

672955**Lot: 818525****Erythromycin**1. General Information

Formula	C37H67NO13	Expiry Date	01 May 2028
Mol. Weight	733.93 g/mol	Store at	20°C (in the dark)
CAS-No.	114-07-8		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	98.11 % (g/g)	Expanded Uncertainty	0.41 % (g/g)
Assay Purity (HPLC)	99.61 % (g/g)	Uncertainty	0.20 % (g/g)
Water	1.51 % (g/g)		

Sum of compounds A, B and C
Erythromycin A: 92.68%
Erythromycin B: 6.34%
Erythromycin C: 0.71%

Certified on 28 Apr 2023

by Jacqueline Seidel
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$
For non-specified hydrates, the overall purity refers to the stated molecular formula.

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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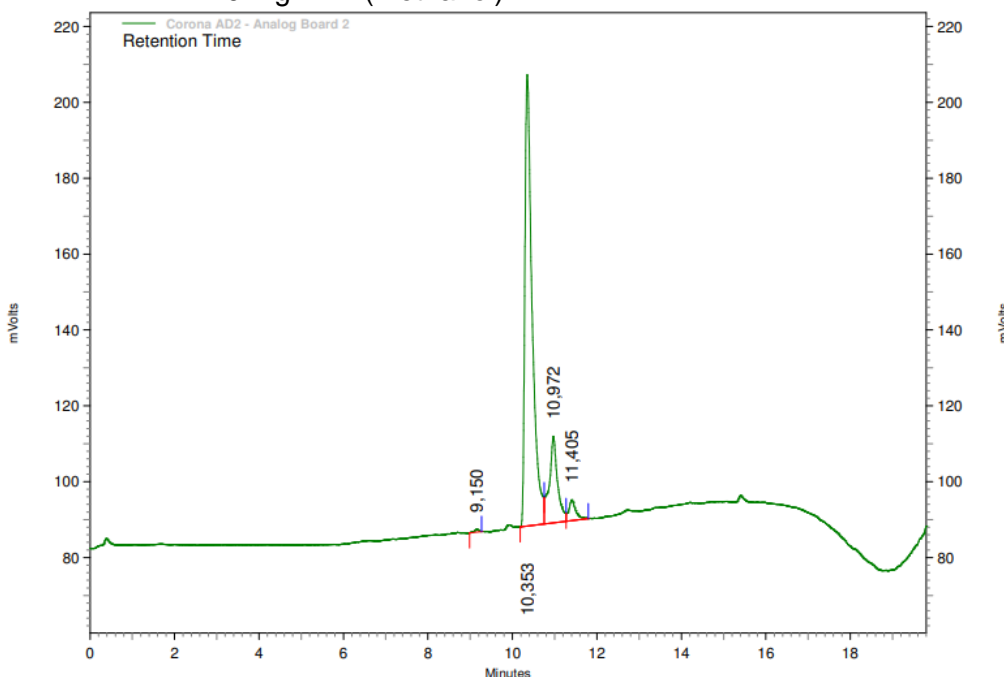
The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 672955
 Lot-No. 818525
 Column L=100mm, ID=4.6mm; Kinetex C18, 100A, 2.6µm
 Eluent A Acetonitrile + 0.1% Formic acid
 Eluent B Water + 0.1% Formic acid
 Gradient
 time %A %B
 0min 0 100
 15min 95 5
 20min 95 5
 Flow 0.7 ml min⁻¹
 Detector CAD
 Injection-Volume 1 µl
 Sample 1.0 mg ml⁻¹ (Methanol)



Corona AD2 -
Analog Board 2
Results

Retention Time	Height	Area	Area Percent
9,150	705	5130	0,283
10,353	119034	1430997	78,997
10,972	22828	312089	17,229
11,405	5468	63231	3,491

Totals	Height	Area	Area Percent
	148035	1811447	100,000

Peak at RT 10,353min is Erythromycin A
 Peak at RT 10,972min is Erythromycin C
 Peak at RT 11,405min is Erythromycin B

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	672955	818525	Initial Version	28 Apr 2023
2	672955	818525	Text update	08 Jun 2023

672975 Lot: **826330**
Sulfamerazine

1. General Information

Formula	C ₁₁ H ₁₂ N ₄ O ₂ S	Expiry Date	01 Jul 2030
Mol. Weight	264.30 g/mol	Store at	20°C (in the dark)
CAS-No.	127-79-7		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.90 % (g/g)	Expanded Uncertainty	0.34 % (g/g)
Assay Purity (HPLC)	99.90 % (g/g)	Uncertainty	0.17 % (g/g)

Certified on 02 Jul 2024



by Heike Uhlig
RM Release

The overall purity is calculated by: Purity(%) = Assay purity*(100-water content-impurities)/100

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level (k=2). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

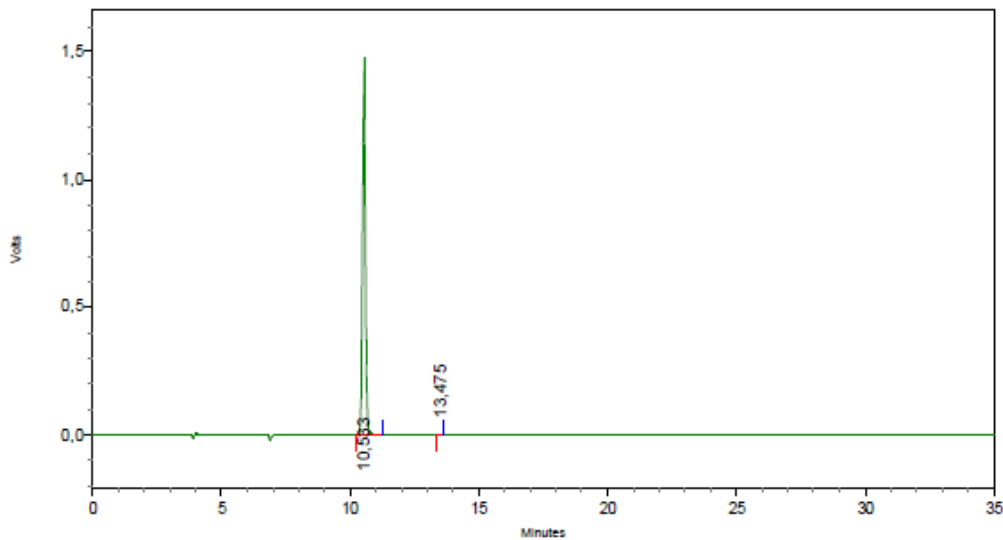


HPLC-Method

Article 672975
 Lot-No. 826330
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 10 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
10,533	1479537	10362270	99,90
13,475	1401	9982	0,10

Totals			
	1480938	10372252	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	672975	826330	Initial Version	02 Jul 2024

674582 **Lot: 826910****Chloramphenicol**1. General Information

Formula	C ₁₁ H ₁₂ Cl ₂ N ₂ O ₅	Expiry Date	01 Aug 2029
Mol. Weight	323.13 g/mol	Store at	4°C (in the dark)
CAS-No.	56-75-7		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.89 % (g/g)	Expanded Uncertainty	0.40 % (g/g)
Assay Purity (HPLC)	99.89 % (g/g)	Uncertainty	0.20 % (g/g)

Certified on 01 Aug 2024

by Jacqueline Seidel
RM ReleaseThe overall purity is calculated by: $\text{Purity(\%)} = \text{Assay purity} \cdot (100 - \text{water content} - \text{impurities}) / 100$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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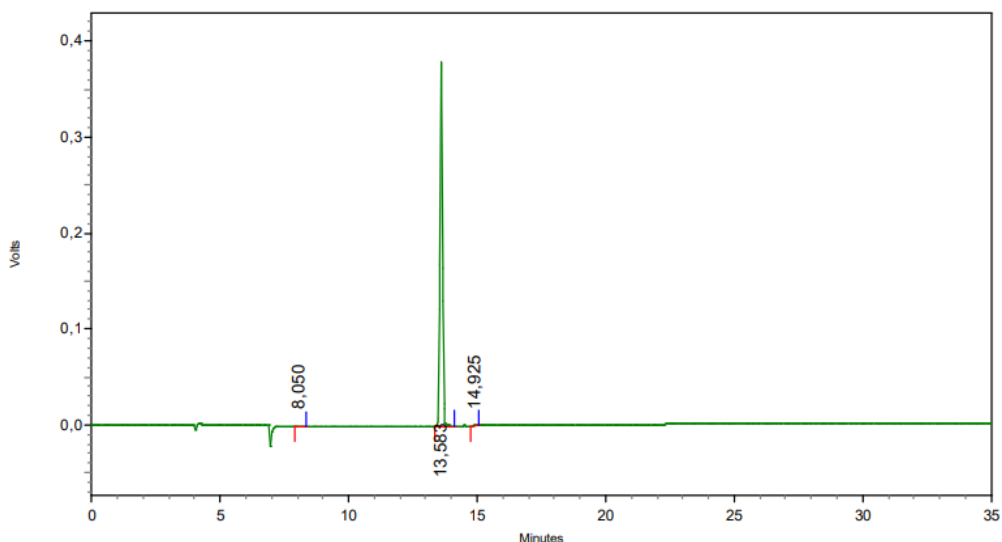
The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 674582
 Lot-No. 826910
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
8,050	102	711	0,03
13,583	379821	2451592	99,96
14,925	67	372	0,02

Totals	379990	2452675	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	674582	826910	Initial Version	01 Aug 2024

674760 **Lot: 820073****Thiamphenicol**1. General Information

Formula	C ₁₂ H ₁₅ Cl ₂ NO ₅ S	Expiry Date	01 Jul 2028
Mol. Weight	356.22 g/mol	Store at	4°C (in the dark)
CAS-No.	15318-45-3		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.24 % (g/g)	Expanded Uncertainty	0.34 % (g/g)
Assay Purity (HPLC)	99.24 % (g/g)	Uncertainty	0.17 % (g/g)

Certified on 13 Jul 2023

by Heike Uhlig
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

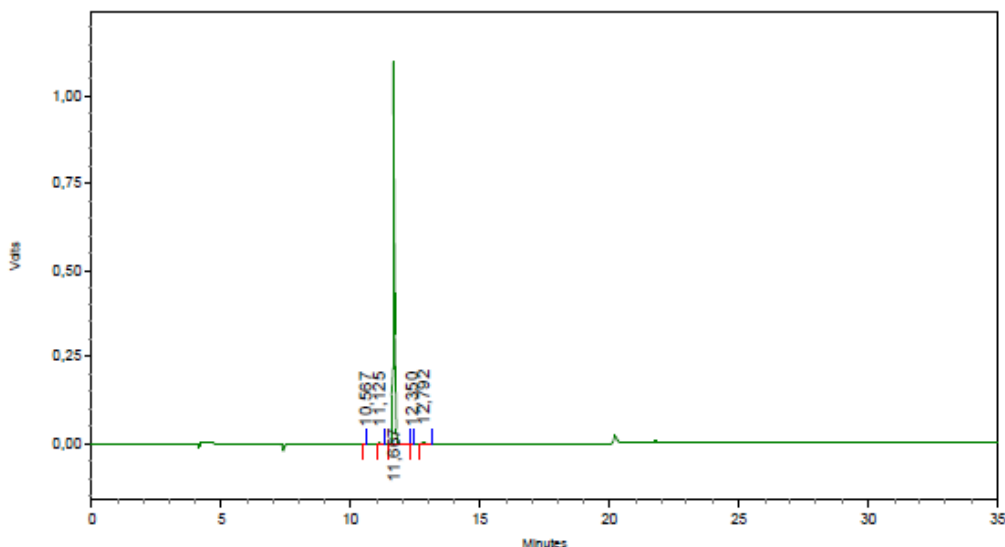


HPLC-Method

Article 674760
 Lot-No. 820073
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 10 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
10,567	112	514	0,01
11,125	2911	15166	0,25
11,667	1103809	5903257	99,24
12,350	199	942	0,02
12,792	5215	28439	0,48

