



Trade name: Tetrahydrofuranum

Substance number: 077700

Version: 1 / CH

Date revised: 23.08.12

Replaces Version: - / CH

Date of printing: 23.08.12

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Tetrahydrofuranum

Item-No. 07770000

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

#### Use of the substance/preparation

industry, Reagent for analyses

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

#### Address

Hänseler AG

Industriestrasse 35

9101 Herisau

Telephone no. 0041 (0)71 353 58 58

E-mail address of sdb@haenseler.ch

person responsible  
for this SDS

### 1.4. Emergency telephone number

Switzerland :145 / Abroad +41 (0)44 251 51 51

## 2. Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

|              |      |
|--------------|------|
| Flam. Liq. 2 | H225 |
| Eye Irrit. 2 | H319 |
| STOT SE 3    | H335 |
| Acute Tox. 4 | H302 |

#### Classification in accordance with EC directives

|                |            |
|----------------|------------|
| Classification | Xi, R36/37 |
|                | F, R11-R19 |
|                | Xn, R22    |

### 2.2. Label elements

#### Labelling according to regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal Word

Danger

#### Hazard statements

|      |                                     |
|------|-------------------------------------|
| H319 | Causes serious eye irritation.      |
| H225 | Highly flammable liquid and vapour. |
| H335 | May cause respiratory irritation.   |
| H302 | Harmful if swallowed.               |



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EUH019 May form explosive peroxides.

**Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P280.1 Wear Eye protection/face protection.  
 P310 Immediately call a POISON CENTER or doctor/physician.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P501 Dispose of contents/container to ...

**Labelling in accordance with EC directives 1999/45/EC and 67/548/EEC**

The product is classified and labelled in accordance with EC directives/the relevant national laws.

**Hazard symbols**

Highly flammable



Harmful

**R phrases**

19 May form explosive peroxides.  
 11 Highly flammable.  
 22 Harmful if swallowed.  
 36/37 Irritating to eyes and respiratory system.

**S phrases**

16 Keep away from sources of ignition - No smoking.  
 29 Do not empty into drains.  
 33 Take precautionary measures against static discharges.

**3. Composition/information on ingredients****Molecular weight**

|       |    |       |
|-------|----|-------|
| Value | 72 | g/mol |
|-------|----|-------|

**Hazardous ingredients****Tetrahydrofuran**

|                |                             |    |    |   |
|----------------|-----------------------------|----|----|---|
| CAS No.        | 109-99-9                    |    |    |   |
| EINECS no.     | 203-726-8                   |    |    |   |
| Concentration  |                             | >= | 50 | % |
| Classification | Xi, R36/37<br>F, R11<br>R19 |    |    |   |

Classification (Regulation (EC) No. 1272/2008)

|              |      |
|--------------|------|
| Flam. Liq. 2 | H225 |
| Eye Irrit. 2 | H319 |
| STOT SE 3    | H335 |

Concentration limits (Regulation (EC) No. 1272/2008)

|              |      |       |
|--------------|------|-------|
| Eye Irrit. 2 | H319 | >= 25 |
| STOT SE 3    | H335 | >= 25 |

**4. First aid measures**



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#### 4.1. Description of first aid measures

##### General information

Remove affected person from danger area. In any case show the physician the Safety Data Sheet. Seek medical advice immediately. Adhere to personal protective measures when giving first aid. Remove contaminated, soaked clothing immediately and dispose of safely.

##### After skin contact

Wash off immediately with soap and water and rinse well. Remove contaminated, soaked clothing immediately and dispose of safely. Consult a doctor if skin irritation persists. Seek medical advice immediately.

##### After eye contact

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Remove contact lenses. Summon a doctor immediately. Eye doctor.

##### After ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Let plenty of water be drunk in small gulps. Do NOT induce vomiting. Do not give milk. Never give anything by mouth to an unconscious person. Turn a vomiting person lying on his back onto his side. Summon a doctor immediately.

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

Nausea, Dizziness, Headache, Coughing, Shortness of breath, Fever

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

##### Hints for the physician / treatment

Treat symptomatically

### 5. Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Dry powder, Carbon dioxide, Water spray jet, Alcohol-resistant foam, Extinguish greater fire with water spray or alcohol-resistant foam.

##### Non Suitable extinguishing media

Full water jet

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

The product is combustible. Forms explosive mixture with air are possible. Keep away sources of ignition. Vapours heavier than air.

#### 5.3. Advice for firefighters

##### Special protective equipment for fire-fighting

Use self-contained breathing apparatus. In case of combustion use a suitable breathing apparatus. Wear protective clothing.

### 6. Accidental release measures

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

Use personal protective clothing. Ensure adequate ventilation. Keep away sources of ignition. Remove persons to safety.

#### 6.2. Environmental precautions

Do not allow to enter drains. Prevent spread over a wide area (e.g. by containment or oil barriers).

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

Pick up with absorbent material (e.g. sand). Send in suitable containers for recovery or disposal.



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## **7. Handling and storage**

### **7.1. Precautions for safe handling**

#### **Advice on safe handling**

Keep container tightly closed. Keep away sources of ignition. Wear protective equipment. Never use pressure to empty: container is not a pressure vessel. Avoid contact with skin, eyes and clothing. Smoking, eating and drinking should be prohibited in application area. Take precautionary measures against electrostatic loading. Isolate from sources of heat, sparks and open flame.

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

#### **Hints on storage assembly**

Do not store with strong oxidizing agents.

#### **Further information on storage conditions**

Keep container tightly closed.

