Safety Data Sheet (SDS) - Thiamine monophosphate chloride dihydrate

According to Regulation (EC) No 1907/2006 (REACH), as amended by Regulation (EU) 2020/878
Version 1.2, 23-Nov-2026

Section 1. Identification of the substance/mixture and of the company

Product name:	Thiamine monophosphate chloride dihydrate; purity >=99.0%
Recommended uses:	Ingredient for professional formulation, analytical and R&D use
Uses advised against:	Uses not permitted by applicable legislation; household or non-professional use
Catalogue Number:	NST-10-96
Supplier:	NATURE SCIENCE TECHNOLOGIES Ltd Briezu 11, Lapsas, Latvia, LV-2107 Phone: +371 24220280 Email: sales@nstchemicals.com Website: www.nstchemicals.com Emergency: Latvian Poison Information Centre +371 67042473 (24/7)

Section 2. Hazards identification

Classification:



Regulation (EC) No 1272/2008 (CLP): Skin Sens. 1, H317.
Hazard pictogram: GHS07. Signal word: Warning. Hazard statement: H317 May cause an allergic skin reaction.
Precautionary statements: P261 Avoid breathing dust. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves. P302+P352 IF ON SKIN: Wash with plenty of water. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse. P501 Dispose of contents/container in accordance with applicable regulations.
Other hazards: Fine airborne organic dust may form a combustible dust atmosphere. PBT, vPvB and endocrine-disrupting properties have not been established.

Section 3. Composition/information on ingredients

Chemical name:	Thiamine monophosphate chloride dihydrate, >=99.0% (HPLC specification).
Synonyms:	Aneurine monophosphate chloride; Thiamine phosphate chloride dihydrate; Thiaminium dihydrogen phosphate chloride dihydrate
Chemical formula:	$C_{12}H_{18}ClN_4O_4PS \cdot 2H_2O$
Molecular weight:	416.82 g/mol
CAS No:	273724-21-3
EC No.	208-536-9

Section 4. First aid measures

Inhalation:	Move to fresh air and keep at rest. Obtain medical advice if coughing, breathing difficulty or other symptoms occur.
Skin:	Remove contaminated clothing. Wash skin thoroughly with soap and water. If skin irritation or rash occurs, obtain medical advice. Wash contaminated clothing before reuse.
Eyes:	Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Obtain medical advice if irritation persists.
Ingestion:	Rinse mouth. Do not induce vomiting. Obtain medical advice if unwell. Never give anything by mouth to an unconscious person.

Section 5. Firefighting measures

Extinguishing media suitable:	Water spray, alcohol-resistant foam, dry extinguishing powder or carbon dioxide. Use measures appropriate to the surrounding fire.
Special protection of fire-fighters:	Wear self-contained breathing apparatus and full protective equipment. Combustion may produce carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides, phosphorus oxides and hydrogen chloride.

Section 6. Accidental release measures

Personal precautions:	Avoid dust formation, inhalation and skin contact. Ensure ventilation. Wear protective gloves and eye protection. Keep unprotected persons away.
Environmental precautions:	Prevent entry into drains, surface water and soil. Notify authorities if a significant release reaches water or drains.
Methods for cleaning up:	Collect mechanically or with a HEPA-filtered vacuum without generating dust. Place in a closed, labelled container for disposal and clean the area.

Section 7. Handling and storage

Handling:	Handle in a well-ventilated area. Minimise dust. Avoid inhalation, ingestion and contact with skin, eyes and clothing. Wash thoroughly after handling.

Storage:	Store tightly closed in a cool, dry, well-ventilated place. Protect from strong light and heat. Keep away from incompatible materials. Supplier specification shelf life: 24 months under recommended conditions.

Section 8. Exposure controls/personal protection

Engineering measures:	No substance-specific occupational exposure limit has been established. Apply applicable nuisance-dust limits. Use local exhaust ventilation and provide eyewash facilities.
Hygiene measures:	Wash hands and exposed skin after handling and before breaks. Do not eat, drink or smoke in work areas. Contaminated work clothing should not leave the workplace.
Personal protective equipment:	Respiratory: suitable particulate-filter respirator where dust forms or ventilation is insufficient. Hands: chemical-resistant gloves appropriate to the task, e.g. nitrile.
Skin and body:	Protective work clothing appropriate to the scale and duration of exposure. Wash contaminated clothing before reuse.
Eyes:	Safety glasses with side shields or tightly fitting safety goggles.

