

Revision Date 10-Nov-2010

Revision Number 1

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product Identifier

Product Description:

Tetrahydrothiophene

Cat No.

138280000; 138280025; 138280250; 138285000

Synonyms

Thiacyclopentane; Tetrahydrothiofen; Tetramethylenesulfide

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

Recommended Use

Laboratory chemicals

Uses advised against

No Information available

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

#### Company

Acros Organics BVBA  
Janssen Pharmaceuticaal 3a  
2440 Geel, Belgium

#### E-mail address

begel.sdsdesk@thermofisher.com

#### Emergency Telephone Number

For information in the US, call: 800-ACROS-01

For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99

Emergency Number, US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

CHEMTREC Phone Number, Europe: 703-527-3887

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

#### REGULATION (EC) No 1272/2008

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 4
Skin Corrosion / irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Chronic aquatic toxicity	Category 3
Flammable liquids.	Category 2

### Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R phrases mentioned in this Section, see Section 16

#### Symbol(s)

F - Highly flammable

Xn - Harmful

#### R -phrase(s)

R11 - Highly flammable

#### Risk Combination Phrases

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

R36/38 - Irritating to eyes and skin

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**2. HAZARDS IDENTIFICATION****Label Elements****Signal Word****Danger****Hazard Statements**

H312 - Harmful in contact with skin  
H332 - Harmful if inhaled  
H412 - Harmful to aquatic life with long lasting effects  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H302 - Harmful if swallowed  
H225 - Highly flammable liquid and vapor

**Precautionary Statements - EU (§28, 1272/2008)**

P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P273 - Avoid release to the environment  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P240 - Ground/Bond container and receiving equipment

**Other Hazards**

No information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	EC No.	Weight %	CAS-No	Classification	GHSCLAS	REACH Reg. No.
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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Tetrahydrothiophene	EEC No. 203-728-9	98	110-01-0	F;R11 Xn;R20/21/22 Xi;R36/38 R52-53	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Aquatic Chronic 3 (H412) Flam. Liq. 2 (H225)	
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For the full text of the R phrases mentioned in this Section, see Section 16

**4. FIRST AID MEASURES****Description of first aid measures****Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes Obtain medical attention

**Skin Contact**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes Obtain medical attention

**Ingestion**

Clean mouth with water Get medical attention

**Inhalation**

Remove from exposure, lie down Move to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration Obtain medical attention

**Notes to Physician**

Treat symptomatically

**5. FIRE-FIGHTING MEASURES****Extinguishing media****Suitable Extinguishing Media**

Water spray Carbon dioxide (CO<sub>2</sub>) Dry chemical chemical foam

**Extinguishing media which must not be used for safety reasons**

No information available.

**Special hazards arising from the substance or mixture**

Flammable

**Advice for fire-fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

**Environmental precautions**

Prevent further leakage or spillage if safe to do so

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

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust) Keep in suitable and closed containers for disposal Remove all sources of ignition Use spark-proof tools and explosion-proof equipment Do not let this chemical enter the environment

## **7. HANDLING AND STORAGE**

#### **Precautions for Safe Handling**

Avoid contact with skin and eyes Do not breathe dust Do not breathe vapors or spray mist Take precautionary measures against static discharges Do not ingest Keep away from heat, sparks and open flame. - No smoking Use explosion-proof equipment Use only non-sparking tools

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

Keep in a dry, cool and well-ventilated place Keep container tightly closed Keep away from heat and sources of ignition Flammables area

#### **Specific End Uses**

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

#### **Control parameters**

##### **Exposure limits**

##### **Component**

Tetrahydrothiophene

Austria	Switzerland	Poland	Norway	Ireland
	STEL: 180 mg/m <sup>3</sup> STEL: 50 ppm MAK: 180 mg/m <sup>3</sup> MAK: 50 ppm			

#### **Derived No Effect Level (DNEL)**

No information available.

