

# SAFETY DATA SHEET

## THIAMINE

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### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1. Product identifier

Product name: Thiamine

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

Industry, wine and food

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

Company details: Institut Œnologique de Champagne  
Z.I. de Mardeuil – Allée de Cumières – BP 25  
51201 EPERNAY Cedex  
FRANCE  
Tel: + 33 (0) 3.26.51.96.00.  
Fax: + 33 (0) 3.26.51.02.20.  
[fds@ioc.eu.com](mailto:fds@ioc.eu.com)

#### 1.4. Emergency telephone number

112

### SECTION 2. HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

Not applicable.

#### 2.2. Label elements

Not applicable

#### 2.3. Other hazards

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substances

Name : Chlorhydrate de Thiamine

Characterization: forme hydrosoluble de la vitamine B1

Chemical name : 3-[(4-Amino-2-methyl-5-pyrimidinyl)-methyl]-5-(2-hydroxy-ethyl)-4-methylthiazolium chloride hydrochloride

Synonymes : Thiamine chloride hydrochloride / Vitamine B1 hydrochloride

N° CAS : 67-03-8

N° EINECS : 200 641 8

N° Ro : Ro 01-3322/000

Formule: C<sub>12</sub>H<sub>17</sub>CIN<sub>4</sub>OS·HCl

Molar mass : 337,28 g/mol

#### 3.2. Mixtures

### SECTION 4. FIRST AID MEASURES

#### 4.1. Description of first aid measures

Skin contact : Rinse thoroughly with water.

Eye contact : Rinse thoroughly with water for at least 15 minutes. Obtain medical attention if irritation persists.

Ingestion : Rinse mouth and throat with water. If irritation occurs, obtain medical attention.

Inhalation : Keep away from exposure place. If irritation or allergic response, obtain medical attention.

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

None

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

None

### SECTION 5. FIREFIGHTING MEASURES

#### 5.1. Extinguishing media

Water, foam, extinguishing powder or carbon dioxide

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

Possible formation of toxic and corrosive gas ( ammoniac, chlorhydric gas, cyanhydric gas, sulphur and nitrogen oxides ).

#### 5.3. Advice for firefighters

No specific measure.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

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

Respiratory protection: masks

Hand protection: protective gloves

Eye protection: Safety glasses

Skin protection: Wear suitable protective clothing

#### 6.2. Environmental precautions

None known

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

Collect spilled material in closed containers. Residues should be removed with plenty of water.

#### 6.4. Reference to other sections

See Section 13 for disposal of the substance

### SECTION 7. HANDLING AND STORAGE

#### 7.1. Precautions for safe handling

Technical measures: Work in closed circuit, if possible by inertia. (with nitrogen, for example).

Aspiration on site essential

Take measures against electrostatic discharges

Avoid formation of dust; consider the risk of explosion due to dust

Suitable materials: - Glass, enamel, polyethylene

Inadequate materials: - Metals

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

Store away from light and moisture.

#### 7.3. Specific end use(s)

### SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION

#### 8.1. Control parameters

Air threshold value: - IOEL: 3 mg / m<sup>3</sup>

Analytical: Fiberglass filter sampling and determination by gravimetry or chemical method

#### 8.2. Exposure controls

Respiratory protection: masks

Hand protection: protective gloves

Eye protection: Safety glasses

Skin protection: Wear suitable protective clothing

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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

Appearance : cristalline powder

Odour : light typical yeast, meat or nut smell

Odour threshold : No data available

pH : No data available

Melting / freezing point : 275 °C

Initial boiling point and boiling range : No data available

Flash point : No data available

Evaporation rate: No data available

Flammability (solid, gas) : No data available

Upper/lower flammability or explosive limits: No data available

Vapour pressure : No data available

Vapour density: No data available

Relative density: No data available

Solubility(ies): 1000000 mg / L water.