Totals	1112246	5948318	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	674760	820073	Initial Version	13 Jul 2023


674874 **Lot: 825440**
Difloxacin hydrochloride1. General Information

Formula	C ₂₁ H ₂₀ ClF ₂ N ₃ O ₃	Expiry Date	01 Jun 2028
Mol. Weight	435.85 g/mol	Store at	4°C (in the dark)
CAS-No.	91296-86-5		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.26 % (g/g)	Expanded Uncertainty	0.36 % (g/g)
Assay Purity (HPLC)	99.26 % (g/g)	Uncertainty	0.18 % (g/g)

Certified on 15 May 2024

by YingYing Gao
RM ReleaseThe overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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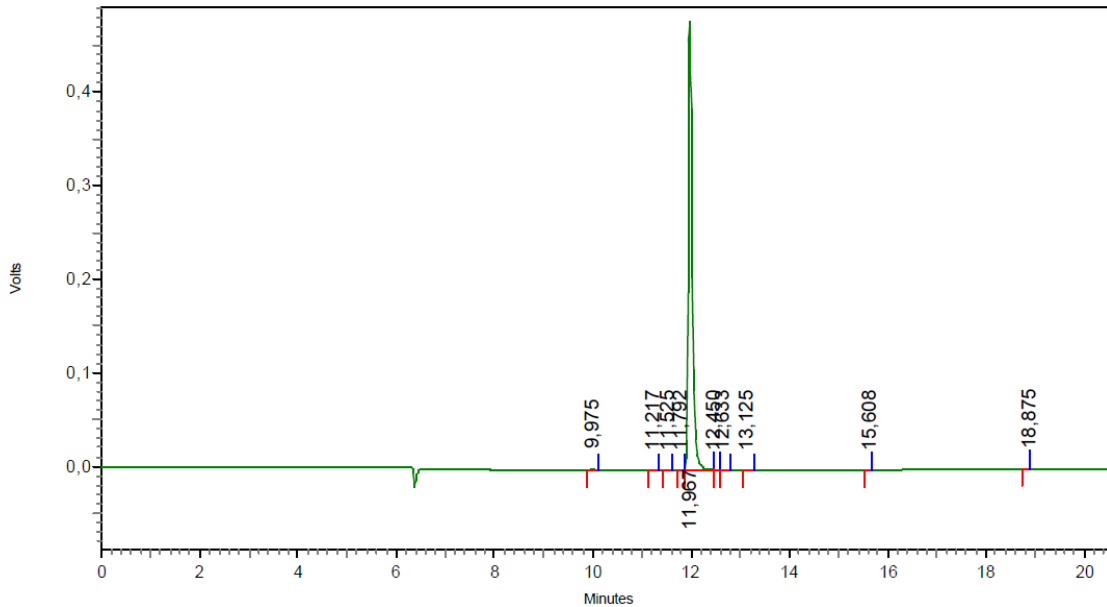
The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 674874
 Lot-No. 825440
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1% Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min-1
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml-1 (Water)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
9.975	1632	8338	0.27
11.217	254	1269	0.04
11.525	206	1103	0.04
11.792	669	3011	0.10
11.967	479430	3070787	99.29
12.450	819	3825	0.12
12.633	491	3524	0.11
13.125	88	508	0.02
15.608	41	192	0.01
18.875	20	329	0.01

Totals	483650	3092886	100.00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	674874	825440	Initial Version	15 May 2024

674894 **Lot: 812328****Marbofloxacin**1. General Information

Formula	C17H19FN4O4	Expiry Date	01 Sep 2027
Mol. Weight	362.36 g/mol	Store at	20°C (in the dark)
CAS-No.	115550-35-1		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.99 % (g/g)	Expanded Uncertainty	0.34 % (g/g)
Assay Purity (HPLC)	99.99 % (g/g)	Uncertainty	0.17 % (g/g)

Certified on 19 Aug 2022

by Heike Uhlig
RM ReleaseThe overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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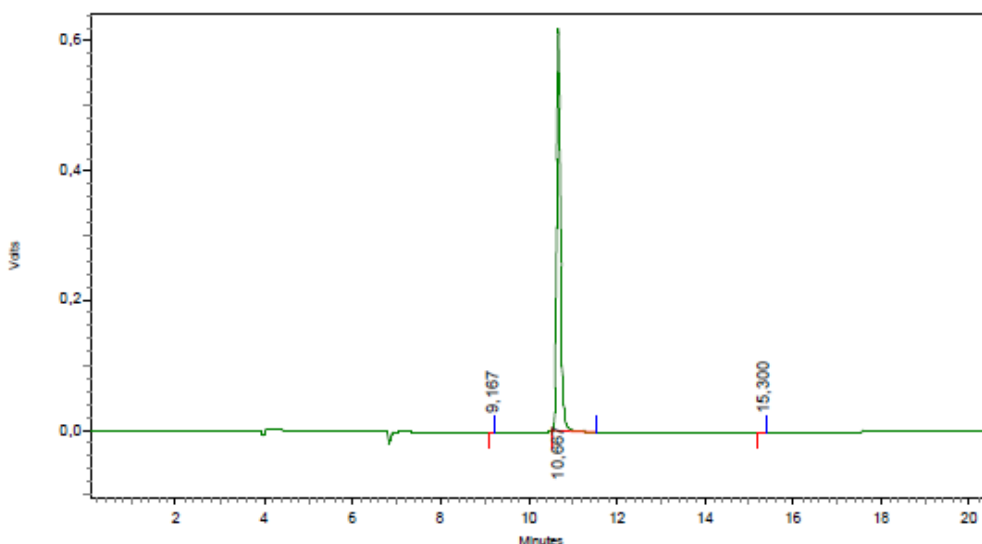
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The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 674894
 Lot-No. 812328
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min-1
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml-1 (Acetonitrile)



Detector A - 1 (220nm)			
Retention Time	Height	Area	Area Percent
9,167	51	214	0,01
10,667	620536	3834894	99,99
15,300	35	225	0,01

Totals	620622	3835333	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	674894	812328	Initial Version	19 Aug 2022
2	674894	812328	Text update	08 Jun 2023

674906**Lot: 826236****Flubendazole**1. General Information

Formula	C16H12FN3O3	Expiry Date	01 Jul 2029
Mol. Weight	313.28 g/mol	Store at	20°C (in the dark)
CAS-No.	31430-15-6		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	98.18 % (g/g)	Expanded Uncertainty	0.52 % (g/g)
Assay Purity (HPLC)	98.18 % (g/g)	Uncertainty	0.26 % (g/g)

Certified on 25 Jun 2024

by Heike Uhlig
RM Release

The overall purity is calculated by: $\text{Purity}(\%) = \text{Assay purity} \cdot (100 - \text{water content} - \text{impurities}) / 100$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

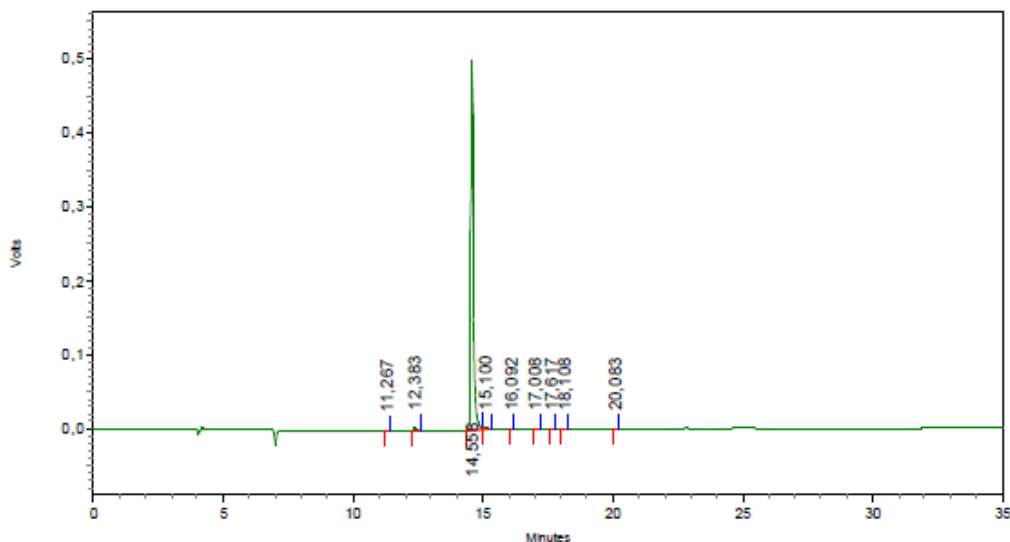


HPLC-Method

Article 674906
 Lot-No. 826236
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
30min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5µl
 Sample 0.1 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
11,267	151	831	0,02
12,383	3642	22725	0,63
14,558	499656	3542182	98,31
15,100	3214	24602	0,68
16,092	475	2430	0,07
17,008	160	1068	0,03
17,617	318	2702	0,07
18,108	551	3555	0,10
20,083	541	3133	0,09

Totals	508708	3603228	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	674906	826236	Initial Version	25 Jun 2024

675355 **Lot: 821568**
Sulfadimethoxine1. General Information

Formula	C ₁₂ H ₁₄ N ₄ O ₄ S	Expiry Date	01 Nov 2029
Mol. Weight	310.33 g/mol	Store at	4°C (in the dark)
CAS-No.	122-11-2		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.93 % (g/g)	Expanded Uncertainty	0.34 % (g/g)
Assay Purity (HPLC)	99.93 % (g/g)	Uncertainty	0.17 % (g/g)

Certified on 16 Oct 2023

by Corinna Gröst
RM ReleaseThe overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

