

MATERIAL SAFETY DATA SHEET

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Version 1.7

Section 1 - Product and Company Information

Product Name THIAMINE HYDROCHLORIDE
Product Number T4625
Brand SIGMA

Company Sigma-Aldrich Canada, Ltd
Street Address 2149 Winston Park Drive
City, State, Zip, Country Oakville ON L6H 6J8 CA
Technical Phone: 9058299500
Emergency Phone: 800-424-9300
Fax: 9058299292

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313 No
THIAMINE HYDROCHLORIDE	67-03-8	No

Formula C₁₂H₁₇ClN₄O_S · HCl
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

RTECS Number: XI7350000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Caution: Avoid contact and inhalation.

HMIS RATING

HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 1

NFPA RATING

HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 1

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

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

INHALATION EXPOSURE

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

DERMAL EXPOSURE

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

EYE EXPOSURE

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.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

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

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 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.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

SPECIAL REQUIREMENTS

Hygroscopic. Light sensitive.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

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

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
Molecular Weight	337.27 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	260 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

Section 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

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.

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.

TOXICITY DATA

Intramuscular

Woman

5 MG/KG

LDLO

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

Oral

Rat

3710 mg/kg

LD50

Remarks: Peripheral Nerve and Sensation:Spastic paralysis with or without sensory change. Behavioral:Tremor. Lungs, Thorax, or Respiration:Other changes.

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
LD50
Remarks: Behavioral:Muscle contraction or spasticity. Lungs,
Thorax, or Respiration:Cyanosis. Lungs, Thorax, or
Respiration:Other changes.

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
LD50

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

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.

Section 14 - Transport Information

DOT

Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air

transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

S: 22 24/25

Safety Statements: Do not breathe dust. Avoid contact with skin and eyes.

US CLASSIFICATION AND LABEL TEXT

US Statements: Caution: Avoid contact and inhalation.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

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 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.