



1. IDENTIFICATION

General

Product Name : VITAMIN B1 HYDROCHLORIDE

Other Names : THIAMINE CHLORIDE HYDROCHLORIDE

UN No. : N/A

Dangerous Goods Class : None Allocated

Subsidiary Risk : None Allocated

Hazchem Code : N/A

Pack Group : 0

EPG : N/A

Poisons Schedule : N/A

Uses :

Vitamin B1 for further processing in the pharmaceuticals and food industries.

1.1 Physical Description / Properties

Appearance : White crystalline powder

Formula : $C_{12}H_{18}Cl_2N_4OS$

Boiling Point : N/A deg C

Melting Point : 248 deg C

Vapour Pressure : N/A

Specific Gravity : 0.4 (water = 1)

Flash Point : N/A

pH : 2.7 - 3.4 (10g/l)

Solubility in water : >500 g/l (25 deg C)

Flammability Limits (as percentage volume in air)

Lower Explosion Limit : N/A

Upper Explosion Limit : N/A

1.2 Other Properties

Boiling point : decomposes Flammability limits : dust explosion hazard Autoignition temp

: > 365 deg C Decomposition temp : 248 deg C Molecular weight : 337.3 Bulk density :

200 kg/m³ Solubility in water @ 20 deg C : > 500 g/l

1.3 Ingredients



Chemical Entity	CAS No.	Proportions (%)
THIAMINE HYDROCHLORIDE	[67-03-8]	> 98.5

2. HEALTH HAZARD INFORMATION

2.1 Health Effects – Acute

Swallowed

Non-harmful if swallowed.

Eye

May result in slight irritation.

Skin

Non-irritant to skin.

Inhaled

May cause slight respiratory irritation.

2.2 Health Effects - Chronic

If this substance comes into close contact with the skin of hypersensitive persons, sensitisation might occur.

2.3 First Aid

Swallowed

Rinse mouth and then drink plenty of water.

Eye

Wash affected eyes for at least 15 minutes under running water with eyelids held open. Seek medical attention if irritation persists.

Skin

Wash thoroughly with soap and water. Remove contaminated clothing.

Inhaled

Keep patient calm and remove to fresh air. After inhalation of vapours of combustion, keep patient calm and remove to fresh air. Seek medical attention.

First Aid Facilities

Ensure eye wash bath and safety shower are readily accessible.

2.4 Advice to Doctor



Treat according to symptoms.

2.5 Toxicity Data

Acute oral toxicity : LD50 5000 mg/kg (mouse)

3. PRECAUTIONS FOR USE

3.1 Exposure Standards

An exposure standard has not been established for this product. However, the following is for nuisance dusts : TWA 10 mg/m³.

3.2 Engineering Controls

Ensure workplace is well ventilated to maintain air concentration below exposure standard, including the use of local exhaust ventilation. Breathing must be protected when decanting large quantities of the product without local exhaust ventilation.

3.3 Personal Protection

Protective glasses with side-shields Protective gloves [Rubber or similar] Dust mask if dust exposure is likely or expected. Protective overalls. Hands and face should be washed before breaks and at the end of the shift. The usual precautions for the handling of the chemicals must be observed. Do not breath dust. Avoid contact with skin.

3.4 Flammability

Not flammable under normal conditions of use.

SAFE HANDLING INFORMATION

4.1 Storage / Transport

Not classified as a dangerous good for storage or transport. Keep tightly closed in a dry and cool place. Protect from light. Take precautionary measures against static discharges. Avoid dust formation. If exposed to fire keep containers cool by spraying with water. Do not store in metal containers. Hands and face should be washed before breaks and at the end of the shift. The usual precautions for the handling of the



chemicals must be observed. Do not breathe dust. Avoid contact with skin. Handle in accordance with good industrial hygiene and safety practice.

4.2 Packaging / Labelling

UN No. N/A
Class None Allocated
Sub Risk None Allocated
Hazchem Code N/A
Pack Group 0
EPG No. N/A
Shipping Name VITAMIN B1 HYDROCHLORIDE
Hazard

Risk Phrases

Safety Phrases

4.3 Spills and Disposal

Spills

Clean-up personnel should wear full protective clothing including breathing apparatus. Avoid dust formation. Sweep/ shovel up spills with dust binding material or use an industrial vacuum cleaner. Do not let product enter drains. Place waste in labelled containers for disposal.

Disposal

Must be incinerated or dispose to approved landfill in accordance with local regulations.

4.4 FIRE AND EXPLOSION HAZARD

Fire / Explosion

Dust explosion hazard. The following can be given off in a fire, hydrogen cyanide, nitrogen oxides, carbon oxides, hydrogen chloride and sulfur oxides. Substances to avoid : Oxidising substances, reducing agents, metals. Thermal decomposition : 248 deg C Hazardous reactions : Dust explosion hazard Decomposition products : Toxic gases/vapours (containing chloride). If exposed to fire keep containers cool by spraying with water.

Extinguishing Media



Fire-fighters should wear full protective clothing self-contained breathing apparatus. In case of a fire use water spray, carbon dioxide (CO₂), foam or dry. Dispose of fire debris and contaminated extinguishing water in accordance with local regulations.

5 OTHER INFORMATION

Other Information

No inhibition of breathing of adapted activated sludge. Do not discharge product for effluent treatment without pretreatment. Degradability : 20-70% DOC reduction [OECD 302B] Ecotoxic effects : no data available Chemical oxygen demand : COD 1213 mg/g Dissolved organic carbon : DOC 392 mg/g Biochemical oxygen demand : BOD₅ < 2 mg/g

EMERGENCY CONTACT CHEMTREC (800) 424-9300