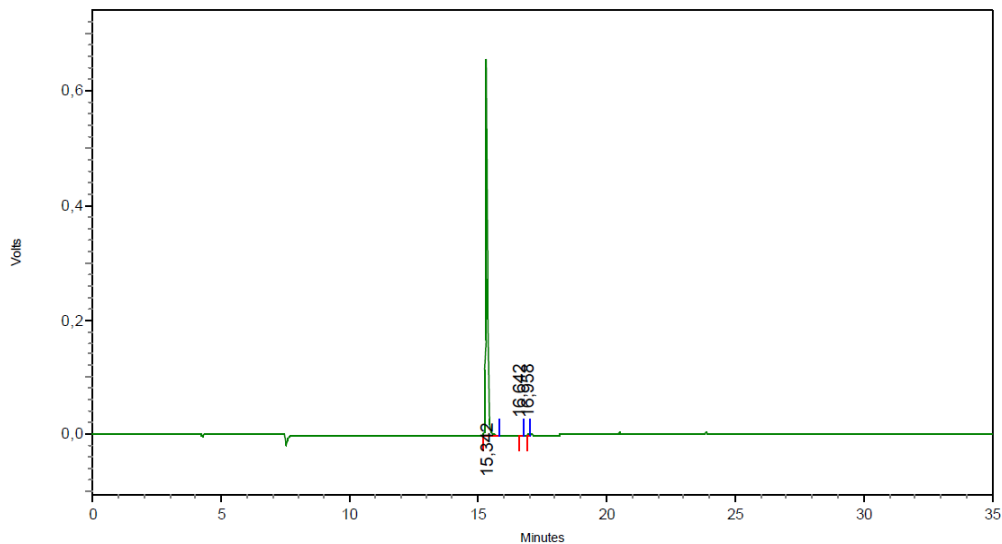


HPLC-Method

Article 675355
 Lot-No. 821568
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
15,342	656432	3680936	99,93
16,642	227	1087	0,03
16,958	360	1598	0,04

Totals	Height	Area	Area Percent
	657019	3683621	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	675355	821568	Initial Version	16 Oct 2023

675368**Lot: 811584****Sulfadoxine**1. General Information

Formula	C12H14N4O4S	Expiry Date	01 Aug 2028
Mol. Weight	310.34 g/mol	Store at	4°C (in the dark)
CAS-No.	2447-57-6		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.07 % (g/g)	Expanded Uncertainty	0.34 % (g/g)
Assay Purity (HPLC)	99.07 % (g/g)	Uncertainty	0.17 % (g/g)

Certified on 08 Aug 2022

by Heike Uhlig
RM Release

The overall purity is calculated by: $\text{Purity}(\%) = \text{Assay purity} \cdot (100 - \text{water content} - \text{impurities}) / 100$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

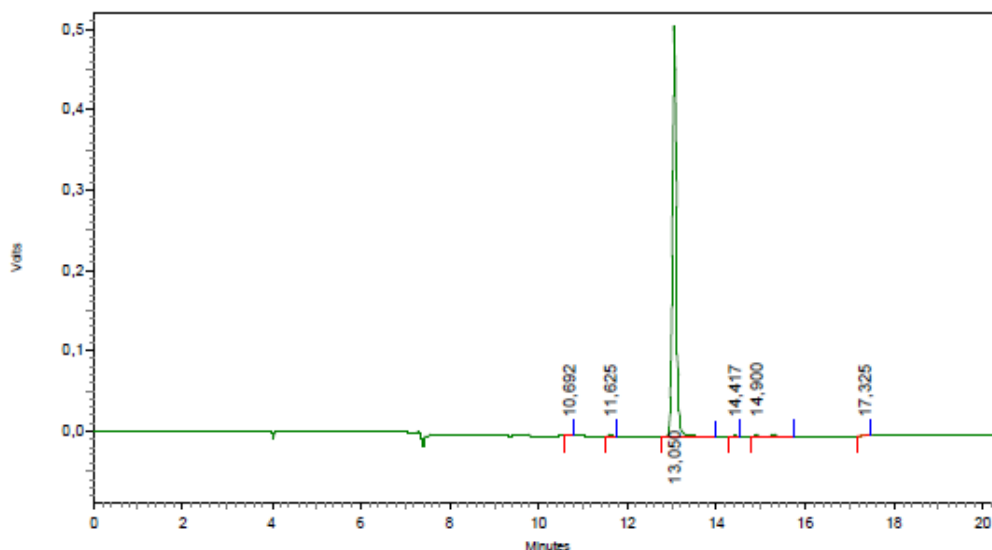


HPLC-Method

Article 675368
 Lot-No. 811584
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
10,692	205	1248	0,04
11,625	684	3530	0,11
13,050	509650	3132563	99,06
14,417	714	3983	0,13
14,900	1567	19488	0,62
17,325	249	1459	0,05

Totals	Height	Area	Area Percent
	513069	3162271	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	675368	811584	Initial Version	08 Aug 2022
2	675368	811584	Text update	08 Jun 2023

675370 **Lot: 822400**
Sulfamethoxypyridazine1. General Information

Formula	C ₁₁ H ₁₂ N ₄ O ₃ S	Expiry Date	01 Dec 2028
Mol. Weight	280.30 g/mol	Store at	4°C (in the dark)
CAS-No.	80-35-3		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	98.76 % (g/g)	Expanded Uncertainty	0.36 % (g/g)
Assay Purity (HPLC)	98.76 % (g/g)	Uncertainty	0.18 % (g/g)

Certified on 30 Nov 2023

by Corinna Gröst
RM ReleaseThe overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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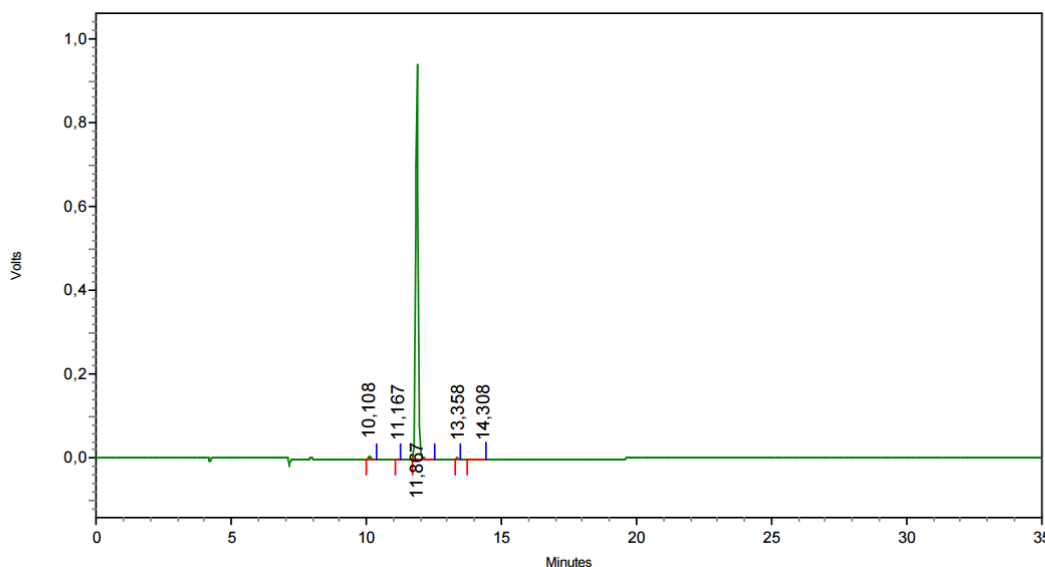
The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 675370
 Lot-No. 822400
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
10,108	7035	40018	0,76
11,167	166	835	0,02
11,867	942234	5224035	98,80
13,358	2476	13073	0,25
14,308	1155	9302	0,18

Totals	953066	5287263	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	675370	822400	Initial Version	30 Nov 2023

675451 **Lot: 827959**
Penicillin G potassium salt

1. General Information

Formula	C ₁₆ H ₁₇ KN ₂ O ₄ S	Expiry Date	01 Oct 2028
Mol. Weight	372.48 g/mol	Store at	4°C (in the dark)
CAS-No.	113-98-4		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.13 % (g/g)	Expanded Uncertainty	0.50 % (g/g)
Assay Purity (HPLC)	99.13 % (g/g)	Uncertainty	0.23 % (g/g)
Water	<0.1 % (g/g)		

contains 4.22% potassium

Certified on 01 Oct 2024



by Jacqueline Seidel
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$
For non-specified hydrates, the overall purity refers to the stated molecular formula.

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

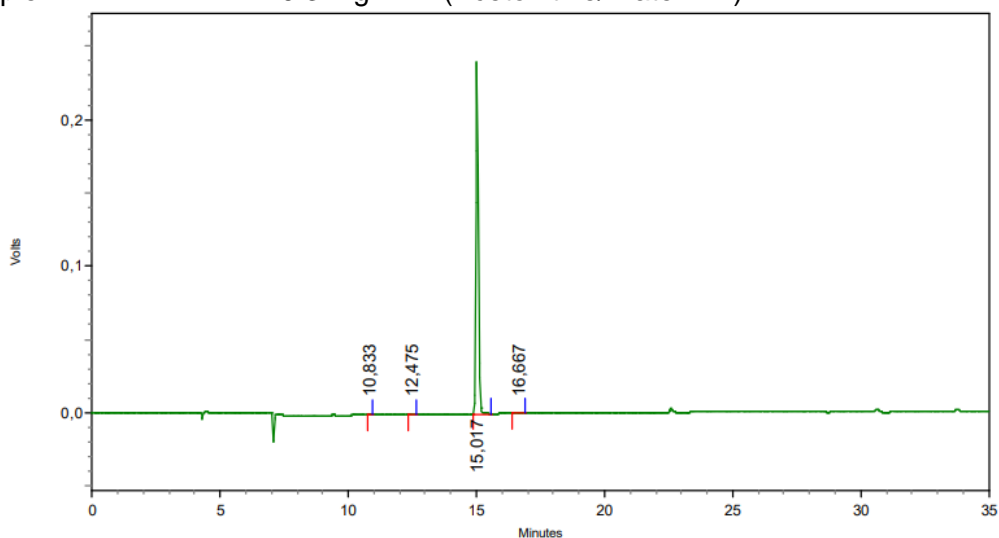


HPLC-Method

Article 675451
 Lot-No. 827959
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile/Water 1:1)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
10,833	547	3027	0,22
12,475	705	4744	0,34
15,017	240440	1379492	99,23
16,667	157	2898	0,21

Totals	Height	Area	Area Percent
	241849	1390161	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	675451	827959	Initial Version	01 Oct 2024

675529**Lot: 806989****Sulfanitran**1. General Information

Formula	C14H13N3O5S	Expiry Date	01 Jan 2027
Mol. Weight	335.34 g/mol	Store at	4°C (in the dark)
CAS-No.	122-16-7		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	97.95 % (g/g)	Expanded Uncertainty	0.36 % (g/g)
Assay Purity (HPLC)	97.95 % (g/g)	Uncertainty	0.18 % (g/g)

