article number: 7344
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Version: (GHS 7)

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

### 1.1 Product identifier

Identification of the substance

Article number
CAS number

Tetrahydrofuran ROTISOLV® HPLC, Non-stabilised

7344
109-99-9
1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses:

Uses advised against:

Laboratory chemical
Laboratory and analytical use
Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feedingstuffs.
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) 721-56 060
Telefax: +49 (0) 721-56 06149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de
Competent person responsible for the safety data sheet:
sicherheit@carlroth.de
1.4 Emergency telephone number

| Name | Street | Postal <br> code/city | Telephone | Website |
| :---: | :---: | :---: | :---: | :---: |
| NSW Poisons Information Centre <br> Childrens Hospital | Hawkesbury Road | 2145 West- <br> mead, NSW | 131126 |  |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class | Cat- <br> egory | Hazard class and <br> category | Hazard <br> statement |
| :---: | :---: | :---: | :---: | :---: |
| 2.6 | Flammable liquid | 2 | Flam. Liq. 2 | H 225 |
| 3.10 | Acute toxicity (oral) | 4 | Acute Tox. 4 | H 302 |
| 3.3 | Serious eye damage/eye irritation | 2 | Eye Irrit. 2 | H 319 |
| 3.6 | Carcinogenicity | 2 | Carc. 2 | H 351 |

article number: $\mathbf{7 3 4 4}$

| Section | Hazard class | Cat- <br> egory | Hazard class and <br> category | Hazard <br> statement |
| :---: | :---: | :---: | :---: | :---: |
| 3.8 R | Specific target organ toxicity - single exposure (respirat- <br> ory tract irritation) | 3 | STOT SE 3 | H335 |
| 3.8D | Specific target organ toxicity - single exposure (narcotic <br> effects, drowsiness) | 3 | STOT SE 3 | H336 |

## Supplemental hazard information

| Code | Supplemental hazard information |
| :---: | :---: |
| AUH019 | 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,
GHSO8


## Hazard statements

H225 Highly flammable liquid and vapour
H302 Harmful if swallowed
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
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 <br> lenses, if present and easy to do. Continue rinsing |
| :--- | :--- |
| P312 Call a POISON CENTER or doctor/physician if you feel unwell <br> 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

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For professional users only
Supplemental hazard information
AUH019 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.
Endocrine disrupting properties
Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1 \%$.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Name of substance | Tetrahydrofuran |
| :--- | :--- |
| Molecular formula | $\mathrm{C}_{4} \mathrm{H}_{8} \mathrm{O}$ |
| Molar mass | $72.11 \mathrm{~g} / \mathrm{mol}$ |
| CAS No | $109-99-9$ |