Section 9. Physical and chemical properties

Physical state:	Solid, powder
Colour:	White to off-white
Odour:	No data available
Molecular Weight:	416.82 g/mol
Melting point:	Approximately 190 °C (literature data)
pH:	No data available
Boiling point:	No data available; decomposition may occur before boiling
Solubility:	Soluble in water; specification: 50 mg/mL gives a clear, colourless to very faint yellow solution
Explosive properties:	Not classified as explosive. Fine airborne organic dust may form a combustible dust atmosphere.

Section 10. Stability and reactivity

Stability:	Stable under recommended storage and normal handling conditions. Protect from strong light, heat and moisture.
Materials to avoid:	Strong oxidising agents, excessive heat, ignition sources, strong light and moisture.
Hazardous decomposition products:	Carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides, phosphorus oxides and hydrogen chloride may form during combustion or thermal decomposition.

Section 11. Toxicological information

Acute toxicity:	Available product-specific quantitative acute-toxicity data are insufficient for classification. Avoid ingestion.
Skin corrosion/irritation:	Available data do not establish classification for skin corrosion or irritation. Prolonged contact should be avoided.
Respiratory or skin sensitisation:	May cause an allergic skin reaction (Skin Sens. 1, H317).
CMR effects:	Available data do not permit a definitive conclusion for germ-cell mutagenicity, carcinogenicity or reproductive toxicity; minimise exposure.
Signs and symptoms of exposure:	Skin contact may cause sensitisation or an allergic rash. Dust may irritate the eyes and respiratory tract.
Potential health effects:	No product-specific target-organ toxicity data are available.
Inhalation:	Dust may cause mechanical respiratory irritation; no CLP respiratory-irritation classification is assigned.
Skin:	No adequate product-specific repeated-exposure data are available.
Eyes:	Dust may cause mechanical eye irritation; no CLP eye-irritation classification is assigned.
Ingestion:	Ingestion may cause gastrointestinal discomfort; quantitative toxicity data are limited.
Other information:	Avoid ingestion, skin contact and unnecessary dust exposure; follow the protective measures in Section 8.

Section 12. Ecological information

Ecotoxicity:	Not classified as hazardous to the aquatic environment based on available information. Avoid uncontrolled release.
Persistence and degradability:	Product-specific persistence, degradability, bioaccumulation and mobility data are limited.
Other adverse effects:	PBT, vPvB and endocrine-disrupting properties have not been established. Collect spills and contaminated cleaning materials.

Section 13. Disposal considerations

Product:	Dispose of contents through a licensed waste contractor in accordance with local, regional and national requirements. Do not discharge to drains.

Contaminated packaging:	Empty completely. Treat contaminated packaging as the product. Recycle only thoroughly cleaned packaging where permitted.

Section 14. Transport information

ADR/RID:	Not regulated as dangerous goods under ADR/RID. No UN number, transport hazard class or packing group assigned.
IMDG:	Not regulated as dangerous goods under IMDG. Not classified as a marine pollutant.
IATA:	Not regulated as dangerous goods under IATA. No UN number, transport hazard class or packing group assigned.

Section 15. Regulatory information

EU regulatory information:	Prepared in accordance with Regulation (EC) No 1907/2006 (REACH), Annex II, as amended by Regulation (EU) 2020/878. Classification and labelling assessed under Regulation (EC) No 1272/2008 (CLP), as amended. A chemical safety assessment has not been carried out by the supplier.

Section 16. Other information

Notice to reader:	Version 1.2; revision date 23-Nov-2026. Revised to retain only general grade specifications. Approved GHS pictogram artwork was applied with corrected aspect ratio and spacing. Chemical classification and transport wording were not changed. Conservative classification is based on current supplier SDS information for thiamine monophosphate chloride dihydrate, CAS 273724-21-3. Product identity and quality properties derive from the applicable specification limits. This information is provided in good faith as guidance for safe handling, storage, transport and disposal and is not a warranty of product properties. Users remain responsible for suitability and legal compliance.