Material Safety Data Sheet

Thiamine

MSDS# 23297

Section 1 - Chemical Product and Company Identification

MSDS Name:	Thiamine
Catalog Numbers:	BP892-100, BP892-500, O4700-100
Synonyms:	Vitamin B1 Hydrochloride; Thiamine Chloride Hydrochloride; Thiamine Dichloride; Thiamine Hydrochloride
Company Identification:	Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410
For information in the US, call:	201-796-7100
Emergency Number US:	201-796-7100
CHEMTREC Phone Number, US:	800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#:	67-03-8
Chemical Name:	Thiamine
%:	100
EINECS#:	200-641-8

Hazard Symbols:	None listed
Risk Phrases:	None listed

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Caution! The toxicological properties of this material have not been fully investigated. May cause eye and skin irritation. May cause dermatitis. May cause respiratory and digestive tract irritation. Target Organs: None.

Potential Health Effects

Eye:	May cause eye irritation.
Skin:	May cause skin irritation. May cause dermatitis.
Ingestion:	May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Low hazard for usual industrial handling.
Inhalation:	Dust is irritating to the respiratory tract. May cause respiratory tract irritation.
Chronic:	Prolonged or repeated skin contact may cause dermatitis.

Section 4 - First Aid Measures

Eyes:	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin:	Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.
Ingestion:	If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid if irritation or symptoms occur.
Inhalation:	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
Notes to Physician:	

Section 5 - Fire Fighting Measures

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved

General Information: or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Autoignition Temperature: 365 deg C (689.00 deg F)

Flash Point: 100 deg C (212.00 deg F)

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 1; flammability: 0; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Wash clothing before reuse.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Thiamine	none listed	none listed	none listed

OSHA Vacated PELs: Thiamine: None listed

Engineering Controls:

Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Color: almost white

Odor: none reported

pH: 2.7-3.4 (at 10 g/l)

Vapor Pressure: Not applicable.

Vapor Density: 10.4

Evaporation Rate: Not applicable.

Viscosity: Not applicable.

Boiling Point: Not applicable.

Freezing/Melting Point: 260 deg C (500.00°F)

Decomposition Temperature:
Solubility in water: Slightly soluble
Specific Gravity/Density: 1.4
Molecular Formula: C12H17N4OSCl.HCl
Molecular Weight: 300.6582

Section 10 - Stability and Reactivity

Chemical Stability:	Stable under normal temperatures and pressures.
Conditions to Avoid:	High temperatures, incompatible materials, dust generation, moisture, excess heat.
Incompatibilities with Other Materials	Not available
Hazardous Decomposition Products	Hydrogen chloride, nitrogen oxides, carbon monoxide, oxides of sulfur, oxides of sulfur, carbon dioxide, nitrogen gas.
Hazardous Polymerization	Will not occur.

Section 11 - Toxicological Information

RTECS#:	CAS# 67-03-8: XI7350000
LD50/LC50:	RTECS: **CAS# 67-03-8:** Oral, mouse: LD50 = 8224 mg/kg; Oral, rat: LD50 = 3710 mg/kg; .
Carcinogenicity:	Thiamine - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:	See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:Not available

Risk Phrases:

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 67-03-8: 1

Canada

CAS# 67-03-8 is listed on Canada's DSL List

Canadian WHMIS Classifications: Not available

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 67-03-8 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 67-03-8 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 7/15/1999

Revision #7 Date 7/20/2009
