Life Giving Store

TYPICAL ANALYSIS

Typical Certificate of Analysis

Product: Vitamin B2 (Riboflavin) Powder – USP Grade
Chemical name: 7,8-Dimethyl-10-[(2S,3S,4R)-2,3,4,5-tetrahydroxypentyl]-benzo[g]pteridine-2,4(3H,10H)-dione
CAS number: 83-88-5
Molecular formula: C17H20N4O6
Molecular weight: 376.4
Solubility: Very slightly soluble in water; practically insoluble in ethanol (96%)

Ph. Eur.

Test	Specification	Typical Result
Appearance	Yellow or orange-yellow, crystalline powder	**Complies**
Identification	Complies	**Complies**
Specific optical rotation	-115.0°/-135.0° (c = 0.5, in NaOH, 20°C (68°F))	**-132.7°**
Absorbance: absorption maximum	223 nm ± 2	**224**
Absorbance: absorption maximum	267 nm ± 2	**268**
Absorbance: absorption maximum	373 nm ± 2	**373**
Absorbance: absorption maximum	444 nm ± 2	**445**
Absorbance ratio	A373/A267: 0.31-0.33	**0.323**
Absorbance ratio	A444/A267: 0.36-0.39	**0.383**
Related substances	Impurity A (lumiflavin) <= 0.025%	**Complies**
Related substances	Impurity B <= 0.2%	**< 0.05**
Related substances	Impurity C <= 0.2%	**0.12**
Related substances	Impurity D <= 0.2%	**< 0.05**
Related substances	Unspecified impurities <= 0.1%	**Complies**
Related substances	Total impurities <= 0.5%	**0.12**
Loss on drying	<= 1.5%	**0.7**
Sulfated ash	<= 0.1%	**0.02**
Assay	97.0-103.0%	**99.5**

Other tests

Test	Specification	Typical Result
Particle size	>= 90% through sieve USP no. 80 (< 180 micron)	**99.8**
Heavy metals	Cd <= 1 ppm	**Complies***
Heavy metals	Hg <= 1 ppm	**Complies***
Heavy metals	As <= 3 ppm	**Complies***
Heavy metals	Pb <= 2 ppm	**Complies***
Heavy metals	Total <= 10 ppm	**Complies**
Impurities	Aromatic primary amines <= 100 ppm	**Complies***
Residual solvents	Methanol <= 3000 ppm	**Complies***

**Periodically carried out*

Typical analysis.