#### **Predicted No Effect Concentration (PNEC)**

No information available.

#### **Exposure controls**

##### **Engineering Measures**

Use explosion-proof electrical/ventilating/lighting/equipment Ensure that eyewash stations and safety showers are close to the workstation location

#### **Personal protective equipment**

##### **Eye Protection**

Goggles

##### **Hand Protection**

Protective gloves

##### **Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

##### **Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

#### **Environmental exposure controls**

No information available.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

#### **Physical State**

Liquid

#### **Appearance**

Light yellow

#### **odor**

Stench

#### **pH**

No information available.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Vapor Pressure	80 hPa @ 50 °C
Vapor Density	3.04
Boiling Point/Range	119 - 119°C / 246.2 - 246.2°F
Melting Point/Range	-96°C / -140.8°F
Decomposition temperature	640 °C
Flash Point	13°C / 55.4°F
Explosion Limits	
Lower	1.1
Upper	12.1
Water Solubility	Insoluble
Specific Gravity	1.000
Molecular Formula	C4 H8 S
Molecular Weight	88.17

**10. STABILITY AND REACTIVITY****Reactivity****Chemical Stability**

Stable under normal conditions.

**Possibility of Hazardous Reactions**

**Hazardous Polymerization** No information available.

**Hazardous Reactions .** No information available.

**Conditions to Avoid**

Keep away from open flames, hot surfaces and sources of ignition, Incompatible products.

**Incompatible Materials**

Strong oxidizing agents.

**Hazardous Decomposition Products**

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Sulfur oxides. Sulfides.

**11. TOXICOLOGICAL INFORMATION****Information on Toxicological Effects****Acute Toxicity**

**Product Information** No acute toxicity information is available for this product

**Component Information****Component**

Tetrahydrothiophene

LD50 Oral	LD50 Dermal	LC50 Inhalation
1850 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	155 mg/L ( Rat ) 1 h 6270 ppm ( Rat ) 4 h

**Chronic Toxicity****Carcinogenicity**

There are no known carcinogenic chemicals in this product

**Sensitization****Mutagenic Effects**

No information available.

No information available

<b>Reproductive Effects</b>	No information available.
<b>Developmental Effects</b>	No information available.
<b>Target Organs</b>	No information available.
<b>Other Adverse Effects</b>	See actual entry in RTECS for complete information
<b>Endocrine Disruptor Information</b>	None known

## 12. ECOLOGICAL INFORMATION

### Toxicity

**Ecotoxicity effects** Do not empty into drains

### Persistence and degradability

Not readily biodegradable

### Bioaccumulative potential

No information available.

### Mobility in soil

No information available.

### Results of PBT and vPvB assessment

### Other adverse effects

No information available

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

### Waste from Residues / Unused Products

Dispose of in accordance with local regulations

### Contaminated Packaging

Empty containers should be taken for local recycling, recovery or waste disposal

## 14. TRANSPORT INFORMATION

### IMDG/IMO

<b>UN-No</b>	2412
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Proper Shipping Name</b>	TETRAHYDROTHIOPHENE

### ADR

<b>UN-No</b>	2412
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Proper Shipping Name</b>	TETRAHYDROTHIOPHENE

### IATA

<b>UN-No</b>	2412
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Proper Shipping Name</b>	TETRAHYDROTHIOPHENE

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Tetrahydrothiophene	203-728-9	-		X	X	-	X	X	X	X	KE-33509 X

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory Lists

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**CHINA** - China Inventory of Existing Chemical Substances

**AICS** - Inventory of Chemical Substances

**KECL** - Existing and Evaluated Chemical Substances

**Chemical Safety Assessment****16. OTHER INFORMATION****Text of R phrases mentioned in Section 2-3**

R11 - Highly flammable

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

R36/38 - Irritating to eyes and skin

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Revision Date 10-Nov-2010

Revision Summary Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

**Disclaimer**

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

End of Safety Data Sheet