Certified on 15 Dec 2021

by Heike Uhlig
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \text{Assay purity} \cdot (100 - \text{water content} - \text{impurities}) / 100$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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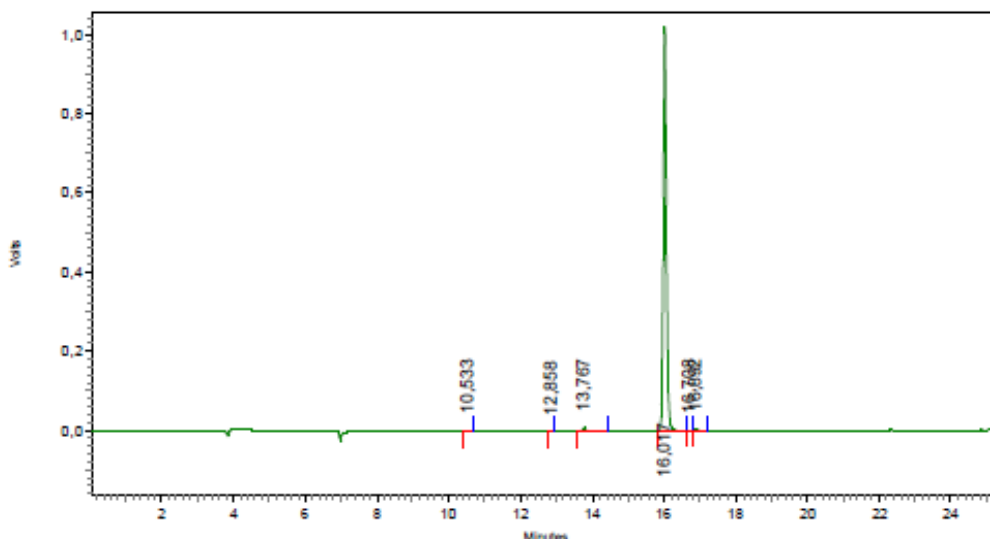
The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 675529
 Lot-No. 806989
 Column L=250mm, ID=4.6mm; Luna-Omega Polar C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 30min 90 10
 Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 10 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
10,533	2634	14544	0,25
12,858	575	3103	0,05
13,767	8299	70870	1,22
16,017	1019795	5686935	97,99
16,708	485	3821	0,07
16,892	4014	24513	0,42

Totals			
	1035802	5803786	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	675529	806989	Initial Version	15 Dec 2021
2	675529	806989	Text update	08 Jun 2023

676035 Lot: 825031
Sarafloxacin hydrochloride

1. General Information

Formula	C ₂₀ H ₁₈ ClF ₂ N ₃ O ₃	Expiry Date	01 May 2029
Mol. Weight	421.83 g/mol	Store at	4°C (in the dark)
CAS-No.	91296-87-6		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	95.82 % (g/g)	Expanded Uncertainty	0.52 % (g/g)
Assay Purity (HPLC)	96.73 % (g/g)	Uncertainty	0.25 % (g/g)
Water	0.94 % (g/g)		

Certified on 29 Apr 2024

by Corinna Gröst
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$
For non-specified hydrates, the overall purity refers to the stated molecular formula.

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

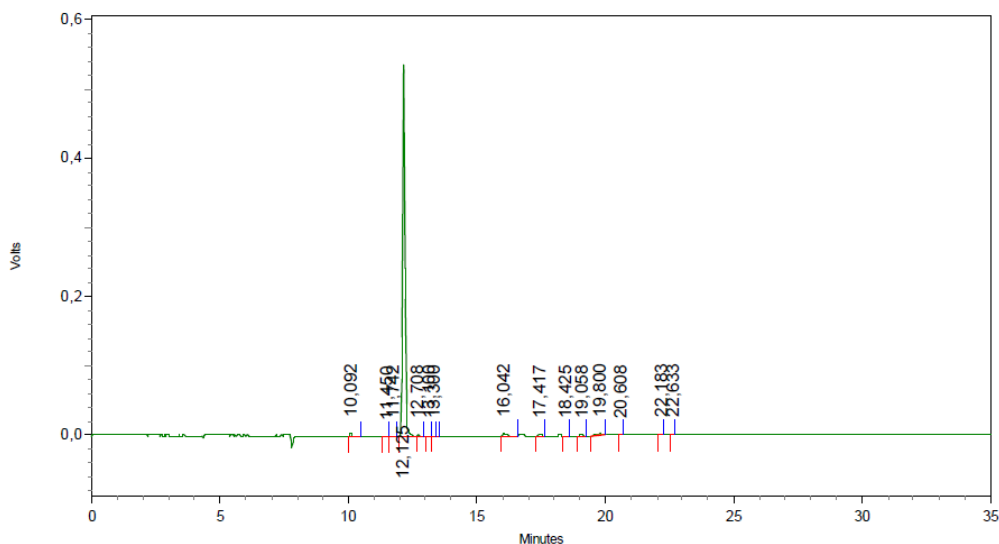


HPLC-Method

Article 676035
 Lot-No. 825031
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile/Water, 1/1)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
10,092	4695	25097	0,73
11,450	249	1264	0,04
11,742	932	5281	0,15
12,125	537016	3310162	96,86
12,708	874	5108	0,15
13,100	761	3669	0,11
13,300	144	889	0,03
16,042	3093	23863	0,70
17,417	591	5484	0,16
18,425	166	1153	0,03
19,058	358	2816	0,08
19,800	2533	28522	0,83
20,608	129	667	0,02
22,183	321	2112	0,06
22,633	258	1435	0,04

Totals	552120	3417522	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	676035	825031	Initial Version	29 Apr 2024

676306	Lot: 827606
Penicillin V potassium salt	

1. General Information

Formula	C16H17KN2O5S	Expiry Date	01 Sep 2026
Mol. Weight	388.48 g/mol	Store at	4°C (in the dark)
CAS-No.	132-98-9		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	98.80 % (g/g)	Expanded Uncertainty	0.34 % (g/g)
Assay Purity (HPLC)	98.91 % (g/g)	Uncertainty	0.17 % (g/g)
Water	0.11 % (g/g)		

Potassium determination: 5.91%

Certified on 09 Sep 2024



by Jacqueline Seidel
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \cdot (100 - \text{water content} - \text{impurities})}{100}$
For non-specified hydrates, the overall purity refers to the stated molecular formula.

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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The balances used are calibrated with weights traceable to the national standards (DKD).

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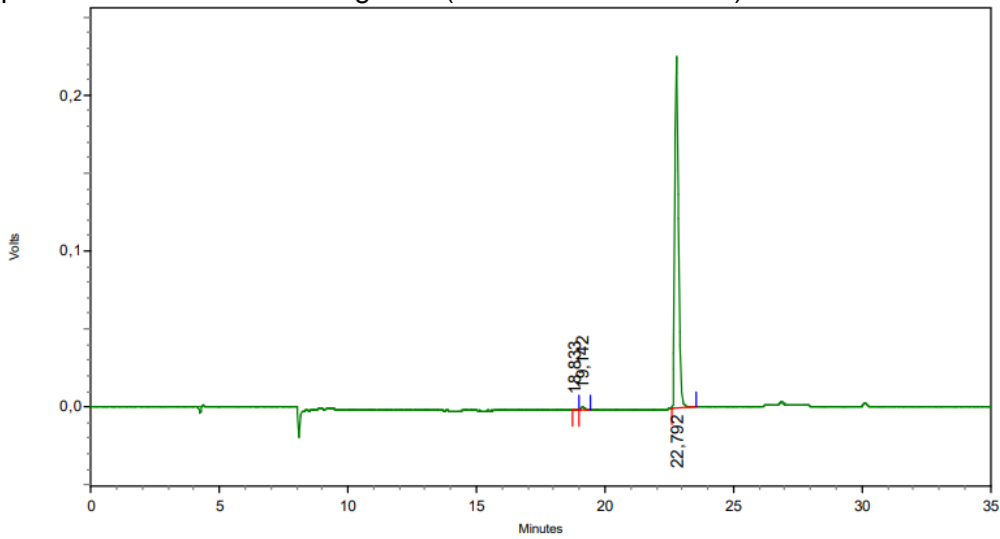


HPLC-Method

Article 676306
 Lot-No. 827606
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min-1
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.2 mg ml-1 (Acetonitrile/Water 1:1)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
18,833	122	896	0,04
19,142	2367	22249	1,03
22,792	226033	2133239	98,93

Totals	228522	2156384	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	676306	827606	Initial Version	09 Sep 2024

676361	Lot: 824760
Cefquinome sulfate	

1. General Information

Formula	C23H26N6O9S3	Expiry Date	01 May 2029
Mol. Weight	626.68 g/mol	Store at	4°C (in the dark)
CAS-No.	118443-89-3		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	94.93 % (g/g)	Expanded Uncertainty	0.57 % (g/g)
Assay Purity (HPLC)	97.79 % (g/g)	Uncertainty	0.18 % (g/g)
Water	2.22 % (g/g)		
Inorganic Impurities	0.70 % (g/g)	Uncertainty	0.10 % (g/g)

Certified on 15 Apr 2024

by Corinna Gröst
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \cdot (100 - \text{water content} - \text{impurities})}{100}$
For non-specified hydrates, the overall purity refers to the stated molecular formula.

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards produces reference materials according to ISO 17034. For further information, check:

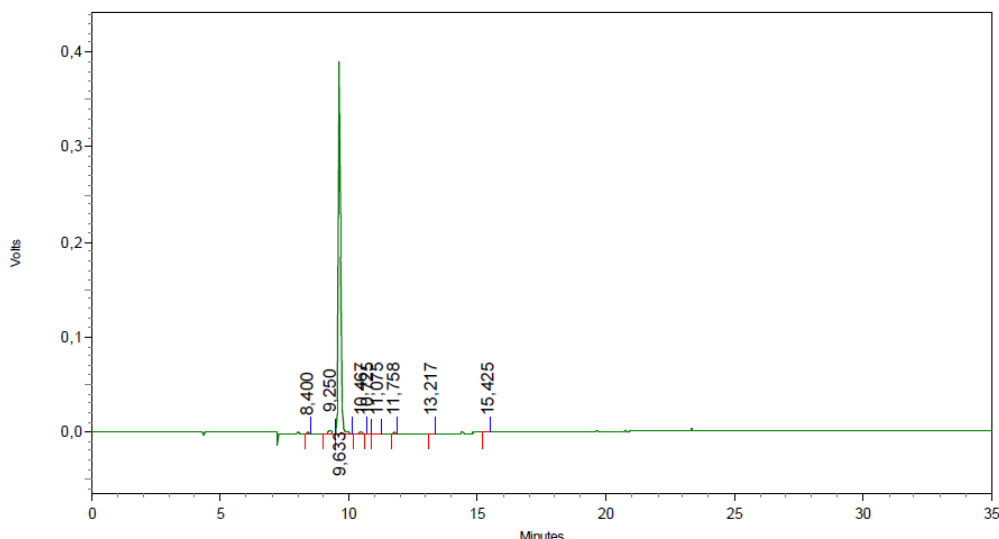


HPLC-Method

Article 676361
 Lot-No. 824760
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile/Water 1/1)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
8.400	1146	6275	0,28
9.250	3448	28476	1,28
9.633	392284	2180716	97,67
10.467	886	6491	0,29
10.725	239	1288	0,06
11.075	312	3619	0,16
11.758	582	3791	0,17
13.217	216	1264	0,06
15.425	69	818	0,04

Totals	Height	Area	Area Percent
	399182	2232738	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	676361	824760	Initial Version	15 Apr 2024

676444 **Lot: 806156**
Dimetridazole-2-hydroxy1. General Information

Formula	C5H7N3O3	Expiry Date	01 Nov 2026
Mol. Weight	157.13 g/mol	Store at	4°C (in the dark)
CAS-No.	936-05-0		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.63 % (g/g)	Expanded Uncertainty	0.36 % (g/g)
Assay Purity (HPLC)	99.63 % (g/g)	Uncertainty	0.18 % (g/g)

Certified on 29 Oct 2021

by Heike Uhlig
RM ReleaseThe overall purity is calculated by: $\text{Purity(\%)} = \text{Assay purity} \cdot (100 - \text{water content} - \text{impurities}) / 100$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

