

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: **4745**
Version: **GHS 7.0 en**
Replaces version of: 2020-04-02
Version: (GHS 6)

date of compilation: 2016-03-09
Revision: 2021-05-06

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

1.1 Product identifier

Identification of the substance **Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis**

Article number 4745

CAS number 109-99-9

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

Relevant identified uses: Laboratory chemical
Laboratory and analytical use

Uses advised against: Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone: +49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet: :Department Health, Safety and Environment

e-mail (competent person): sicherheit@carlroth.de

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	Flammable liquid	2	Flam. Liq. 2	H225
3.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.3	Serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.6	Carcinogenicity	2	Carc. 2	H351

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.8R	Specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

Supplemental hazard information

Code	Supplemental hazard information
EUH019	may form explosive peroxides

For full text of abbreviations: see SECTION 16

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

Signal word

Danger

Pictograms

GHS02, GHS07,
GHS08



Hazard statements

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

Precautionary statements - prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P261 Avoid breathing dust/fume/gas/mist/vapours/spray

Precautionary statements - response

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 CENTER or doctor/physician if you feel unwell
P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction

Precautionary statements - storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed
P403+P235 Store in a well-ventilated place. Keep cool

Precautionary statements - disposal

P501 Dispose of contents/container to industrial combustion plant

For professional users only

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

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
Molecular formula	C ₄ H ₈ O
Molar mass	72.11 g/mol
CAS No	109-99-9

To stabilise:

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Butylated hydroxytoluene	CAS No 128-37-0	< 0.1		

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower.

Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion

Rinse mouth with water (only if the person is conscious). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

4.2 Most important symptoms and effects, both acute and delayed

Following inhalation: Headache, Vertigo, Drowsiness, Cough, Dyspnoea,

Following skin contact: Localised redness, oedema, pruritis and/or pain,

After eye contact: Irritation,

Following ingestion: Nausea, Vomiting

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible. 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. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Danger of explosion.

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

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5$ %, stabilized, for synthesis

article number: 4745

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

Provision of sufficient ventilation. Avoid exposure.

Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage

of vapours into cellars, flues and ditches.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

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

Incompatible substances or mixtures

Observe hints for combined storage.

Protect against external exposure, such as

high temperatures, UV-radiation/sunlight, contact with air/oxygen

Consideration of other advice:

Ground/bond container and receiving equipment.

Ventilation requirements

Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 20 – 25 °C

7.3 Specific end use(s)

No information available.

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
AU	tetrahydrofuran	109-99-9	WES	100	295						WES

Notation

Ceiling-C
STEL

Ceiling value is a limit value above which exposure should not occur
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)

Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	72.4 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	96 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	150 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
DNEL	300 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
DNEL	12.6 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Butylated hydroxytoluene	128-37-0	DNEL	19 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
Butylated hydroxytoluene	128-37-0	DNEL	18 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
Butylated hydroxytoluene	128-37-0	DNEL	3.5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Butylated hydroxytoluene	128-37-0	DNEL	0.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

Environmental values

Relevant PNECs and other threshold levels				
End-point	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	67 mg/kg	aquatic organisms	water	short-term (single instance)
PNEC	4.32 mg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0.432 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	4.6 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	23.3 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	2.33 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
PNEC	2.13 mg/kg	terrestrial organisms	soil	short-term (single instance)

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Butylated hydroxytoluene	128-37-0	PNEC	8.33 mg/kg	aquatic organisms	water	short-term (single instance)
Butylated hydroxytoluene	128-37-0	PNEC	1.99 µg/l	aquatic organisms	water	intermittent release
Butylated hydroxytoluene	128-37-0	PNEC	0.199 µg/l	aquatic organisms	freshwater	short-term (single instance)
Butylated hydroxytoluene	128-37-0	PNEC	0.02 µg/l	aquatic organisms	marine water	short-term (single instance)
Butylated hydroxytoluene	128-37-0	PNEC	0.17 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Butylated hydroxytoluene	128-37-0	PNEC	99.6 µg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Butylated hydroxytoluene	128-37-0	PNEC	9.96 µg/kg	aquatic organisms	marine sediment	short-term (single instance)
Butylated hydroxytoluene	128-37-0	PNEC	47.69 µg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

Skin protection



• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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. The times are approximate values from measurements at 22 °C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• Splash protection - Protective gloves

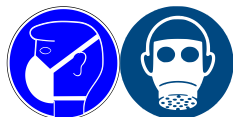
- type of material: Butyl caoutchouc (butyl rubber)
- material thickness: 0,7mm
- breakthrough times of the glove material: >10 minutes (permeation: level 1)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Flame-retardant protective clothing.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C, colour code: Brown).

Environmental exposure controls

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	-108.5 °C
Boiling point or initial boiling point and boiling range	65 °C at 101.3 kPa (ECHA)
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 (ECHA)
Auto-ignition temperature	215 °C (DIN 51794)
Decomposition temperature	not relevant

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

pH (value) 7 – 8 (in aqueous solution: 200 g/l, 20 °C)

Kinematic viscosity not determined

Solubility(ies)

Water solubility miscible in any proportion

Partition coefficient

Partition coefficient n-octanol/water (log value): 0.45 (pH value: 7, 25 °C) (ECHA)

Vapour pressure 17 kPa at 20 °C

Density 0.883 g/cm³ at 25 °C

Relative vapour density 2.49 (air = 1)

Particle characteristics not relevant (liquid)

Other safety parameters

Oxidising properties none

9.2 Other information

Information with regard to physical hazard classes: There is no additional information.

