

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

1.1. Product identifier

| | |
|----------------|--------------------------|
| Product form | : Substance |
| Substance name | : THIAMINE HYDROCHLORIDE |
| IUPAC name | : Thiamine hydrochloride |
| EC-No. | : 200-641-8 |
| CAS-No. | : 67-03-8 |
| Product code | : THIHYD |
| Synonyms | : VITAMIN B1 |

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Murphy and Son Ltd
Alpine Street
Old Basford Nottingham – Nottinghamshire NG6 0HQ
UK
T +44 115 978 5494
technical@murphyandson.co.uk - www.murphyandson.co.uk

1.4. Emergency telephone number

Emergency number : +115 978 5494
Office Hours Only

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

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| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|------------------------|---------------------------------------|-----|---|
| THIAMINE HYDROCHLORIDE | CAS-No.: 67-03-8 EC-No.: 200-641-8 | 100 | Not classified |

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. |
| First-aid measures after skin contact | : Wash skin with plenty of water. |
| First-aid measures after eye contact | : Rinse eyes with water as a precaution. |
| First-aid measures after ingestion | : Call a poison center or a doctor if you feel unwell. |

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

No additional information available

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

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6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

| THIAMINE HYDROCHLORIDE (67-03-8) | |
|--|--------------------------|
| DNEL/DMEL (Workers) | |
| Long-term - systemic effects, dermal | 3.3 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 11 mg/m ³ |
| DNEL/DMEL (General population) | |
| Long-term - systemic effects, oral | 1.6 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 2.8 mg/m ³ |
| Long-term - systemic effects, dermal | 1.6 mg/kg bodyweight/day |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 0.1 mg/l |
| PNEC aqua (marine water) | 0.01 mg/l |
| PNEC aqua (intermittent, freshwater) | 1 mg/l |
| PNEC aqua (intermittent, marine water) | 0.1 mg/l |
| PNEC (Sediment) | |
| PNEC sediment (freshwater) | 0.363 mg/kg dwt |
| PNEC sediment (marine water) | 0.0363 mg/kg dwt |
| PNEC (Soil) | |
| PNEC soil | 0.0139 mg/kg dwt |

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PNEC (STP)

| | |
|-----------------------------|-----------|
| PNEC sewage treatment plant | 2.17 mg/l |
|-----------------------------|-----------|

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

Hand protection

| Type | Material | Permeation | Thickness (mm) | Penetration | Standard |
|-------------------|----------|------------|----------------|-------------|------------|
| Disposable gloves | | | | | EN ISO 374 |

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|-------------------------------------|
| Physical state | : Solid |
| Colour | : white. |
| Odour | : odourless. |
| Odour threshold | : No data available |
| pH | : No data available. |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : 210 – 250 °C Decomposition: 'yes' |
| Freezing point | : Not applicable |

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| | |
|---|----------------------|
| Boiling point | : No data available |
| Flash point | : Not applicable |
| Auto-ignition temperature | : No data available. |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Non flammable. |
| Vapour pressure | : No data available |
| Relative vapour density at 20 °C | : No data available. |
| Relative density | : No data available. |
| Solubility | : No data available |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Viscosity, kinematic | : Not applicable |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : Not applicable |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

| | |
|-----------------------------|------------------|
| Acute toxicity (oral) | : Not classified |
| Acute toxicity (dermal) | : Not classified |
| Acute toxicity (inhalation) | : Not classified |

| THIAMINE HYDROCHLORIDE (67-03-8) | |
|----------------------------------|---|
| LD50 oral rat | 12340 mg/kg bodyweight Animal: rat, 95% CL: 10340 - 14340 |
| LD50 oral | 13347 mg/kg bodyweight Animal: mouse, 95% CL: 11527 - 15167 |

| | |
|-----------------------------------|--|
| Skin corrosion/irritation | : Not classified pH: No data available. |
| Serious eye damage/irritation | : Not classified pH: No data available. |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |

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| | |
|------------------------|------------------|
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| STOT-repeated exposure | : Not classified |

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| | |
|----------------------------|---|
| NOAEL (oral, rat, 90 days) | ≥ 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other: |
|----------------------------|---|

| | |
|-------------------|------------------|
| Aspiration hazard | : Not classified |
|-------------------|------------------|

THIAMINE HYDROCHLORIDE (67-03-8)

| | |
|----------------------|----------------|
| Viscosity, kinematic | Not applicable |
|----------------------|----------------|

SECTION 12: Ecological information

12.1. Toxicity

| | |
|---|---|
| Ecology - general | : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. |
| Hazardous to the aquatic environment, short-term (acute) | : Not classified |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified |
| Not rapidly degradable | |

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| | |
|----------------------|---|
| EC50 - Crustacea [1] | > 100 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | > 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) |

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|-------------------------|---|
| Waste treatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
|-------------------------|---|

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

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| ADR | IMDG | IATA | ADN | RID |
|---|---------------|---------------|---------------|---------------|
| 14.1. UN number | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| 14.2. UN proper shipping name | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| 14.3. Transport hazard class(es) | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| 14.4. Packing group | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| 14.5. Environmental hazards | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| No supplementary information available | | | | |

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

THIAMINE HYDROCHLORIDE is not on the REACH Candidate List

THIAMINE HYDROCHLORIDE is not on the REACH Annex XIV List

THIAMINE HYDROCHLORIDE is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

THIAMINE HYDROCHLORIDE is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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SECTION 16: Other information

| Abbreviations and acronyms: | |
|-----------------------------|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| EN | European Standard |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| VOC | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disrupting properties |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.