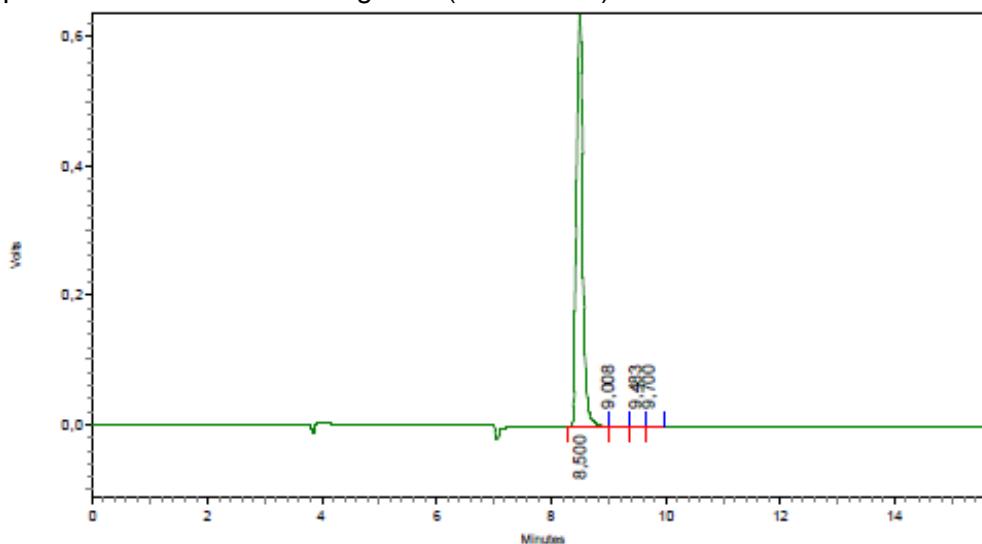


HPLC-Method

Article 676444
 Lot-No. 806156
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 10 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)			
Retention Time	Height	Area	Area Percent
8,500	637327	4685168	99,60
9,008	722	7235	0,15
9,483	1137	9583	0,20
9,700	229	1902	0,04
Totals		4703888	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	676444	806156	Initial Version	29 Oct 2021
2	676444	806156	Text update	08 Jun 2023

676822	Lot: 816552
2-Aminoflubendazole	

1. General Information

Formula	C ₁₄ H ₁₀ FN ₃ O	Expiry Date	01 Feb 2028
Mol. Weight	255.25 g/mol	Store at	4°C (in the dark)
CAS-No.	82050-13-3		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	98.72 % (g/g)	Expanded Uncertainty	0.44 % (g/g)
Assay Purity (HPLC)	98.72 % (g/g)	Uncertainty	0.22 % (g/g)

Certified on 13 Feb 2023



by Jacqueline Seidel
RM Release

The overall purity is calculated by: $Purity(\%) = \frac{Assay\ purity \cdot (100 - water\ content - impurities)}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level (k=2). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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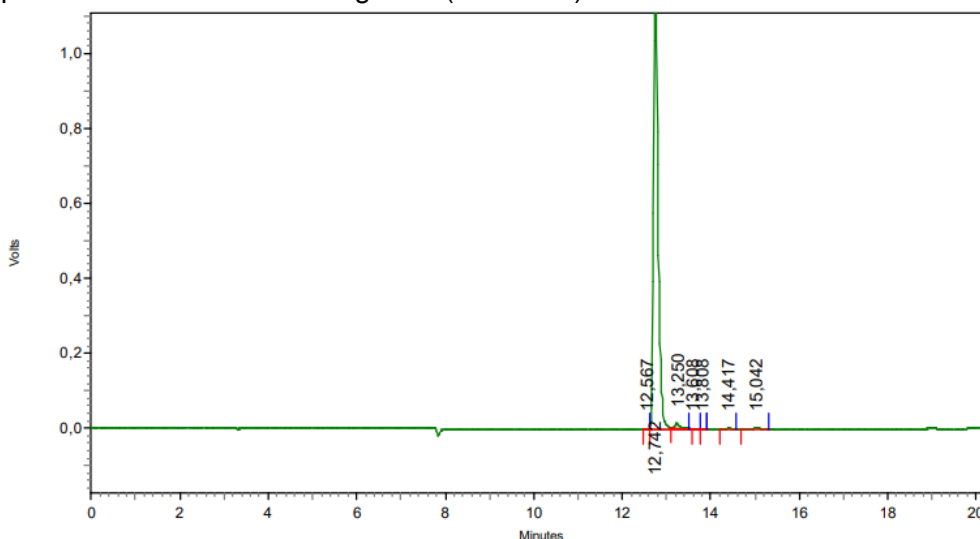
The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 676822
 Lot-No. 816552
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml⁻¹ (Methanol)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
12,567	1333	6592	0,08
12,742	1141361	8523467	98,62
13,250	11447	83112	0,96
13,608	130	771	0,01
13,808	96	449	0,01
14,417	1481	9212	0,11
15,042	2172	19216	0,22

Totals			
	1158020	8642819	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	676822	816552	Initial Version	13 Feb 2023
2	676822	816552	Text update	08 Jun 2023

676824
Febantel**Lot: 825658**1. General Information

Formula	C ₂₀ H ₂₂ N ₄ O ₆ S	Expiry Date	01 Jun 2029
Mol. Weight	446.48 g/mol	Store at	4°C (in the dark)
CAS-No.	58306-30-2		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.87 % (g/g)	Expanded Uncertainty	0.34 % (g/g)
Assay Purity (HPLC)	99.87 % (g/g)	Uncertainty	0.17 % (g/g)

Certified on 27 May 2024

by Corinna Gröst
RM ReleaseThe overall purity is calculated by: $\text{Purity}(\%) = \text{Assay purity} \cdot (100 - \text{water content} - \text{impurities}) / 100$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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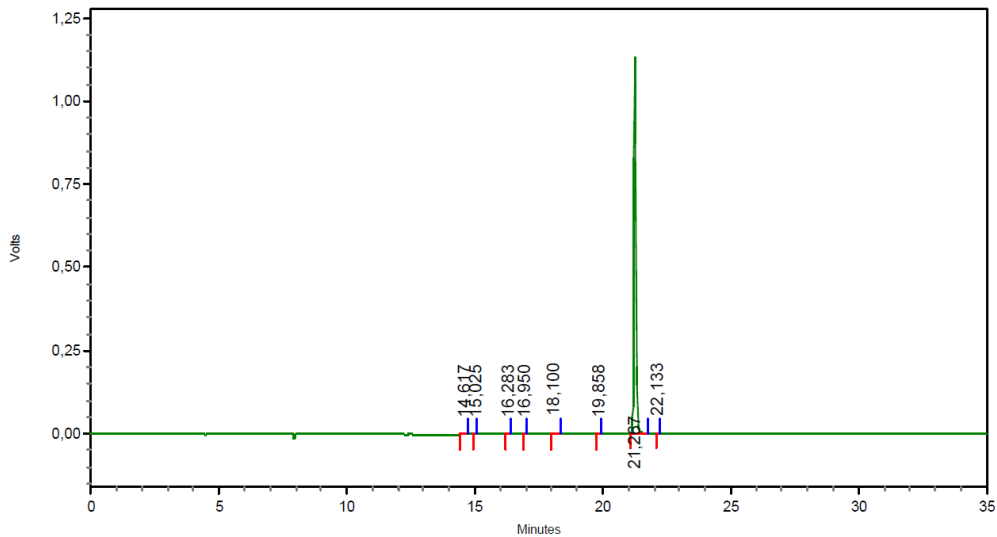
The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 676824
 Lot-No. 825658
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1% Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min-1
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml-1 (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
14,617	66	755	0,01
15,025	123	517	0,01
16,283	83	559	0,01
16,950	53	190	0,00
18,100	887	5248	0,08
19,858	179	945	0,01
21,267	1132321	6850819	99,87
22,133	172	784	0,01

Totals	1133884	6859817	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	676824	825658	Initial Version	27 May 2024

676878**Lot: 818700****Doramectin**1. General Information

Formula	C50H74O14	Expiry Date	01 May 2028
Mol. Weight	899.11 g/mol	Store at	-20°C (in the dark)
CAS-No.	117704-25-3		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	96.00 % (g/g)	Expanded Uncertainty	0.40 % (g/g)
Assay Purity (HPLC)	96.00 % (g/g)	Uncertainty	0.20 % (g/g)

Certified on 08 May 2023

by Jacqueline Seidel
RM Release

The overall purity is calculated by: $\text{Purity}(\%) = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

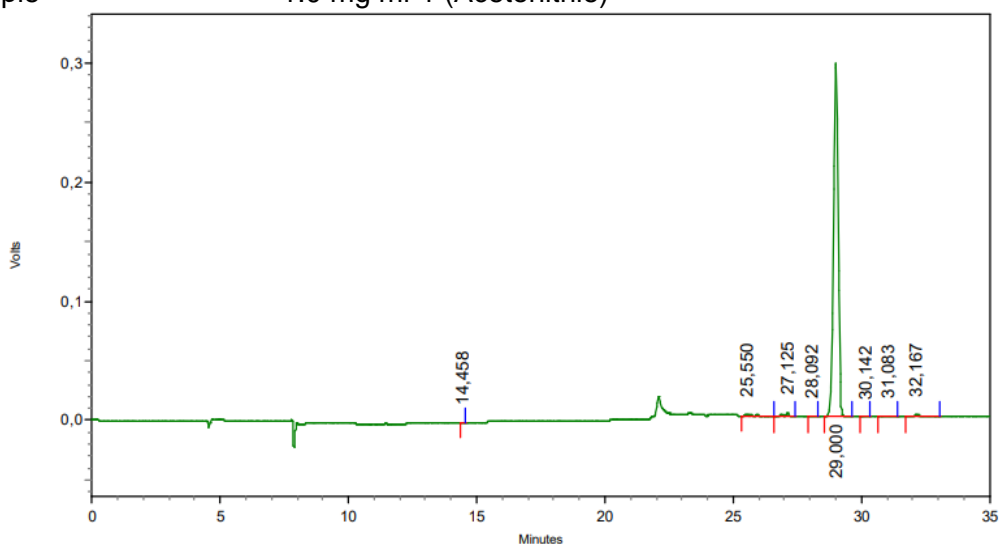


HPLC-Method

Article 676878
 Lot-No. 818700
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 1.0 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
14,458	130	574	0,02
25,550	819	30892	0,84
27,125	3432	54669	1,49
28,092	599	5754	0,16
29,000	297652	3529424	96,07
30,142	211	2709	0,07
31,083	649	13551	0,37
32,167	1811	36294	0,99

Totals	Height	Area	Area Percent
	305303	3673867	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	676878	818700	Initial Version	08 May 2023
2	676878	818700	Text update	08 Jun 2023

677092 **Lot: 827180**
Fenbendazole-sulfone

1. General Information

Formula	C ₁₅ H ₁₃ N ₃ O ₄ S	Expiry Date	01 Sep 2027
Mol. Weight	331.35 g/mol	Store at	20°C (in the dark)
CAS-No.	54029-20-8		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.80 % (g/g)	Expanded Uncertainty	0.41 % (g/g)
Assay Purity (HPLC)	99.90 % (g/g)	Uncertainty	0.18 % (g/g)
Residual Solvents	0.10 % (g/g)	Uncertainty	0.10 % (g/g)

Certified on 15 Aug 2024



by Heike Uhlig
RM Release

The overall purity is calculated by: $Purity(\%) = \frac{Assay\ purity \cdot (100 - water\ content - impurities)}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level (k=2). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of $\pm 4\ ^\circ\text{C}$.