## 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: Cough, Dyspnoea, Headache, Vertigo, Drowsiness, Dizziness, Narcosis, Following skin contact: Localised redness, oedema, pruritis and/or pain, After eye contact: Irritation, Following ingestion: Nausea, Vomiting
```

4.3 Indication of any immediate medical attention and special treatment needed none article number: 7344

## 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 ( $\mathrm{CO}_{2}$ )
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 vapourair 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 $\left(\mathrm{CO}_{2}\right)$

### 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. 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
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.

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### 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: $15-25^{\circ} \mathrm{C}$
7.3 Specific end use(s)

No information available.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

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

| $\begin{gathered} \text { Cou } \\ \text { ntr } \\ \mathbf{y} \end{gathered}$ | Name of agent | CAS No | Identifier | $\begin{gathered} \text { TW } \\ \text { A } \\ \text { [pp } \\ \mathrm{m}] \end{gathered}$ | TWA [mg/ $\mathrm{m}^{3}$ ] | $\begin{gathered} \text { STE } \\ \text { Lpp } \\ \text { [p] } \end{gathered}$ | STEL <br> [mg/ <br> $\mathrm{m}^{3}$ ] | Ceil <br> ing- <br> [pp <br> m] | Ceil-ing-c $\left[\begin{array}{c}\left.\mathrm{m}^{3}\right]\end{array}\right.$ | Notation | Source |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AU | tetrahydrofuran | 109-99-9 | WES | 100 | 295 |  |  |  |  | H | WES |

## Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur
H Absorbed through the skin
STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15minute 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 <br> level | Protection goal, <br> route of exposure | Used in | Exposure time |
| :---: | :---: | :---: | :---: | :---: |
| DNEL | $72.4 \mathrm{mg} / \mathrm{m}^{3}$ | human, inhalatory | worker (industry) | chronic - systemic effects |
| DNEL | $96 \mathrm{mg} / \mathrm{m}^{3}$ | human, inhalatory | worker (industry) | acute - systemic effects |
| DNEL | $150 \mathrm{mg} / \mathrm{m}^{3}$ | human, inhalatory | worker (industry) | chronic - local effects |
| DNEL | $300 \mathrm{mg} / \mathrm{m}^{3}$ | human, inhalatory | worker (industry) | acute - local effects |
| DNEL | $12.6 \mathrm{mg} / \mathrm{kg}$ bw/ <br> day | human, dermal | worker (industry) | chronic - systemic effects |

## Environmental values

## Relevant PNECs and other threshold levels

| End- <br> point | Threshold <br> level | Organism | Environmental com- <br> partment | Exposure time |
| :---: | :---: | :---: | :---: | :---: |
| PNEC | $4.32 \mathrm{mg} / \mathrm{l}$ | aquatic organisms | freshwater | short-term (single instance) |
| PNEC | $0.432 \mathrm{mg} / \mathrm{l}$ | aquatic organisms | marine water | short-term (single instance) |
| PNEC | $4.6^{\mathrm{mg} / /}$ | aquatic organisms | sewage treatment plant <br> (STP) | short-term (single instance) |
| PNEC | $23.3^{\mathrm{mg} / \mathrm{kg}}$ | aquatic organisms | freshwater sediment | short-term (single instance) |
| PNEC | $2.33^{\mathrm{mg} / \mathrm{kg}}$ | aquatic organisms | marine sediment | short-term (single instance) |
| PNEC | $2.13^{\mathrm{mg} / \mathrm{kg}}$ | terrestrial organisms | soil | short-term (single instance) |

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### 8.2 Exposure controls

Individual protection measures (personal protective equipment)
Eye/face protection


Use safety goggle with side protection.
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 $22^{\circ} \mathrm{C}$ 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 $>65^{\circ} \mathrm{C}$, colour code: Brown).

## Environmental exposure controls

Keep away from drains, surface and ground water.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state
Colour
Odour
Melting point/freezing point
Boiling point or initial boiling point and boiling range

Flammability
Lower and upper explosion limit
Flash point
Auto-ignition temperature
Decomposition temperature
pH (value)
Kinematic viscosity
Dynamic viscosity

Solubility(ies)
Water solubility

Partition coefficient
Partition coefficient n-octanol/water (log value):

Vapour pressure

Density and/or relative density
Density
Relative vapour density

Particle characteristics

Other safety parameters
Oxidising properties

### 9.2 Other information

Information with regard to physical hazard classes:

Other safety characteristics:
Miscibility
none
liquid
colourless
like ether
$-108.5^{\circ} \mathrm{C}$
$65^{\circ} \mathrm{C}$ at 1,013 hPa (ECHA)
flammable liquid in accordance with GHS criteria
1.5 vol\% (LEL) - 12.4 vol\% (UEL)
$-21.2^{\circ} \mathrm{C}$ at $1,013 \mathrm{hPa}(\mathrm{ECHA})$
$215{ }^{\circ} \mathrm{C}$ (DIN 51794)
not relevant
$7-8\left(20^{\circ} \mathrm{C}\right)$
not determined
0.48 mPa s at $20^{\circ} \mathrm{C}$
miscible in any proportion
0.45 ( pH value: $7,25^{\circ} \mathrm{C}$ ) (ECHA)

170 hPa at $20^{\circ} \mathrm{C}$
$0.883 \mathrm{~g} / \mathrm{cm}^{3}$ at $25^{\circ} \mathrm{C}$ (ECHA)
2.49 (air = 1)
not relevant (liquid)

There is no additional information.
completely miscible with water

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## 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. UVradiation/sunlight.
10.5 Incompatible materials

Rubber articles, different plastics, tin
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.
GHS of the United Nations, annex 4. May be harmful in contact with skin.

| Acute toxicity |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Exposure route | Endpoint | Value | Species | Method | Source |  |
| oral | LD50 | $1,650 \mathrm{mg} / \mathrm{kg}$ | rat |  | ECHA |  |
| dermal | LD50 | $>2,000 \mathrm{mg} / \mathrm{kg}$ | rat |  | ECHA |  |

## 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

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## Tetrahydrofuran ROTISOLV® HPLC, Non-stabilised

 article number: 7344Suspected of causing cancer.
Reproductive toxicity
Shall not be classified as a reproductive toxicant.
Specific target organ toxicity - single exposure
May cause respiratory irritation. May cause drowsiness or dizziness.
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

- If swallowed
vomiting, nausea
- If in eyes

Causes serious eye irritation

- If inhaled

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

- 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

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1 \%$.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

| Aquatic toxicity (acute) |  |  |  |  |  |  |
| :---: | :--- | :--- | :--- | :---: | :---: | :---: |
| Endpoint | Value | Species | Source | Exposure <br> time |  |  |
| LC50 | $2,160 \mathrm{mg} / \mathrm{I}$ | fish | ECHA | 96 h |  |  |
| EC50 | $1,930 \mathrm{mg} / \mathrm{l}$ | fish | ECHA | 96 h |  |  |

### 12.2 Persistence and degradability

Theoretical Oxygen Demand: $2.441 \mathrm{mg} / \mathrm{mg}$ Theoretical Carbon Dioxide: $2.441 \mathrm{mg} / \mathrm{mg}$

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Process of degradability

| Process | Degradation rate | Time |
| :---: | :---: | :---: |
| biotic/abiotic | $39 \%$ | 28 d |
| oxygen depletion | $39 \%$ | 28 d |

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

