

SPECIFICATION

Product Name: Vitamin B2 (Riboflavin) IP Grade
Chemical Formula: $C_{17}H_{20}N_4O_6$
CAS Number: 83-88-5
Molecular Weight: 376.36 g/mol
Appearance: A yellow to orange-yellow crystalline powder
Odor: Odorless

Chemical Composition

Parameter	Unit	Typical Value	Specification (Min./Max.)
Identification A	-	Confirm	Determine by infrared absorption spectrophotometry (2.4.6). Compare the spectrum with that obtained with riboflavin IPRS or with the reference spectrum of riboflavin.
Identification B	-	Confirm	The solution has a pale greenish yellow colour by transmitted light and an intense yellowish green fluorescence by reflected light, which disappears on addition of mineral acids or alkalis.
pH	-	6.12	5.5 to 7.2, determined in a saturated solution.
Specific optical rotation	°	-122°	Between -115° to -135°
Light absorption	nm	0.320 0.368	A: 0.31 – 0.33 A373nm/A267nm B: 0.36 – 0.39 A444nm/A267nm
Lumiflavin	-	Confirm	The filtrate is not more intensely coloured than reference solution BYS6 (2.4.1).
Related Substances:			
Impurity A:	%	0.018%	NMT 0.025%
Impurity B:	%	0.14%	NMT 0.2%

Impurity C:	%	0.12%	NMT 0.2%
Impurity D:	%	0.08%	NMT 0.2%
Unspecified Impurity:	%	0.07%	NMT 0.1%
Total:	%	0.43%	NMT 0.5%
Heavy metals	-	Confirm	Complies with the limit test for heavy metals, method B(10 ppm)
Sulphated Ash	%	Confirm	NMT 0.1%
Loss on drying	%	0.68%	NMT 1.5%
Assay (Dried basis)	%	99.36%	98.0% - 101.0%

Physical Properties

- Solubility: Soluble in water. Insoluble in ethanol. Insoluble in chloroform. Insoluble in ether. Soluble in dilute alkali solutions.

Shelf Life & Storage

- Shelf Life: 3 years from date of manufacture under recommended storage.
- Storage Conditions: Store in a cool, dry place at 15–25°C. Protect from light, heat, moisture, and air, as riboflavin is highly sensitive to light and may degrade upon exposure. Keep the container tightly closed in the original, light-resistant, properly labeled container and store in a well-ventilated area to maintain product potency and stability.

Applications

- Use: Widely used as a source of vitamin B2 (riboflavin) in pharmaceutical, nutraceutical, and food fortification formulations. It supports normal energy metabolism, red blood cell production, nervous system function, healthy skin and eyes, and antioxidant activity.
- Dosage: Depends on the intended formulation, patient age, nutritional status, and therapeutic indication. It should be used according to product specifications or as directed by a qualified healthcare professional.

Packaging

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



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

