

Product Data Sheet

Thiamine Hydrochloride

Description

Thiamine Hydrochloride is a powder, usually with a slight, characteristic odour. It melts at about 250 °C with decomposition.

Product identification

Product code: 04 1303 8

Chemical name: 3-[(4-amino-2-methyl-5-pyrimidinyl)-methyl]-5-(2-hydroxy-ethyl)-4-methylthiazolium chloride hydrochloride

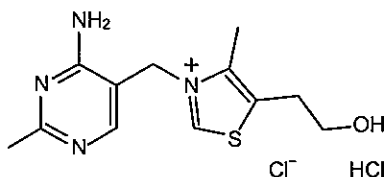
Synonyms: thiamine chloride hydrochloride; thiamine chloride; thiamine; thiamin; vitamin B₁ hydrochloride; vitamin B₁

CAS No.: 67-03-8

EINECS No.: 200-641-8

Empirical formula: C₁₂H₁₇ClN₄OS • HCl

Molecular mass: 337.28 g/mol



Specifications

Appearance:	powder
Colour:	white to almost white
Solution 5% in water:	practically clear and colourless
pH of a solution 2.5% in water:	2.7 – 3.3
Identity:	corresponds
Absorbance of a solution 10% in water at 400 nm:	max. 0.025
Water:	max. 5.0%
Sulphated ash (residue on ignition):	max. 0.1%
Heavy metals:	max. 10 ppm
Lead:	max. 2 ppm
Zinc:	max. 25 ppm
Nickel:	max. 10 ppm
Nitrates:	passes test (USP)
Sulphates:	max. 300 ppm

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Residual solvents:

- Ethanol max. 1000 ppm
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Related substances:

- Specified imp. A, B, C (each): max. 0.4%
- Imp. D, E, F, G, H (each) max. 0.10%
- Unspecified imp. (each) max. 0.10%
- Total* impurities: max. 1.0%

*Disregard limit 0.05%

Assay (anhydrous): 98.5–101.0%

Solubility

Thiamine Hydrochloride is freely soluble in water (approx. 100 g per 100 mL), soluble in glycerol, slightly soluble in alcohol, and practically insoluble in ether, chloroform and acetone.

Stability and storage

Thiamine Hydrochloride is relatively stable to air if protected from light and humidity. The product may be stored for 36 months from the date of manufacture in the unopened original container and at a temperature below 25 °C. The 'best use before' date is printed on the label. In aqueous solutions, thiamine hydrochloride is susceptible to decomposition, particularly in the presence of alkali and of ions of metals such as copper and iron.

Uses

For fortification of feed and, in the case of acute deficiency, for addition to drinking water.

For the enrichment of flour, rice, noodles, soup and beverage powders, and breakfast cereals.

For solid and liquid pharmaceutical preparations.

This product is not intended for use in the manufacture of sterile drug products. The purchaser assumes all responsibility for additional processing, testing, labelling and registration required for such use.

Compendial compliance

Thiamine Hydrochloride meets all requirements of the USP, FCC and Ph. Eur. when tested according to these compendia.

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Safety

This product is safe for the intended use. Avoid ingestion, inhalation of dust or direct contact by applying suitable protective measures and personal hygiene.

For full safety information and necessary precautions, please refer to the respective DSM Material Safety Data Sheet.

Legal notice

The information given in this publication is based on our current knowledge and experience, and may be used at your discretion and risk. It does not relieve you from carrying out your own precautions and tests. We do not assume any liability in connection with your product or its use. You must comply with all applicable laws and regulations, and observe all third party rights.

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