56000 mg / L glycerin

10000 mg / L ethanol 95%

3000 mg / L absolute ethanol

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soluble methanol  
soluble, propylene glycol  
practically insoluble, diethyl ether  
practically insoluble, benzene  
practically insoluble, hexane-practically insoluble, acetone  
practically insoluble chloroform 2.7 to 3.3 (1% aqueous suspension)  
Partition coefficient: n-octanol/water: No data available  
Auto-ignition temperature: > 200 °C  
Decomposition temperature: No data available  
Viscosity : No data available  
Explosive properties: No data available  
Oxidising properties: No data available

#### 9.2. Other information

### SECTION 10. STABILITY AND REACTIVITY

#### 10.1. Reactivity

Stable under normal conditions

#### 10.2. Chemical stability

Violent decomposition with exothermic reaction when heated

#### 10.3. Possibility of hazardous reactions

No data available

#### 10.4. Conditions to avoid

Heat, humidity and light

#### 10.5. Incompatible materials

Basis, oxidant agents, reducing agents, metals, iodine, sulfurs, tanins

#### 10.6. Hazardous decomposition products

Chlorhydric acid

### SECTION 11. TOXICOLOGICAL INFORMATION

#### 11.1. Information on toxicological effects

Acute toxicity :

LD50 3710 mg / kg (oral, rat)

LD50 8224 mg / kg (oral, mouse)

LD50 83 mg / kg (i.v., mouse)

LD50 118 mg / kg (i.v., rat)

Local effects: May irritate skin and mucous membranes.

Sensitization: may cause allergic rash after parenteral application, rare cases of anaphylactoid shock have been recorded (male)

Chronic toxicity: - generally no side effects after oral ingestion of high doses; however, after intravenous administration of excessive doses, headache, paralysis, cramps and cardiac arrhythmias were observed (male)

Mutagenicity: non-mutagenic (various in vitro test systems)

Reproductive Toxicity: non-teratogenic, non-embryotoxic (oral, various species)

Note: vitamin B1 is tolerated in very high oral doses without toxic reactions and without causing pathological changes; hypervitaminosis at B1 is not known

plasma physiological concentration of vitamin B1: 2-3 µg / L

half-elimination period 10-20 days, renal elimination

RDA (recommended daily dietary allowance) for vitamin B1: male 1.2-1.5 mg, female 1.0-1.2 mg

GRAS (generally recognized as safe for human consumption).

### SECTION 12. ECOLOGICAL INFORMATION

#### 12.1. Toxicity

Ecotoxicity: -

Virtually non-toxic to fish (rainbow trout)

Cl-50 (96h) > 100 mg / L

(OECD No. 203)

Virtually non-toxic to planktonic crustaceans (Daphnia magna)

EC50 (48h) > -100 mg / L

(OECD No. 202)

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Practically non-toxic to algae (*Scenedesmus subspicatus*)  
CEb5o (72h) > 100 mg / L  
(OECD No. 201)

#### 12.2. Persistence and degradability

74 % biodegradable, 7 days

#### 12.3. Bioaccumulative potential

No data available

#### 12.4. Mobility in soil

No data available

#### 12.5. Results of PBT and vPvB assessment

No data available

#### 12.6. Other adverse effects

No data available

### SECTION 13. DISPOSAL CONSIDERATIONS

#### 13.1. Waste treatment methods

Incinerate residues in appropriate installation, with combustion gas epuration.

### SECTION 14. TRANSPORT INFORMATION

#### 14.1. UN number

Not regulated.

#### 14.2. UN proper shipping name

Not regulated

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

Not regulated

#### 14.4. Packing group

Not regulated

#### 14.5. Environmental hazards

Not regulated

#### 14.6. Special precautions for user

Not regulated

#### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not regulated

### SECTION 15. REGULATORY INFORMATION

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Note: No classification and characterization according to EU.

Emission limit (Switzerland): 50 mg / m<sup>3</sup> for mass flow S 0.5 kg / h (organic, particulate, own classification)

Water hazard class (Germany): 1 (own classification)..

#### 15.2. Chemical safety assessment

No.

### SECTION 16. OTHER INFORMATION

Compliance with Regulation (EU) N° 453/2010 of 20 May 2010



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