

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

SIEMSGLUSS IBERICA, S.A.

2024-06-10

Certificate No 4341

Page 5 of 8

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

3387478390 000010

Delivery

3538774956 000010

Batch

RIB3638HF

Batch/Qty

375.000 KG

Total

500.000 KG

• Transport

OHA-LX-186

25KG Fibreboard boxes

Purchase order/Customer material

A-2240252

Test parameter	Requirements	UoM	Results
Appearance	Yellow or Orange-yellow, Crystalline powder.		Complies
Identification ¹ (Ph.Eur., Meth.A)	Must conform		Complies
Identification ¹ (Ph.Eur., Meth.B)	Must conform		Complies
Identification ¹ (Ph.Eur., Meth.C)	Must conform		Complies
Identification ¹ (USP)	Must conform		Complies
Identification(2) ¹ (JP)	Must conform		Complies
Specific optical rotation (Ph.Eur.)	-115 to -135	degree	-130
Specific optical rotation (USP)	-115 to -135	degree	-121
Specific optical rotation ² (FCC)	+56.5 to +59.5	degree	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.

2024-06-10

Certificate No 4341

Page 6 of 8

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

3387478390 000010

Delivery

3538774956 000010

Batch

RIB3638HF

Batch/Qty

375.000 KG

Total

500.000 KG

Transport

OHA-LX-186

25KG Fibreboard boxes

Purchase order/Customer material

A-2240252

Test parameter	Requirements	UoM	Results
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
Related substances(Ph.Eur.)			
Impurity A	Max. 0.025g/100g		0.005
Impurity B	Max. 0.2g/100g		0.03
Impurity C	Max. 0.2g/100g		0.0
Impurity D	Max. 0.2g/100g		0.2
Unspecified impurities	Max. 0.10g/100g each		0.00
Total Impurities	Max. 0.5g/100g		0.2
Lumiflavin (USP)	Max. 0.025		0.005
Sulfated ash (Ph.Eur.)	Max. 0.1g/100g	%	0.1
Residue on ignition (USP)	Max. 0.3	%	0.1
Loss on drying (Ph.Eur.)	Max. 1.5g/100g	%	0.7
Assay (Ph.Eur.)	Min.97.0/100g to 103.0/100g	%	100.4
Assay (USP)	Min.98.0/100g to 102.0/100g	%	98.7

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.

2024-06-10

Certificate No 4341

Page 7 of 8

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

3387478390 000010

Delivery

3538774956 000010

Batch

RIB3638HF

Batch/Qty

375.000 KG

Total

500.000 KG

Transport

OHA-LX-186

25KG Fibreboard boxes

Purchase order/Customer material

A-2240252

Test parameter	Requirements	UoM	Results
Total microbial aerobic count ³ (USP)	Max. 1000 CfU/g		Complies
Total combined yeast and -mould count ³ (USP)	Max. 100 CfU/g		Complies
Enterobacteria and other gram -negative bacteria ³ (USP)	Max. 100 CfU/g		Complies
Escherichia Coli ³ (Ph.Eur.)	Negative		Negative
Salmonella ³ (Ph.Eur.)	Negative		Negative
Staphylococcus aureus ³ (Ph.Eur.)	Negative		Negative
Pseudomonas aeruginosa ³ (Ph.Eur.)	Negative		Negative
Heavy metals ³ (KP)	Max. 10mg/kg		Complies
Lead ³ (KP AAS)	Max. 2mg/kg		Complies
Cadmium ³ (KP AAS)	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.

2024-06-10

Certificate No 4341

Page 8 of 8

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

3387478390 000010

Delivery

3538774956 000010

Batch

RIB3638HF

Batch/Qty

375.000 KG

Total

500.000 KG

Transport

OHA-LX-186

25KG Fibreboard boxes

Purchase order/Customer material

A-2240252

Test parameter	Requirements	UoM	Results
Mercury ³ (KP AAS)	Max. 0.1mg/kg		Complies
Arsenic ³ (KP AAS)	Max. 1mg/kg		Complies
Particle size <250µm ³ (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. tested on every 10 batch

QC-Reference-No. FP-HF-231211

Production date 11.12.2023

Best before - Retest date 10.12.2027

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

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

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

This Certificate of Analysis has been produced electronically and
is valid without signature.

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.