



CERTIFICATE OF ANALYSIS

Product Name:	Thiamine Hydrochloride
Batch Number:	Y01202307047
Manufacture Date:	2023-07-20
Expiry Date:	2027-07-19

Physical & Chemical Characteristics

Analysis Item	Specification	Result
Appearance	White or almost white crystalline powder	White crystalline powder
Appearance of Solution	The solution is clear & not more intensely colored than reference solution Y7 or GY7	The solution is clear & not more intensely colored than reference solution Y7 or GY7
Identification	(1) Reaction of chlorides should be positive reaction (2) Infrared Absorption Spectrophotometry consistent with the reference IR spectra	(1) Positive reaction (2) Consistent with the reference IR spectra
Assay	98.5% ~ 101.0%	99.5%
Loss on Drying	≤5.0%	2.4%
Residue on Ignition	≤0.1%	0.05%
Absorbance of Solution	NMT 2.9	2.9
pH	2.7 – 3.3	2.7
Sulphates	≤300 ppm	<300 ppm
Limit of Nitrate	Meets the requirements	Meets the requirements

Impurities

Analysis Item	Specification	Result
Impurity A	≤0.15%	0.03%
Impurity B	≤0.3%	0.01%
Impurity C	≤0.15%	0.01%
Any unspecified impurity	≤0.1%	0.02%
Total Impurities	≤1.5%	0.10%

Chemical Tests

Analysis Item	Specification	Result
Residual Solvents	Methanol $\leq 3,000$ ppm; Ethanol $\leq 5,000$ ppm	Methanol $< 3,000$ ppm; Ethanol $< 5,000$ ppm
Arsenic	≤ 1.0 ppm	< 1.0 ppm
Lead	≤ 0.5 ppm	< 0.5 ppm
Cadmium	≤ 0.5 ppm	< 0.5 ppm
Mercury	≤ 0.1 ppm	< 0.1 ppm

Microbiological Tests

Analysis Item	Specification	Result
Total Plate Count	$\leq 1,000$ CFU/g	$< 1,000$ CFU/g
Yeasts & Molds	≤ 100 CFU/g	< 100 CFU/g
E. Coli	Negative/g	Negative
Salmonella	Negative/10g	Negative
Staphylococcus Aureus	Negative/g	Negative

Above data is based on the certificate of analysis provided by the supplier/manufacturer.

Storage condition: Keep in cool and dry place. Preserve in tight, light-resistant containers.

Conclusion: Comply with required standards