



We create chemistry

# METAPHARMACEUTICAL

N DE LOTE:

0100775

*Alfonso*  
12/02/2025

## Certificate of Analysis

BASF SE

Attention! Please note that the certificates of analysis are also conveniently available on your BASF online portal.

SIEMSGLUSS IBERICA, S.A.

2025-01-28

Certificate No 5156

Page 1 of 4

POL.INDL.ST.ANTONI, PARCELA NAVE 2

Lee, Yuri

08620 SANT VICENÇ DELS HORTS BARCELONA

G-ENN/OG

+82-63-469-2479

Spain

### Certificate of Analysis according to DIN 55350-18-4.2.2

Riboflavin High Flow 100 (HF)

Material

50175050

Order

3387841978 000010

Delivery

3539162587 000010

Batch

RIB3788HF

Batch/Qty

500.000 KG

Total

500.000 KG

25KG Fibreboard boxes

Purchase order/Customer material

A-2250049

| Test parameter                                   | Requirements                                 | UoM    | Results  |
|--|--|--------|----------|
| Appearance                                       | Yellow or Orange-yellow, Crystalline powder. |        | Complies |
| Identification <sup>1</sup><br>(Ph.Eur., Meth.A) | Must conform                                 |        | Complies |
| Identification <sup>1</sup><br>(Ph.Eur., Meth.B) | Must conform                                 |        | Complies |
| Identification <sup>1</sup><br>(Ph.Eur., Meth.C) | Must conform                                 |        | Complies |
| Identification <sup>1</sup><br>(USP)             | Must conform                                 |        | Complies |
| Identification(2) <sup>1</sup><br>(JP)           | Must conform                                 |        | Complies |
| Specific optical rotation<br>(Ph.Eur.)           | -115 to -135                                 | degree | -128     |
| Specific optical rotation<br>(USP)               | -115 to -135                                 | degree | -120     |
| Specific optical rotation <sup>2</sup><br>(FCC)  | +56.5 to +59.5                               | degree | Complies |
| Absorbance Absorption(Ph.Eur.)                   | 223, 267, 373, 444nm                         |        | Complies |
| Maxima A 373/267 nm                              | 0.31 to 0.33                                 |        | 0.32     |
| A 444/267 nm                                     | 0.36 to 0.39                                 |        | 0.38     |

The above-mentioned data describes the relevant parameters of the product at the time of issuing this certificate of analysis (CoA). The data is controlled at regular intervals as part of our quality assurance program and is provided for reference only. The contractually agreed quality of the product at the time of passing of risk is exclusively determined by our product specification. Unless specifically agreed by the Parties in writing signed by authorized representatives, no suitability for a particular use shall be presumed or implied based on the CoA and the customer is solely responsible for determining and verifying the suitability of the use of the product for any purpose.

Attention! Please note that the certificates of analysis are also conveniently available on your BASF online portal.

SIEMSGLUSS IBERICA, S.A.

2025-01-28

Certificate No 5156

Page 2 of 4

POL.INDL.ST.ANTONI, PARCELA NAVE 2

08620 SANT VICENÇ DELS HORTS BARCELONA

Lee, Yuri

G-ENN/OG

+82-63-469-2479

Spain

**Certificate of Analysis according to DIN 55350-18-4.2.2**

Riboflavin High Flow 100 (HF)

Material

50175050

Order

3387841978 000010

Delivery

3539162587 000010

Batch

RIB3788HF

Batch/Qty

500.000 KG

Total

500.000 KG

25KG Fibreboard boxes

Purchase order/Customer material

A-2250049

| Test parameter               | Requirements                | UoM | Results |
|------------------------------|-----------------------------|-----|---------|
| -----                        |                             |     |         |
| Related substances(Ph.Eur.)  |                             |     |         |
| Impurity A                   | Max. 0.025g/100g            |     | 0.008   |
| Impurity B                   | Max. 0.2g/100g              |     | 0.04    |
| Impurity C                   | Max. 0.2g/100g              |     | 0.0     |
| Impurity D                   | Max. 0.2g/100g              |     | 0.1     |
| Unspecified impurities       | Max. 0.10g/100g each        |     | 0.00    |
| Total Impurities             | Max. 0.5g/100g              |     | 0.1     |
| Lumiflavin (USP)             | Max. 0.025                  |     | 0.001   |
| Lumiflavin (JECFA)           | Max. 0.025g/100g            |     | 0.008   |
| Sulfated ash<br>(Ph.Eur.)    | Max. 0.1g/100g              | %   | 0.03    |
| Residue on ignition<br>(USP) | Max. 0.3                    | %   | 0.03    |
| Loss on drying<br>(Ph.Eur.)  | Max. 1.5g/100g              | %   | 0.7     |
| Assay<br>(Ph.Eur.)           | Min.97.0/100g to 103.0/100g | %   | 100.2   |
| Assay<br>(USP)               | Min.98.0/100g to 102.0/100g | %   | 99.0    |
| Assay<br>(JECFA)             | Min.98.0/100g to 101.0/100g | %   | 100.2   |

The above-mentioned data describes the relevant parameters of the product at the time of issuing this certificate of analysis (CoA). The data is controlled at regular intervals as part of our quality assurance program and is provided for reference only. The contractually agreed quality of the product at the time of passing of risk is exclusively determined by our product specification. Unless specifically agreed by the Parties in writing signed by authorized representatives, no suitability for a particular use shall be presumed or implied based on the CoA and the customer is solely responsible for determining and verifying the suitability of the use of the product for any purpose.

