Technische Regeln für GefahrStoffe (technical rules for hazardous substances, Germany)
TRGS 900	Arbeitsplatzgrenzwerte (TRGS 900)
TRGS 903	Biologische Grenzwerte (TRGS 903)
TWA	Time-weighted average
VbF	Ordinance on combustible liquids (Austria)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

#### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

#### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
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.

#### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Germany: en Page: 14 / 14