

Product Data Sheet

Riboflavin Universal

Description

Riboflavin Universal is a yellow to orange-yellow free-flowing powder, practically odourless, with a bitter taste. It melts at about 280 °C with decomposition. It is produced by fermentation using a genetically modified micro-organism. Riboflavin Universal is purified and free of detectable DNA.

Product identification

Product code: 04 7040 6

Chemical names: 7,8-dimethyl-10-(1-D-ribityl)-isoalloxazine; 7,8-dimethyl-10-(D-ribo-2,3,4,5-tetrahydroxy-pentyl)isoalloxazine

Synonyms: riboflavin; lactoflavin; vitamin B₂

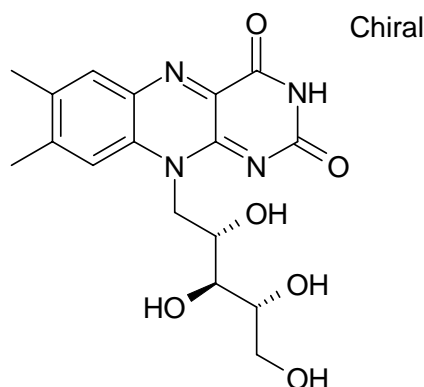
CAS No.: 83-88-5

EINECS No.: 201-507-1

E No.: E 101

Empirical formula: C₁₇H₂₀N₄O₆

Molecular mass: 376.37 g/mol



Specifications

Appearance: yellow to orange-yellow powder

Identity: corresponds

Fineness: min. 90% less than 180 µm (US standard sieve No. 80)

Specific rotation, 589 nm, 20 °C (c = 0.5 in NaOH): -115° to -135° (on dry material)

Specific rotation, 589 nm, 25 °C (c = 0.5 in HCl): +56.5° to +59.5° (on dry material)

Absorbance

Maxima: at about 223, 267, 373 and 444 nm

E₃₇₃/E₂₆₇: 0.31–0.33

E₄₄₄/E₂₆₇: 0.36–0.39

Loss on drying: max. 1.5%

Sulphated ash: max. 0.1%

Heavy metals: max. 10 ppm

Lead: max. 2 ppm

Mercury: max. 1 ppm

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Cadmium: max. 1 ppm

Arsenic: max. 3 ppm

Lumiflavin: passes test

Primary aromatic amines: max. 100 ppm

Organic volatile impurities and residual solvents: meets USP requirements

Assay: 98.0–101.0% (on dry material)

Solubility

Riboflavin Universal is more soluble than conventional riboflavin in water (approx. 16 mg per 100 mL at 37 °C) and in HCl (0.1 mol/L) (approx. 18 mg per 100 mL at 37 °C). It is practically insoluble in ethanol, ether, chloroform and acetone.

Stability and storage

Riboflavin Universal is fairly stable to air if protected from light and humidity. The product may be stored for 36 months from the date of manufacture in the unopened original container and at a temperature below 25 °C. The 'best used before' date is printed on the label. The product is hygroscopic. Neutral or acid solutions are relatively stable if exposure to light is avoided, but in the alkaline range, decomposition occurs, which is accelerated by light.

Uses

For the enrichment of cereals, pasta products, dietetics and other dry food preparations, and for the coloration of light-protected food products in liquid and powder form.

For solid pharmaceutical preparations.

This product is not intended for use in the manufacture of sterile drug products. The purchaser assumes all responsibility for additional processing, testing and labelling required for such use.

Compendial compliance

Riboflavin Universal meets all requirements of the USP, FCC and Ph. Eur. when tested according to these compendia.

Safety

This product is safe for the intended use. Avoid ingestion, inhalation of dust or direct contact by applying suitable protective measures and personal hygiene.

For full safety information and necessary precautions, please refer to the respective DSM Material Safety Data Sheet.

Legal notice

The information given in this publication is based on our current knowledge and experience, and may be used at your discretion and risk. It does not relieve you from carrying out your own precautions and tests. We do not assume any liability in connection with your product or its use. You must comply with all applicable laws and regulations, and observe all third party rights.

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