



MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT: Thiamine HCl MSDS DATE: 18 July, 2011

Notice

NSF Reference Standards are for test and assay use only and are not intended for human or animal consumption. This document communicates information relating to test and assay use only and may not be applicable for any unauthorized use.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Thiamine HCl
Catalog Code: RS1-0033
Synonym: Vitamin B1
Chemical Formula: $C_{12}H_{17}ClN_4OS \cdot HCl$
CAS #: 67-03-8

Contact Information:

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Name: Thiamine HCl

CAS#: 67-03-8

% by Weight: 100%

Toxicological Data on Ingredients:

LD50 (mouse): 8224 mg/ kg, LD50 (rat): 3710 mg/ kg

SECTION 3: HAZARDS IDENTIFICATION

Potential Acute Health Effects:



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Very hazardous in case of eye contact (irritant). Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

Potential Chronic Health Effects:

Very hazardous in case of eye contact (irritant). Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).

CARCINOGENIC EFFECTS: Not available

MUTAGENIC EFFECTS: Mutagenic for Human somatic cells, and bacteria/ yeast cells

TERATOGENIC EFFECTS: Not available

DEVELOPMENTAL TOXICITY: Not available

Repeated or prolonged exposure to the substance is not known to aggravate medical conditions.

SECTION 4: FIRST AID MEASURES

Eye Contact:

Check for and remove contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Do not use eye ointment. Seek medical attention.

Skin Contact:

In case of contact, immediately wash skin with non-abrasive soap and plenty of water. Cover the irritated skin with an emollient. Seek medical attention if irritation develops.

Serious Skin Contact:

Not available

Inhalation:

If inhaled, remove to fresh air. If not breathing give artificial respiration. Seek medical attention.

Serious Inhalation:

Not available

Ingestion:

Do not induce vomiting. Loosen tight clothing. If a large quantity of thiamine HCl is swallowed, seek medical attention if symptoms appear.

Serious Ingestion: Not available.

SECTION 5: FIRE-FIGHTING MEASURES

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flammable Limits: Not available.



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Flash Points: Not available

Products of Combustion: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...), sulfur oxides (SO₂, SO₃...), halogenated compounds.

Special Remarks on Explosion Hazards: Not available.

Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Special Remarks on Fire Hazards: Fire is possible at elevated temperatures.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. After powder clean up, spread water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use appropriate tools to put the material into a suitable waste disposal container. After powder clean up, spread water on the contaminated surface and dispose of according to local and regional authority requirements.

SECTION 7: HANDLING AND STORAGE

Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from oxidizing agents.

Storage:

Keep container tightly closed. Keep container in a refrigerated, well-ventilated area. Protect from light.



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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

If laboratory operations generate dust, fume or mist, use local exhaust ventilation or other appropriate engineering controls to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Solid (powdered solid).

Odor: Not Available.

Taste: Not available.

Molecular Weight: 337.27 g/mol

Color: Not available.

pH (1% soln/water): Not available.

Boiling Point: Not available.

Melting Point: Decomposes at 248 °C

Critical Temperature: Not available.

Specific Gravity: Not available.

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available

Solubility: Easily soluble in cold water.

SECTION 10: STABILITY AND REACTIVITY



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Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Not available.
Incompatibility with various substances: Not available.
Corrosivity: Not corrosive in presence of glass.
Special Remarks on Reactivity: Not available.
Special Remarks on Corrosivity: Not available.
Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Entry: Eye Contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 3710 mg/kg [Rat]

Chronic effects on humans: Not available.

Other Toxic Effects on Humans: Hazardous in case of ingestion, or inhalation. Slightly hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals:
Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation:

The products of degradation are more toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available



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SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: TRANSPORT INFORMATION

DOT Classification: Not a DOT controlled material in the United States

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

SECTION 15: REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: Thiamine HCl

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

Other Classifications:

WHMIS (Canada): Class D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R41 – Risk of serious damage to eyes.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent when

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ventilation is inadequate. Splash Goggles.

SECTION 16: OTHER INFORMATION

References: Not available.

Other Special Considerations: Not available.

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