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The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

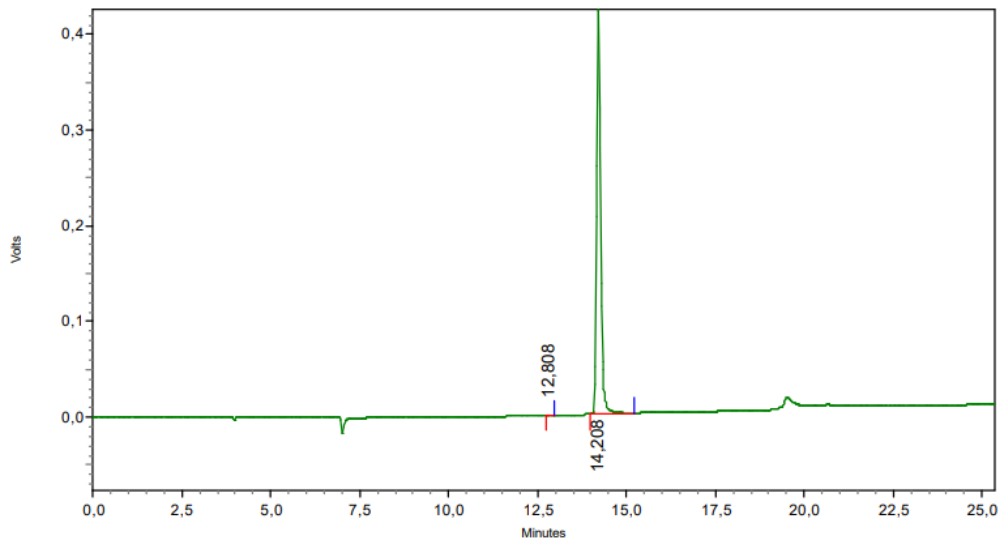


HPLC-Method

Article 677092
 Lot-No. 827180
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.1 mg ml⁻¹ (Acetonitrile/Water 1/1)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
12,808	324	2428	0,08
14,208	427579	3103013	99,92

Totals	Height	Area	Area Percent
	427903	3105441	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	677092	827180	Initial Version	15 Aug 2024


677425**Lot: 819010****Tilmicosin**1. General Information

Formula	C ₄₆ H ₈₀ N ₂ O ₁₃	Expiry Date	01 Jun 2028
Mol. Weight	869.13g/mol	Store at	20°C (in the dark)
CAS-No.	108050-54-0		

2. Batch Analysis

Identity	confirmed		
Overall Purity	92.80 % (g/g)	Expanded Uncertainty	0.50 % (g/g)
Assay Purity (HPLC)	92.80 % (g/g)	Uncertainty	0.25 % (g/g)

Certified on 22 May 2023

by YingYing Gao
RM ReleaseThe overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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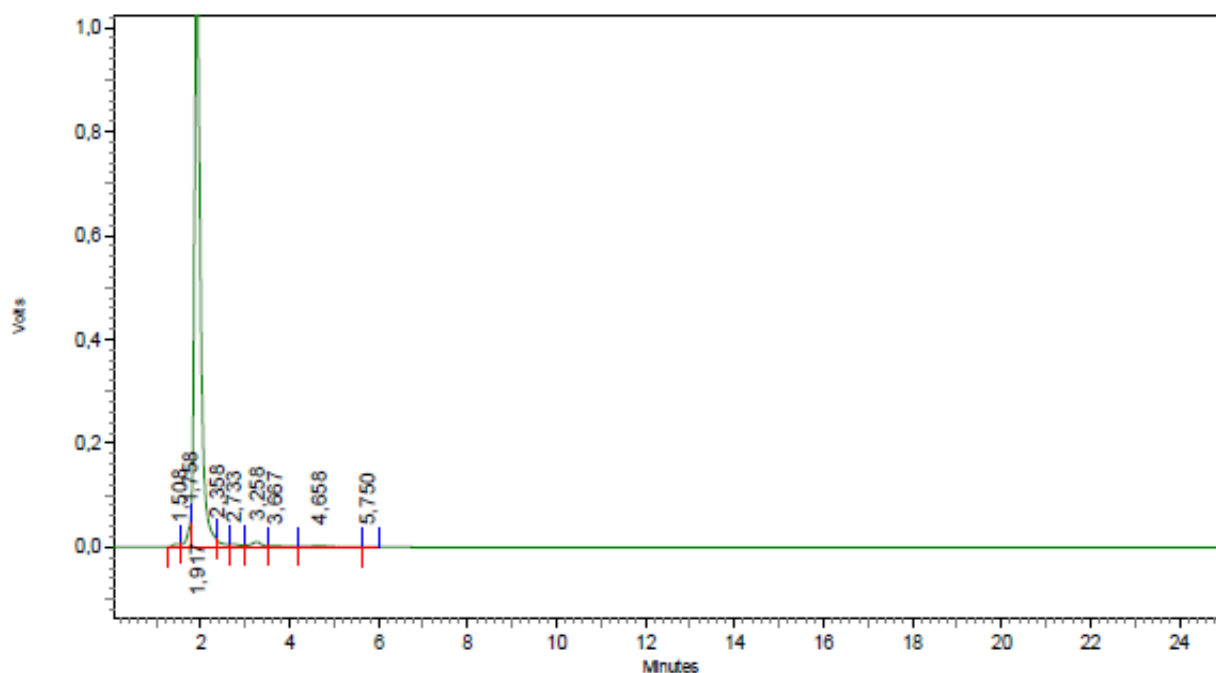
The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 677425
 Lot-No. 819010
 Column L=250mm, ID=4.6mm; Reprosil-PUR C-18 AQ, 10µm
 Eluent Acetonitrile/0.1% Phosphoric acid (Water) 40/50
 Flow 1.5 ml min⁻¹
 Detector UV-254nm
 Injection-Volume 20µl
 Sample 3.0 mg ml⁻¹ (Eluent)



Detector A - 1 (254nm)

Retention Time	Height	Area	Area Percent
1,508	6084	73773	0,63
1,758	41809	216017	1,83
1,917	1164726	10926985	92,80
2,358	15345	126365	1,07
2,733	5214	90897	0,77
3,258	10292	178394	1,52
3,667	2807	68144	0,58
4,658	2477	91255	0,78
5,750	159	2436	0,02

Totals	1248913	11774266	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	677425	819010	Initial Version	22 May 2023

2	677425	819010	Text update	08 Jun 2023
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677666 **Lot: 826347**
Benzo[a]pyrene

1. General Information

Formula	C20H12	Expiry Date	01 Jul 2029
Mol. Weight	252.31 g/mol	Store at	20°C (in the dark)
CAS-No.	50-32-8		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.70 % (g/g)	Expanded Uncertainty	0.38 % (g/g)
Assay Purity (HPLC)	99.70 % (g/g)	Uncertainty	0.19 % (g/g)

Certified on 02 Jul 2024



by Philipp Schwarzenberger
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \text{Assay purity} \cdot (100 - \text{water content} - \text{impurities}) / 100$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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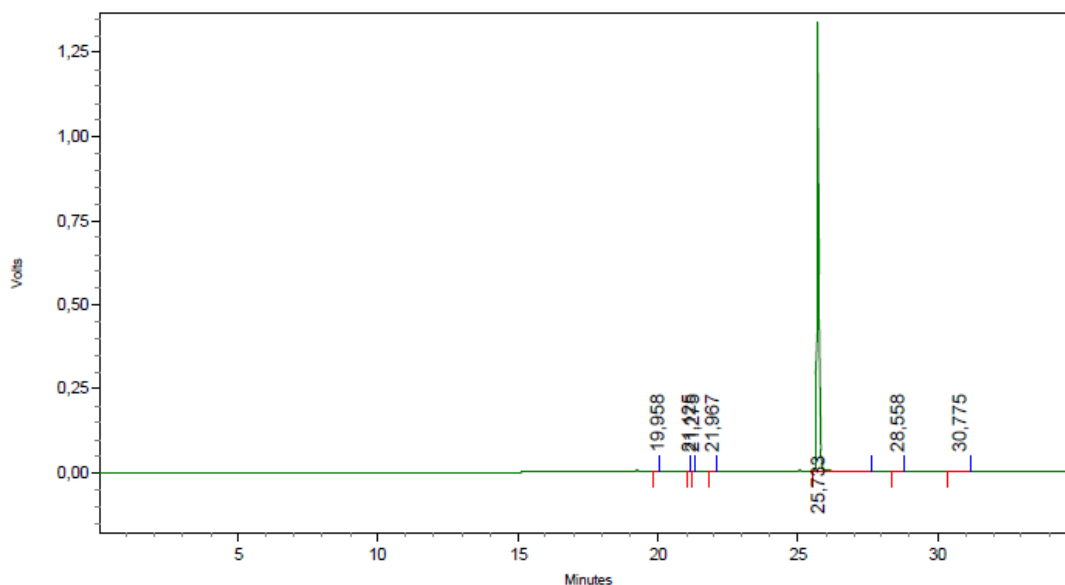
The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 677666
 Lot-No. 826347
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min-1
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml-1 (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
19,958	1167	6425	0,08
21,125	93	434	0,01
21,275	153	617	0,01
21,967	997	5394	0,07
25,733	1334574	8065803	99,64
28,558	953	7696	0,10
30,775	369	8600	0,11

Totals	1338306	8094969	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	677666	826347	Initial Version	02 Jul 2024

679188**Lot: 823610****Brombuterol**1. General Information

Formula	C ₁₂ H ₁₈ Br ₂ N ₂ O	Expiry Date	01 Feb 2027
Mol. Weight	366.09 g/mol	Store at	4°C (in the dark)
CAS-No.	41937-02-4		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.87 % (g/g)	Expanded Uncertainty	0.34 % (g/g)
Assay Purity (HPLC)	99.87 % (g/g)	Uncertainty	0.17 % (g/g)