```
n-octanol/water (log KOW) 
```

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

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1 \%$.

### 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. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.
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. Non-contaminated packages may be recycled.

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## 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
ICAO-TI TETRAHYDROFURAN

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 IMO instruments

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


Special provisions (SP)

Excepted quantities (EQ)
E2
UN RTDG
Limited quantities (LQ)

1 L
UN RTDG

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Emergency Action Code ..... 2YE
International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name
Particulars in the shipper's declaration
Marine pollutant
Danger label(s)


Special provisions (SP)
Excepted quantities (EQ) E2

Limited quantities (LQ)
EmS
Stowage category3

UN2056, TETRAHYDROFURAN, $3, \mathrm{II},-21.2^{\circ} \mathrm{C}$ c.c.

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

Proper shipping name
Particulars in the shipper's declaration
Danger label(s)


Excepted quantities (EQ) E2
Limited quantities (LQ)E21 L

Tetrahydrofuran
UN2056, Tetrahydrofuran, 3, II

## 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.

## Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

| Country | Inventory | Status |
| :---: | :---: | :---: |
| AU | AIIC | substance is listed |
| CA | DSL | substance is listed |
| CN | IECSC | substance is listed |
| EU | ECSI | substance is listed |

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| Country | Inventory | Status |
| :---: | :---: | :---: |
| 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 | TCSI | substance is listed |
| TW | TSCA | substance is listed |
| US | NCI | substance is listed (ACTIVE) |
| VN |  | substance is listed |

## Legend

AIIC
Australian Inventory of Industrial Chemicals
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
NCI National Chemical 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)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety- <br> relev- <br> ant |
| :---: | :---: | :---: | :---: |
| 2.1 |  | Supplemental hazard information: <br> change in the listing (table) | yes |
| 2.2 | Supplemental hazard information | yes |  |
| 2.2 | Supplemental hazard information: <br> change in the listing (table) | yes |  |
| 2.3 | Endocrine disrupting properties: <br> Does not contain an endocrine disruptor (ED) at <br> a concentration of $\geq 0,1 \%$. | yes |  |
| 15.1 | National inventories: <br> change in the listing (table) | yes |  |

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article number: 7344
Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
| :---: | :---: |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| 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 |
| ED | Endocrine disruptor |
| 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 Nations |
| 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 |
| LEL | Lower explosion limit (LEL) |
| 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 |
| UEL | Upper explosion limit (UEL) |
| 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 contaminants |

## Key literature references and sources for data

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

## Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice

## Tetrahydrofuran ROTISOLV® HPLC, Non-stabilised

article number: $\mathbf{7 3 4 4}$

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 section 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. |
| H336 | May cause drowsiness or dizziness. |
| 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.

