

Material Safety Data Sheet

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Version 1.1

According to 91/155/EEC

1 - Product and Company Information

Product Name THIAMINE HYDROCHLORIDE, PH EUR
 Product Number 04573

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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
THIAMINE HYDROCHLORIDE, FOR MANUFACTURING	67-03-8	200-641-8	None

Formula C₁₂H₁₇N₄OS.ClH.Cl

Molecular Weight 337.27 AMU

Synonyms Aneurine hydrochloride * Apate drops * Beatine *
 Bedome * Begiolan * Benerva * Bequin * Berin *
 Betabion hydrochloride * Betalin S * Betaxin *
 Bethiazine * Beuion * Bevitex * Bevitine * Bewon
 * Biuno * Bivatin * Bivita * Clotiamina *
 Eskapen * Eskaphen * Lixa-Beta * Metabolin *
 Slowten * THD * Thiadoxine * Thiaminal * Thiamin
 chloride * Thiamin dichloride * Thiamine
 chloride * Thiamine dichloride * Thiamine
 hydrochloride * Thiamin hydrochloride *
 Thiaminium chloride hydrochloride * Thiamol *
 Thiavit * Tiamidon * Tiaminal * Trophite * USAF
 CB-20 * Vetalin S * Vinothiam * Vitamin B1
 hydrochloride * Vitamin B(sub 1) hydrochloride *
 Vitaneuron

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Not hazardous according to Directive 67/548/EC.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult,
 call a physician.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious

amounts of water.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.
Store at 2-8°C

SPECIAL REQUIREMENTS: Store under inert gas. Hygroscopic.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Wear dust mask.
Hand Protection: Protective gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	260 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Hydrogen chloride gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: XI7350000

ACUTE TOXICITY

LDLO

Intramuscular

Woman

5 MG/KG

Remarks: Behavioral:Coma. Vascular:BP lowering not characterized in autonomic section. Skin and Appendages: Allergic (Multiple organ involvement) Anaphylaxis.

LD50

Oral

Rat

3710 mg/kg

Remarks: Peripheral Nerve and Sensation:Spastic paralysis with

or without sensory change. Behavioral:Tremor. Lungs, Thorax, or Respiration:Other changes.

LD50
Intraperitoneal
Rat
481 MG/KG

LD50
Subcutaneous
Rat
560 MG/KG

LD50
Intravenous
Rat
118 MG/KG

LD50
Oral
Mouse
8224 mg/kg

LD50
Intraperitoneal
Mouse
200 MG/KG

LD50
Subcutaneous
Mouse
266 MG/KG

LD50
Intravenous
Mouse
74 MG/KG

LD50
Intravenous
Cat
75 MG/KG

LD50
Intravenous
Rabbit
117 MG/KG
Remarks: Behavioral:Muscle contraction or spasticity. Lungs, Thorax, or Respiration:Cyanosis. Lungs, Thorax, or Respiration:Other changes.

LD50
Subcutaneous
Guinea pig
872 MG/KG

LD50
Intravenous
Guinea pig
140 MG/KG

LD50

Intravenous
Pigeon
180 MG/KG

LD50
Subcutaneous
Frog
2600 MG/KG

SIGNS AND SYMPTOMS OF EXPOSURE

Exposure to high concentrations can cause nausea, tightness of the throat, itching, and weakness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

S-PHRASES: 22 24/25

Do not breathe dust. Avoid contact with skin and eyes.

Not hazardous according to Directive 67/548/EC.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

DISCLAIMER

Caution: for manufacturing, processing, or repacking. This material is not sterile and has not been pyrogen-tested.