



TECHNICAL DATA SHEET

Product Name: Riboflavin 5'-Sodium Phosphate

Synonym: Vitamin B2 Sodium Phosphate / Flavin Mononucleotide Sodium Salt (FMN-Na)

1. Product Description

Riboflavin 5'-Sodium Phosphate is a water-soluble derivative of Vitamin B2 (Riboflavin), widely used as a nutritional fortifier in food, pharmaceutical, and feed applications.

Compared with riboflavin, it offers significantly improved solubility in water and better stability in liquid systems, making it suitable for beverage fortification and injectable vitamin formulations.

This product is manufactured and tested in accordance with **USP2021 standards**, ensuring consistent quality and reliable performance.

2. Chemical & Physical Properties

- Appearance: Yellow to orange-yellow crystalline powder
- Solubility: Freely soluble in water
- pH (1% solution): 5.0 – 6.5 (measured: 5.9)
- Specific Rotation: +37.0° to +42.0° (measured: +39.2°)
- Stability: Light-sensitive; store protected from light and air

3. Product Specification (USP2021 Standard)

Test Item	Specification	Result
Description	Yellow to orange-yellow crystalline powder	Conforms
Identification	Positive reaction	Positive
pH	5.0 – 6.5	5.9
Specific Rotation	+37.0° ~ +42.0°	+39.2°
Limit of Lumiflavin	≤ 0.025	0.011
Free Riboflavin & Riboflavin Diphosphate	≤ 6.0%	4.9%
Free Phosphate	NMT 1% as PO ₄	Conforms

Test Item	Specification	Result
Loss on Drying	≤ 7.5%	5.5%
Residue on Ignition	≤ 25.0%	21.3%
Assay	73.0% – 79.0%	75.8%

4. Microbiological Specification

- Aerobic Plate Count: ≤ 1,000 CFU/g (Result: <1000 CFU/g)
 - Yeast & Mold: ≤ 100 CFU/g (Result: <100 CFU/g)
 - Coliforms: Negative (Conforms)
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5. Applications

5.1 Food & Beverage Industry

- Vitamin B2 fortification in beverages and functional drinks
 - Nutritional enrichment in dairy products
 - Energy drinks and health-focused formulations
 - Vitamin premixes for instant drink powders
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5.2 Pharmaceutical Industry

- Vitamin B-complex formulations
 - Injectable vitamin preparations due to high water solubility
 - Treatment and prevention of riboflavin deficiency
 - Clinical nutrition and hospital formulations
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5.3 Nutraceutical Industry

- Dietary supplements (tablets, capsules, effervescent tablets)
 - Multivitamin blends
 - Energy metabolism and antioxidant support products
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5.4 Animal Nutrition (Feed Additive)

- Vitamin B2 supplementation in feed premixes
- Supports growth performance and energy metabolism in livestock and aquaculture

6. Packaging

- Packing Size: 25 kg / drum
- Inner Packing: Sealed protective liner (food/pharma grade)

7. Storage Conditions

- Store in airtight containers
- Temperature: 15–30°C
- Keep in a dry environment
- Protect from light and moisture

8. Shelf Life

- 24 months under recommended storage conditions