Attention! Please note that the certificates of analysis are also conveniently available on your BASF online portal.

SIEMSGLUSS IBERICA, S.A.

2025-01-28

Certificate No 5156

Page 3 of 4

POL.INDL.ST.ANTONI, PARCELA NAVE 2

08620 SANT VICENÇ DELS HORTS BARCELONA

Lee, Yuri

G-ENN/OG

+82-63-469-2479

Spain

**Certificate of Analysis according to DIN 55350-18-4.2.2**

Riboflavin High Flow 100 (HF)

Material

50175050

Order

3387841978 000010

Delivery

3539162587 000010

Batch

RIB3788HF

Batch/Qty

500.000 KG

Total

500.000 KG

25KG Fibreboard boxes

Purchase order/Customer material

A-2250049

| Test parameter  | Requirements    | UoM | Results  |
|---|-----------------|-----|----------|
| Total microbial aerobic count <sup>3</sup> (USP)                    | Max. 1000 Cfu/g |     | Complies |
| Total combined yeast and -mould count <sup>3</sup> (USP)            | Max. 100 Cfu/g  |     | Complies |
| Enterobacteria and other gram -negative bacteria <sup>3</sup> (USP) | Max. 100 Cfu/g  |     | Complies |
| Escherichia Coli <sup>3</sup> (Ph.Eur.)                             | Negative        |     | Negative |
| Salmonella <sup>3</sup> (Ph.Eur.)                                   | Negative        |     | Negative |
| Staphylococcus aureus <sup>3</sup> (Ph.Eur.)                        | Negative        |     | Negative |
| Pseudomonas aeruginosa <sup>3</sup> (Ph.Eur.)                       | Negative        |     | Negative |
| Heavy metals <sup>3</sup> (USP)                                     | Max. 10mg/kg    |     | Complies |
| Lead <sup>3</sup> (KP ICP)  | Max. 1mg/kg     |     | Complies |
| Cadmium <sup>3</sup> (KP ICP)                                       | Max. 1mg/kg     |     | Complies |

The above-mentioned data describes the relevant parameters of the product at the time of issuing this certificate of analysis (CoA). The data is controlled at regular intervals as part of our quality assurance program and is provided for reference only. The contractually agreed quality of the product at the time of passing of risk is exclusively determined by our product specification. Unless specifically agreed by the Parties in writing signed by authorized representatives, no suitability for a particular use shall be presumed or implied based on the CoA and the customer is solely responsible for determining and verifying the suitability of the use of the product for any purpose.

Attention! Please note that the certificates of analysis are also conveniently available on your BASF online portal.

SIEMSGLUSS IBERICA, S.A.

2025-01-28

Certificate No 5156

Page 4 of 4

POL.INDL.ST.ANTONI, PARCELA NAVE 2

Lee, Yuri

08620 SANT VICENÇ DELS HORTS BARCELONA

G-ENN/OG

+82-63-469-2479

Spain

**Certificate of Analysis according to DIN 55350-18-4.2.2**

Riboflavin High Flow 100 (HF)

Material

50175050

Order

3387841978 000010

Delivery

3539162587 000010

Batch

RIB3788HF

Batch/Qty

500.000 KG

Total

500.000 KG

25KG Fibreboard boxes

Purchase order/Customer material

A-2250049

| Test parameter                                  | Requirements  | UoM | Results  |
|---|---------------|-----|----------|
| Mercury <sup>3</sup><br>(KP ICP)                | Max. 0.1mg/kg |     | Complies |
| Arsenic <sup>3</sup><br>(KP ICP)                | Max. 1mg/kg   |     | Complies |
| Particle size <250µm <sup>3</sup><br>(SOP-0855) | Min. 99g/100g |     | Complies |

1. May also be determined by other means/methods (General Notices Ph.Eur/USP)
2. Not routinely tested
3. Ensured by quality assurance and therefore not routinely tested.

QC-Reference-No. FP-HF-240627  
Production date 27.06.2024  
Best before - Retest date 26.06.2028

The product meets the requirements of the current USP/EP/FCC/JP/E101/JECFA monographs.

BASF Company Ltd.  
57, Oehang 4-gil, Gunsan-si,  
Jeollabuk-do, Korea

G-ENN/OG  
Quality Control  
sig. Lee, Yuri

The above-mentioned data describes the relevant parameters of the product at the time of issuing this certificate of analysis (CoA). The data is controlled at regular intervals as part of our quality assurance program and is provided for reference only. The contractually agreed quality of the product at the time of passing of risk is exclusively determined by our product specification. Unless specifically agreed by the Parties in writing signed by authorized representatives, no suitability for a particular use shall be presumed or implied based on the CoA and the customer is solely responsible for determining and verifying the suitability of the use of the product for any purpose.