Certified on 05 Feb 2024

by Corinna Gröst
RM Release

The overall purity is calculated by: $\text{Purity}(\%) = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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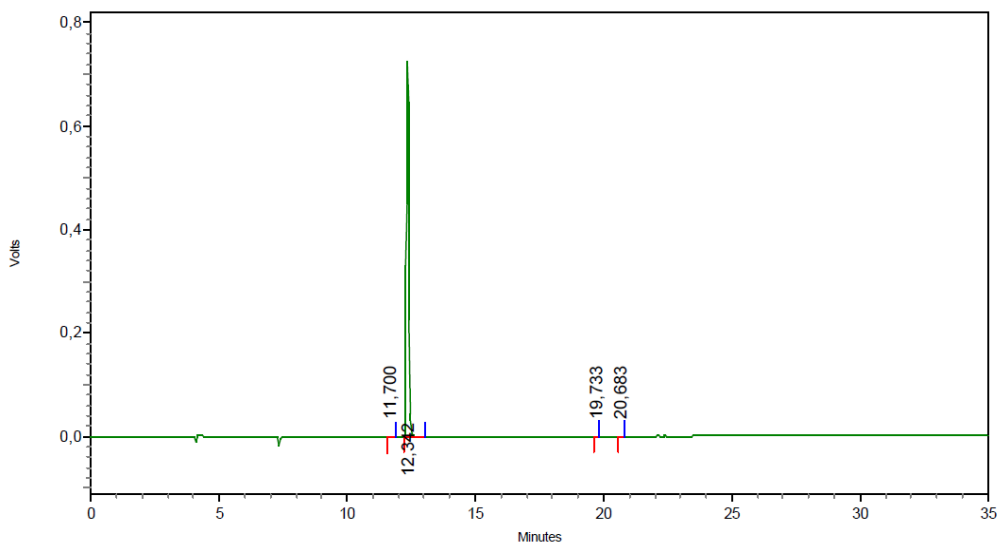
The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 679188
 Lot-No. 823610
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 10 µl
 Sample 0.12 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
11.700	389	3100	0.06
12.342	727449	4787145	99.87
19.733	381	1689	0.04
20.683	219	1299	0.03

Totals	728438	4793233	100.00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	679188	823610	Initial Version	05 Feb 2024

679413
Closantel**Lot: 824260**1. General Information

Formula	C ₂₂ H ₁₄ Cl ₂ I ₂ N ₂ O ₂	Expiry Date	01 Mar 2027
Mol. Weight	663.07 g/mol	Store at	20°C (in the dark)
CAS-No.	57808-65-8		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.49 % (g/g)	Expanded Uncertainty	0.34 % (g/g)
Assay Purity (HPLC)	99.49 % (g/g)	Uncertainty	0.17 % (g/g)

Certified on 13 Mar 2024

by Philipp Schwarzenberger
RM ReleaseThe overall purity is calculated by: $\text{Purity(\%)} = \text{Assay purity} \cdot (100 - \text{water content} - \text{impurities}) / 100$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

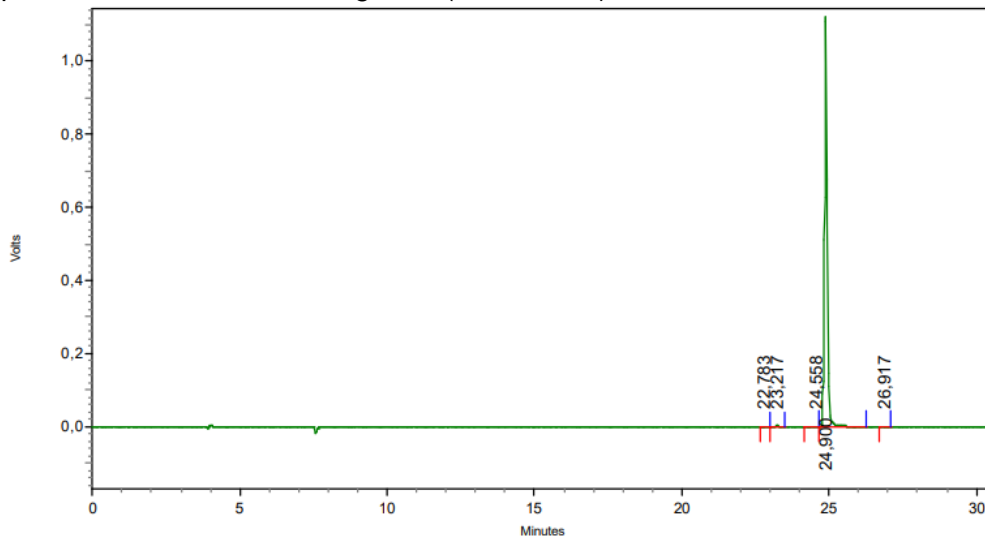


HPLC-Method

Article 679413
 Lot-No. 824260
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min-1
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml-1 (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
22,783	833	5374	0,07
23,217	2430	23204	0,29
24,558	584	8198	0,10
24,900	1122406	7855393	99,50
26,917	290	2788	0,04

Totals	Height	Area	Area Percent
	1126543	7894957	100,00

Exemplary chromatogram of given method.

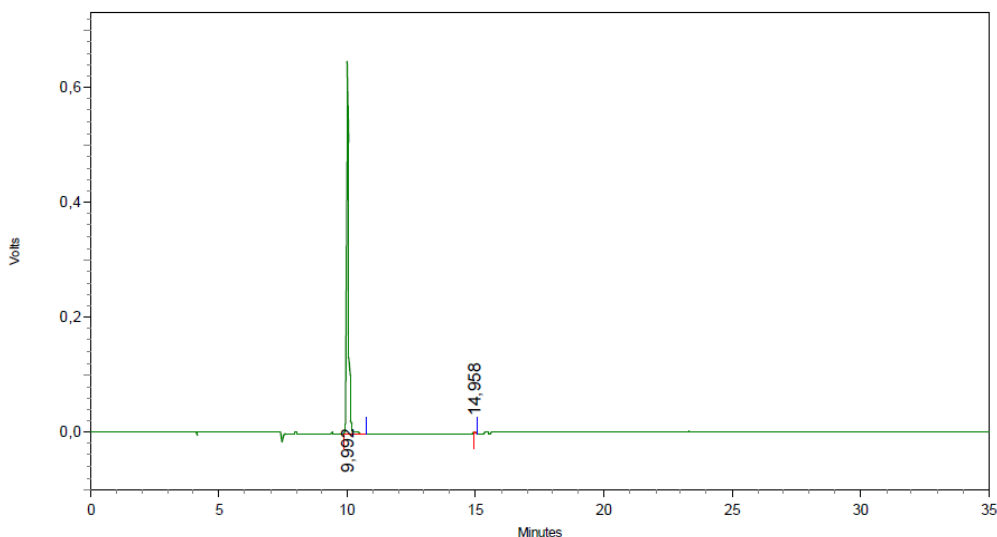
Version	Article	Lot	Reason for Change	Date
1	679413	824260	Initial Version	13 Mar 2024

HPLC-Method

Article 680142
 Lot-No. 829660
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
9,992	648170	3985446	99,97
14,958	399	1327	0,03

Totals	Height	Area	Area Percent
	648569	3986773	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	680142	829660	Initial Version	08 Jan 2025

681387

Lot: 824971

Ivermectin

1. General Information

Formula		Expiry Date	01 May 2029
Mol. Weight	0.00 g/mol	Store at	4°C (in the dark)
CAS-No.	70288-86-7		

2. Batch Analysis

Identity	confirmed by NMR, LC-MS		
Overall Purity	92.03 % (g/g)	Expanded Uncertainty	0.95 % (g/g)
Assay Purity (HPLC)	96.79 % (g/g)	Uncertainty	0.19 % (g/g)
Water (Karl-Fischer)	0.14 % (g/g)		
Residual Solvents	4.66 % (g/g)	Uncertainty	0.12 % (g/g)
Inorganic Impurities	0.12 % (g/g)	Uncertainty	0.00 % (g/g)

Sum of

Ivermectin B1a (C₄₈H₇₄O₁₄), Mol. Weight: 875.09 g mol⁻¹

Ivermectin B1b (C₄₇H₇₂O₁₄), Mol. Weight: 861.07 g mol⁻¹

Certified on 24 Apr 2024



by Alexander Schulze

RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

For non-specified hydrates, the overall purity refers to the stated molecular formula.

The certified values and uncertainties are determined in accordance with ISO 17034 with an 95% confidence level (k=2). Uncertainty is based on the total combined uncertainty, including uncertainties of characterisation, homogeneity and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions of the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

Our standards are for laboratory use only and can be used as reference material for calibration of chromatographic systems or related analytical techniques. For handling instructions see the MSDS. A minimum sample of 2 mg is recommended. Deploying less material will increase the uncertainty by a factor 2 for half of sample and 4 for a quarter of sample. The material in the vial can be used multiple times, but it is strongly recommended that all external negative influences to the material are considered and ruled out (e.g. high temperatures, UV-radiation, moisture, oxygen). It is strongly recommended to open the vial at room temperature only and handle the material under inert gas if necessary. The integrity of the purity cannot be guaranteed if the substance is handled under unfavorable conditions.

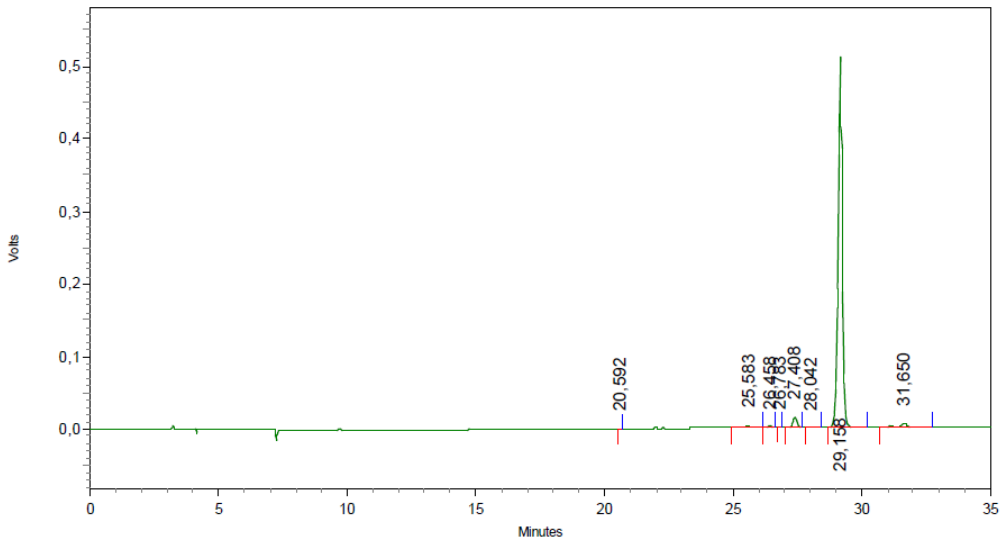
The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH, accredited by DAkkS as indicated by the accreditation number D-RM-20844-01-00, has shown competence based on ISO 17034:2017 for production of certified reference materials.