## **8. Exposure controls/personal protection**

### **8.1. Control parameters**

#### **Exposure limit values**

##### **Tetrahydrofuran**

|  |      |                   |     |        |
|--|------|-------------------|-----|--------|
| List   | SUVA |                   |     |        |
| Type   | MAK  |                   |     |        |
| Value  | 150  | mg/m <sup>3</sup> | 50  | ppm(V) |
| Short term exposure limit  | 300  | mg/m <sup>3</sup> | 100 | ppm(V) |
| Maximum limit value: 4x15; Skin resorption / sensibilisation: H; Pregnancy group: C; Status: 2005; |      |                   |     |        |
| Remarks: B   |      |                   |     |        |

### **8.2. Exposure controls**

#### **General protective and hygiene measures**

Hold eye wash fountain available. Hold emergency shower available. Wash hands before breaks and after work. Do not eat, drink or smoke during work time. Remove contaminated, soaked clothing immediately and dispose of safely.

#### **Respiratory protection**

Breathing apparatus in the event of vapours.

#### **Hand protection**

Protective gloves

#### **Eye protection**

Safety glasses

#### **Body protection**

Protective clothing; Boots; complete head, face and neck protection

## **9. Physical and chemical properties**

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

|               |               |
|---------------|---------------|
| <b>Form</b>   | liquid, clear |
| <b>Colour</b> | colourless    |
| <b>Odour</b>  | ether-like    |
| <b>pH</b>     |               |
| Value         | appr. 7       |



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**Melting point**

Value -108.44 °C

**Boiling point**

Value 65 °C

**Flash point**

Value -21 °C

**Explosion limits**

Lower explosion limit appr. 2 %(V)

Upper explosion limit appr. 11 %(V)

**Density**Value 0.880 g/cm<sup>3</sup>

Temperature 25 °C

**Solubility in water**

Remarks Completely miscible

**Octanol/water partition coefficient (log Pow)**

log Pow 0.46

**Viscosity****kinematic**Value 0.518 mm<sup>2</sup>/s

Temperature 25 °C

**10. Stability and reactivity****10.4. Conditions to avoid**

Heat. Flames. Sparks. Keep away from sources of heat and ignition.

**10.5. Incompatible materials**

Reactions with acids and strong oxidising agents.

**10.6. Hazardous decomposition products**

In the event of fire the following can be released: Carbon monoxide, Toxic gases/vapours

**11. Toxicological information****11.1. Information on toxicological effects****Acute oral toxicity**Species rat  
LD50 1650 mg/kg**Acute dermal toxicity**Species rabbit  
LD50 > 2000 mg/kg**Acute inhalational toxicity**Species rat  
LC50 14.7 mg/l  
Duration of exposure 4 h**Skin corrosion/irritation**

Remarks No effect of irritation known.

**Serious eye damage/irritation**

Remarks Irritates the eyes.



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**Sensitization**

Species mouse  
Remarks No sensitiation effect known.

**Mutagenicity**

Remarks negative

**Reproduction toxicity**

Species rat  
Remarks None

**Carcinogenicity**

Species rat (female)  
Remarks None  
Species rat (male)  
Remarks positive  
Species Human  
Remarks No data available

**12. Ecological information****12.1. Toxicity****Fish toxicity**

Species Fathead minnow (*Pimephales promelas*)  
LC50 2160 mg/l  
Duration of exposure 96 h  
method OECD 203  
Species Fathead minnow (*Pimephales promelas*)  
NOEC 216 mg/l  
Duration of exposure 33 d

**Daphnia toxicity**

Species *Daphnia magna*  
LC50 3485 mg/l  
Duration of exposure 48 h  
method OECD 202

**Algae toxicity**

Species *Scenedesmus quadricauda*  
NOEC 3700 mg/l  
Remarks Product is biodegradable up to 80%  
Source Data Sheets WEKA

**Bacteria toxicity**

Species activated sludge  
IC50 460 mg/l

**12.2. Persistence and degradability****Biodegradability**

Remarks No data available.

**12.3. Bioaccumulative potential****Octanol/water partition coefficient (log Pow)**

log Pow 0.46

**13. Disposal considerations****13.1. Waste treatment methods**



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**Disposal recommendations for the product**

Disposal in compliance with local and national regulations.

**Disposal recommendations for packaging**

Dispose of as unused product.

**14. Transport information****Land transport ADR/RID****14.1. UN number**

UN 2056

**14.2. UN proper shipping name**

TETRAHYDROFURAN

**14.3. Transport hazard class(es)**

Class 3

Label 3

**14.4. Packing group**

Packing group II

**Marine transport IMDG/GGVSee****14.1. UN number**

UN 2056

**14.2. UN proper shipping name**

TETRAHYDROFURAN

**14.3. Transport hazard class(es)**

Class 3

**14.4. Packing group**

Packing group II

**Air transport ICAO/IATA****14.1. UN number**

UN 2056

**14.2. UN proper shipping name**

TETRAHYDROFURAN

**14.3. Transport hazard class(es)**

Class 3

**14.4. Packing group**

Packing group II

**15. Regulatory information****15.2. Chemical safety assessment**

For this substance a chemical safety assessment has been carried out.

**16. Other information****R-phrases listed in chapter 3**

|       |  |
|-------|--|
| 11    | Highly flammable.                          |
| 19    | May form explosive peroxides.              |
| 36/37 | Irritating to eyes and respiratory system. |

**Hazard statements listed in chapter 3**

|      |                                     |
|------|-------------------------------------|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation.      |
| H335 | May cause respiratory irritation.   |

**Supplemental information**

Relevant changes compared with the previous version of the safety data sheet are marked with: \*\*\*



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This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.