Vitamin B1

$C_{12}H_{17}ClN_4OS{\cdot}HCl$ · CAS 67-03-8 · Thiamine hydrochloride, crystalline

INDICATIVE SPECIFICATION — CONFIRMED IN WRITING AT QUOTATION

CHEMICAL FORM	FORMULA	CAS	PRIMARY ASSAY
Thiamine hydrochloride, crystalline	$C_{12}H_{17}ClN_4OS{\cdot}HCl$	67-03-8	98.5–101.5% (titration)
METHOD	**MINIMUM ORDER**	**LEAD TIME**	**STANDARD PACK**
Titration and HPLC	1 kg	1–7 days	1 kg foil pouch

SPECIFICATION

PARAMETER	SPECIFICATION	METHOD / NOTE
Assay (dried basis)	98.5–101.5% (titration)	Specification
Appearance	White or almost white crystalline powder	Specification
Identification	IR conforms	Specification
pH (2.5% solution)	2.7–3.3	Specification
Water (Karl Fischer)	≤5.0%	Specification
Sulfated ash	≤0.1%	Specification
Nitrate	Passes test	Specification
Heavy metals	Pb ≤3 · As ≤2 · Cd ≤1 · Hg ≤0.1 mg/kg	Specification
Microbiology	APC ≤1,000 cfu/g · yeast and mould ≤100 cfu/g · E. coli and Salmonella absent	Specification
Particle size	≥95% through 40 mesh	Sieve
Marker set	Thiamine hydrochloride (98.5–101.5%, dried basis)	Identity / ratio
Appearance	White or almost white crystalline powder	Visual
Solubility	Freely soluble in water; the 2.5% solution is acidic (pH 2.7–3.3).	Matrix dependent
Standard packaging	1 kg foil pouch · 25 kg fiber drum	Food-grade liner

APPLICATIONS

- Capsules and tablets
- Powder sticks and drink mixes
- Gummies and chews
- Functional beverages

AVAILABLE FORMS

- Crystalline powder, 40 mesh
- Milled to 80 mesh on request
- Granulated on request

WHAT TO CONFIRM BEFORE ORDERING

- Name the salt: thiamine hydrochloride and thiamine mononitrate carry different thiamine per gram and different water limits.
- Ask for the assay basis and the water figure; the dried basis and the as-is basis are not interchangeable.
- Thiamine is sensitive to pH and heat; the matrix and the process temperature belong in the specification.
- The nitrate test matters for the hydrochloride grade; do not accept a certificate that omits it.

> **Indicative document.** This sheet describes the grade we can quote; it is not a batch COA and does not confirm a result for a specific lot. Final specification, contaminant limits and documentation are agreed in writing before the order. The form, hydrate state, ligand ratio and method are release parameters, not marketing descriptions.

DOCUMENTATION RELEASED WITH EACH LOT

DOCUMENT	CONTENT	SCOPE
Certificate of analysis	Assay, identity, physical parameters, contaminant panel and the release decision for the lot.	Batch-specific
Technical data sheet	Form, hydrate state, CAS, specification ranges, solubility, bulk density, storage and packing.	Product-level
Safety data sheet	Sixteen sections covering hazards, handling, storage, transport and emergency response.	Grade-specific
Allergen and GMO statements	Major allergens, gluten, animal-derived inputs and GMO status.	Batch-specific
Origin and traceability record	Manufacturing site and the link between the lot and the retained sample.	Batch-specific
Residual-solvent statement	The crystallisation system and the solvent class, where applicable.	Batch-specific

HOW TO REQUEST THIS GRADE

01 · BRIEF

Send the target specification, quantity, dosage form and destination market.

02 · COUNTER-SPEC

We confirm what can be matched and the documents available for the grade.

03 · SAMPLE & QUOTE

A sample with its own COA, followed by packing, lead time and terms in writing.

No claim is made here. This sheet does not claim a therapeutic effect, a product certification or a regulatory approval. Health claims belong to the brand that makes them and to the market that authorises them.

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