Other safety characteristics:

Miscibility completely miscible with water

SECTION 10: Stability and reactivity

10.1 Reactivity

It's a reactive substance. Risk of ignition. Vapours may form explosive mixtures with air. May form explosive peroxides.

If heated

Risk of ignition.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser, Alkali hydroxide (caustic alkali), Acids

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. UV-radiation/sunlight.

10.5 Incompatible materials

Rubber articles, different plastics, tin

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5. Peroxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Harmful if swallowed.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	1,650 mg/kg	rat		TOXNET
dermal	LD50	>2,000 mg/kg	rat		ECHA

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Butylated hydroxytoluene	128-37-0	oral	LD50	>6,000 mg/kg	rat
Butylated hydroxytoluene	128-37-0	dermal	LD50	>2,000 mg/kg	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.

Symptoms related to the physical, chemical and toxicological characteristics

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

- **If swallowed**

vomiting, nausea

- **If in eyes**

Causes serious eye irritation

- **If inhaled**

cough, Dyspnoea, vertigo, headache, Irritation to respiratory tract, drowsiness, dizziness

- **If on skin**

Prolonged or repeated contact with skin or mucous membrane result in irritation symptoms such as redness, blistering, dermatitis, etc

- **Other information**

none

11.2 Endocrine disrupting properties

Not listed.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)			
Endpoint	Value	Species	Exposure time
LC50	2,160 mg/l	Pimephales promelas	96 h
EC50	1,930 mg/l	Pimephales promelas	96 h

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Butylated hydroxy-toluene	128-37-0	LC50	>0.57 mg/l	fish	96 h
Butylated hydroxy-toluene	128-37-0	EC50	0.48 mg/l	aquatic invertebrates	48 h
Butylated hydroxy-toluene	128-37-0	ErC50	>0.4 mg/l	algae	72 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Butylated hydroxy-toluene	128-37-0	EC50	0.096 mg/l	aquatic invertebrates	21 d

Biodegradation

Data are not available.

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

12.2 Process of degradability

Theoretical Oxygen Demand: 2.441 mg/mg
Theoretical Carbon Dioxide: 2.441 mg/mg

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

Degradability of components of the mixture						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Butylated hydroxytoluene	128-37-0	biotic/abiotic	<10 %	20 d		

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	0.45 (pH value: 7, 25 °C) (ECHA)
---------------------------	----------------------------------

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Butylated hydroxytoluene	128-37-0	598.4	5.1	

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

Not listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

Relevant provisions relating to waste(Basel Convention)

Properties of waste which render it hazardous

H3 Flammable liquids
H11 Toxic (Delayed or chronic)

13.3 Remarks

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

SECTION 14: Transport information

14.1 UN number

UN RTDG	UN 2056
IMDG-Code	UN 2056
ICAO-TI	UN 2056

14.2 UN proper shipping name

UN RTDG	TETRAHYDROFURAN
IMDG-Code	TETRAHYDROFURAN
ICAO-TI	Tetrahydrofuran

14.3 Transport hazard class(es)

UN RTDG	3
IMDG-Code	3
ICAO-TI	3

14.4 Packing group

UN RTDG	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

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

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport informationNational regulationsAdditional information(UN RTDG)

UN number	2056
Class	3
Packing group	II
Danger label(s)	3

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745



Special provisions (SP)	- UN RTDG
Excepted quantities (EQ)	E2 UN RTDG
Limited quantities (LQ)	1 L UN RTDG

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	TETRAHYDROFURAN
Particulars in the shipper's declaration	UN2056, TETRAHYDROFURAN, 3, II, -21.2°C c.c.
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

Proper shipping name	Tetrahydrofuran
Particulars in the shipper's declaration	UN2056, Tetrahydrofuran, 3, II
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

There is no additional information.

National regulations(Australia)

Australian Inventory of Chemical Substances(AICS)

Substance is listed.

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5\%$, stabilized, for synthesis

article number: 4745

National inventories

Country	Inventory	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical Safety Assessment

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

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Alignment to regulation: Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book").

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1		Supplemental hazard information: change in the listing (table)	yes
2.1		The most important adverse physicochemical, human health and environmental effects: The product is combustible and can be ignited by potential ignition sources.	yes

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran ≥99,5 %, stabilized, for synthesis

article number: 4745

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.2		Pictograms: change in the listing (table)	yes
2.2		Hazard statements: change in the listing (table)	yes
2.2		Precautionary statements - response: change in the listing (table)	yes
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger		yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
COD	Chemical oxygen demand
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
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations

Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Tetrahydrofuran $\geq 99,5$ %, stabilized, for synthesis

article number: 4745

Abbr.	Descriptions of used abbreviations
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
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 a specified time interval
log KOW	n-Octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
STEL	Short-term exposure limit
TWA	Time-weighted average
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne conatminants

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. 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.