

SPECIFICATION

Product Name: Vitamin B1 Mononitrate (Thiamine)
Chemical Formula: $C_{12}H_{17}N_5O_4S$
CAS Number: 532-43-4
Molecular Weight: 327.36 g/mol
Appearance: White or almost white crystalline powder
Odor: Odorless

Chemical Composition

Parameter	Unit	Typical Value	Specification (Min/Max)
Identification	-	(1) Positive reaction. (2) Consistent with the reference IR spectra.	(1) Should be positive reaction (2) Consistent with the reference IR spectra.
PH	-	7.3	6.8 – 7.5
Appearance of solution	-	Clear, not more intense than Y7	Clear, not more intense than Y7
Heavy Metals	PPM	<20 PPM	NMT 20 PPM
Chloride	PPM	<250 PPM	NMT 250 PPM
Loss on drying	%	0.2%	NMT 1.0%
Sulphate Ash	%	0.06%	NMT 0.1%
Residual Solvents			
Methanol	%	<0.3%	NMT 0.3%
Ethanol	%	<0.5%	NMT 0.5%
Related Substances (Disregard Limit 0.05%)			

Impurity A	%	0.10%	NMT 0.15%
Impurity B	%	0.02%	NMT 0.6%
Impurity C	%	0.01%	NMT 0.4%
Any Impurity	%	0.03%	NMT 0.1%
Total Impurity	%	0.24%	NMT 1.0%
Assay	%	99.6%	98.0 – 101.0%

Physical Properties

- Solubility: Slightly soluble in water. Soluble in ethanol. Soluble in acetone. Soluble in methanol. Insoluble in ether. Insoluble in chloroform.

Shelf Life & Storage

- Shelf Life: 3 years from date of manufacture under recommended storage.
- Storage Conditions: Store in a tightly closed container in a cool, dry, and well-ventilated place, protected from moisture, heat, and light.

Applications

- Use: Widely used in pharmaceutical, nutraceutical, food, beverage, and animal nutrition applications. It is an essential nutrient that plays a key role in energy metabolism and normal nervous system function.
- Dosage: Depends on Age and nutritional status, Intended application, Product formulation, Regulatory requirements, Desired vitamin potency.

Packaging

- Standard Packing: 25 kg Fiber drum or as per customer requirement.
- Labeling: Product name, batch number, net weight, manufacture date, expiry date, and manufacturer details.

* Specifications are based on the manufacturer's provided specifications.