HPLC-Method

Article 681387
 Lot-No. 824971
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min-1
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml-1 (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
20,592	100	508	0,01
25,583	3780	46563	0,68
26,458	2193	19854	0,29
26,783	407	2659	0,04
27,408	14837	152242	2,21 Ivermectin B1b
28,042	314	4779	0,07
29,158	511454	6513630	94,69 Ivermectin B1a
31,650	5130	138477	2,01

Totals	538215	6878712	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	681387	824971	Initial Version	24 Apr 2024

681414 **Lot: 805144**
Triclabendazole-sulfone1. General Information

Formula	C ₁₄ H ₉ Cl ₃ N ₂ O ₃ S	Expiry Date	01 Sep 2026
Mol. Weight	391.66 g/mol	Store at	20°C (in the dark)
CAS-No.	106791-37-1		

2. Batch Analysis

Identity	confirmed		
Overall Purity	99.40 % (g/g)	Expanded Uncertainty	% (g/g)
Assay Purity (HPLC)	99.40 % (g/g)	Uncertainty	% (g/g)
Atom%	0.0		

Certified on 09 Sep 2021

by Heike Uhlig
RM ReleaseThe overall purity is calculated by: $\text{Purity(\%)} = \text{Assay purity} \cdot (100 - \text{water content} - \text{impurities}) / 100$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

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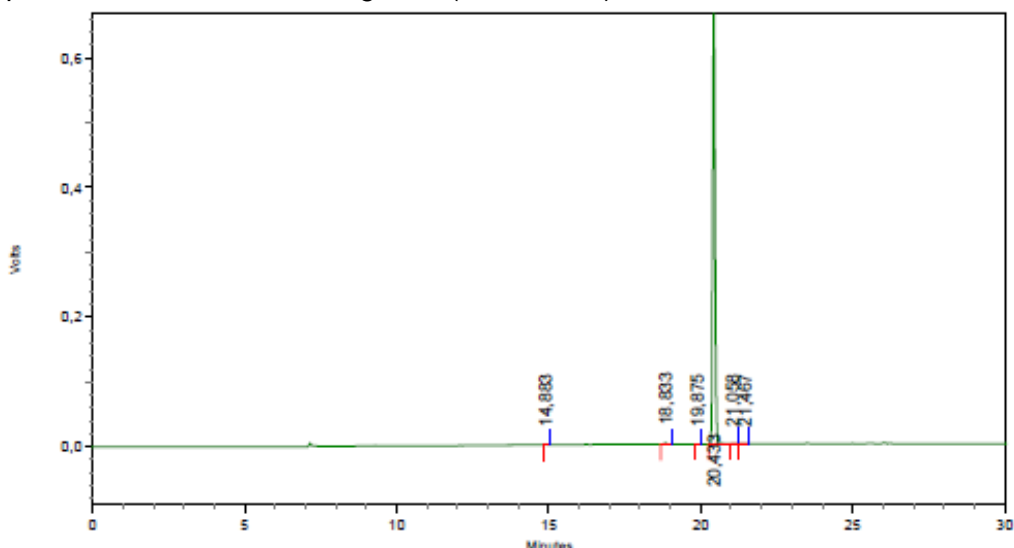
The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 681414
 Lot-No. 805144
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 2 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
14,883	1110	5307	0,14
18,833	2062	11342	0,31
19,875	129	866	0,02
20,433	673682	3653066	99,43
21,058	199	1814	0,05
21,467	256	1666	0,05

Totals	Height	Area	Area Percent
	677438	3674061	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
3.0	681414	805144	Format update	09 Sep 2021
4	681414	805144	Text update	08 Jun 2023

681415	Lot: 829248
Triclabendazole-sulfoxide	

1. General Information

Formula	C ₁₄ H ₉ Cl ₃ N ₂ O ₂ S	Expiry Date	01 Jan 2030
Mol. Weight	375.66 g/mol	Store at	20°C (in the dark)
CAS-No.	100648-13-3		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	97.13 % (g/g)	Expanded Uncertainty	0.54 % (g/g)
Assay Purity (HPLC)	97.13 % (g/g)	Uncertainty	0.27 % (g/g)

Certified on 07 Jan 2025

by Jacqueline Seidel
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

Our standards are for laboratory use only and can be used as reference material for calibration of chromatographic systems or related analytical techniques. For handling instructions see the MSDS. A minimum sample of 2 mg is recommended. Deploying less material will increase the uncertainty by a factor 2 for half of sample and 4 for a quarter of sample. The material in the vial can be used multiple times, but it is strongly recommended that all external negative influences to the material are considered and ruled out (e.g. high temperatures, UV-radiation, moisture, oxygen). It is strongly recommended to open the vial at room temperature only and handle the material under inert gas if necessary. The integrity of the purity cannot be guaranteed if the substance is handled under unfavorable conditions.

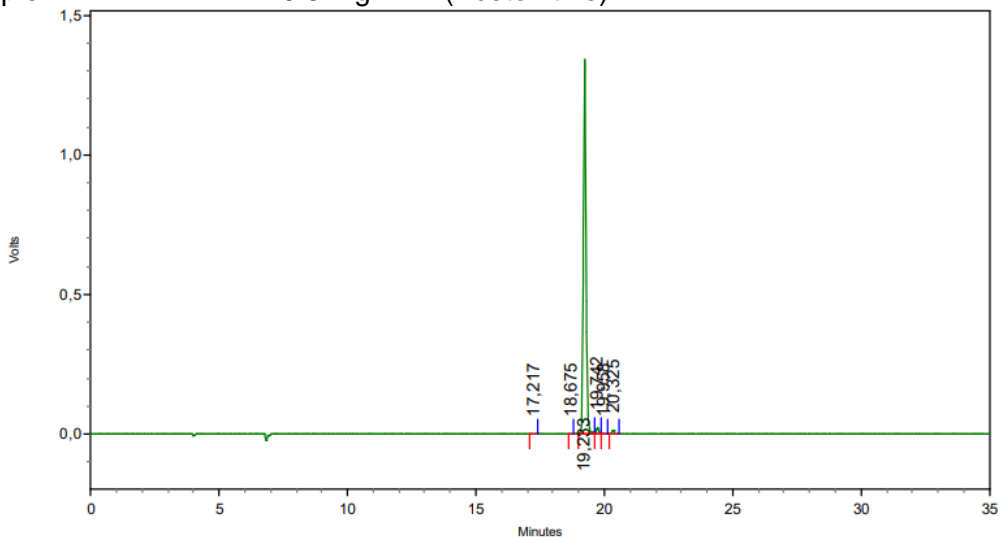
The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



HPLC-Method

Article 681415
 Lot-No. 829248
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min-1
 Detector UV-220nm
 Injection-Volume 5µl
 Sample 0.3 mg ml-1 (Acetonitrile)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
17,217	492	3676	0,04
18,675	330	1719	0,02
19,233	1343707	8721958	97,28
19,742	22758	144101	1,61
19,958	1896	14519	0,16
20,325	11749	79665	0,89

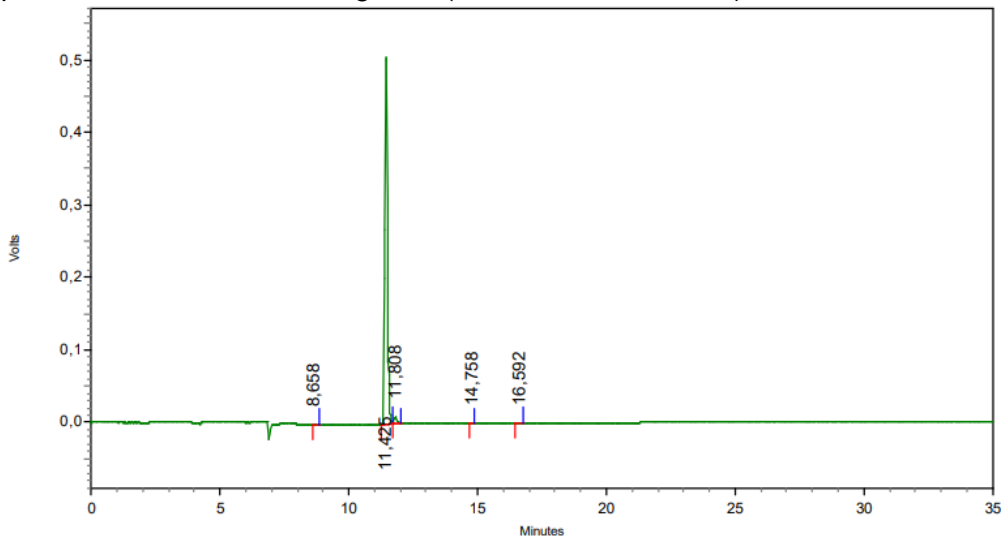
Totals	1380932	8965638	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	681415	829248	Initial Version	07 Jan 2025

HPLC-Method

Article 681416
 Lot-No. 826995
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient
 time %A %B
 0min 0 100
 22.5min 90 10
 25min 90 10
 Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 0.3 mg ml⁻¹ (Acetonitrile/Water 1:1)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
8,658	72	512	0,01
11,425	506470	3923230	98,13
11,808	10451	68592	1,72
14,758	405	2141	0,05
16,592	566	3708	0,09

Totals	517964	3998183	100,00
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	681416	826995	Initial Version	06 Aug 2024

683866
PAH-Mix 4**Lot: 828551**1. General Information

Concentration	10.0 µg/ml	Expanded Uncertainty	5.0 %
Solvent	Acetonitrile	Expiry Date	01 Nov 2025
		Store at	20°C (in the dark)

2. Composition

	Compound	Conc.[µg/ml]	M.W.[g/mol]	CAS-No	Formula
1	Benz[a]anthracene	10.0	228.29	56-55-3	C18H12
2	Benzo[a]pyrene	10.0	252.31	50-32-8	C20H12
3	Benzo[b]fluoranthene	10.0	252.31	205-99-2	C20H12
4	Chrysene	10.0	228.29	218-01-9	C18H12

Certified on 05 Nov 2024

by Philipp Schwarzenberger
RM Release

Instructions for use: Our standards are for laboratory use only and can be used as reference material for calibration of chromatographic systems or related analytical techniques. For handling instructions see the MSDS. Please mix before usage. If particles or precipitation are detected, sonify until solved. The material is homogenous. There is no minimum sample specified. The material in the vial can be used multiple times, but it is strongly recommended, that all external negative influences for the material are considered and ruled out (e.g. high temperatures, UV-radiation, moisture, oxygen) and that the weight of the bottle between all uses are noted to remain constant to exclude concentration deviations. It is strongly recommended to open the vial at room temperature only and handle the material under inert gas if necessary. The integrity of the purity cannot be guaranteed, if the substance is handled under unfavorable conditions.

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level (k=2). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

Traceability: The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:



Version	Article	Lot	Reason for Change	Date
1	683866	828551	Initial Version	05 Nov 2024

688346 **Lot: 828645**
Beclomethasone1. General Information

Formula	C ₂₂ H ₂₉ ClO ₅	Expiry Date	01 Nov 2028
Mol. Weight	408.92 g/mol	Store at	4°C (in the dark)
CAS-No.	4419-39-0		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	99.58 % (g/g)	Expanded Uncertainty	0.34 % (g/g)
Assay Purity (HPLC)	99.58 % (g/g)	Uncertainty	0.17 % (g/g)

Certified on 14 Nov 2024

by Jacqueline Seidel
RM ReleaseThe overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level (k=2). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

Our standards are for laboratory use only and can be used as reference material for calibration of chromatographic systems or related analytical techniques. For handling instructions see the MSDS. A minimum sample of 2 mg is recommended. Deploying less material will increase the uncertainty by a factor 2 for half of sample and 4 for a quarter of sample. The material in the vial can be used multiple times, but it is strongly recommended that all external negative influences to the material are considered and ruled out (e.g. high temperatures, UV-radiation, moisture, oxygen). It is strongly recommended to open the vial at room temperature only and handle the material under inert gas if necessary. The integrity of the purity cannot be guaranteed if the substance is handled under unfavorable conditions.

The balances used are calibrated with weights traceable to the national standards (DKD).

HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

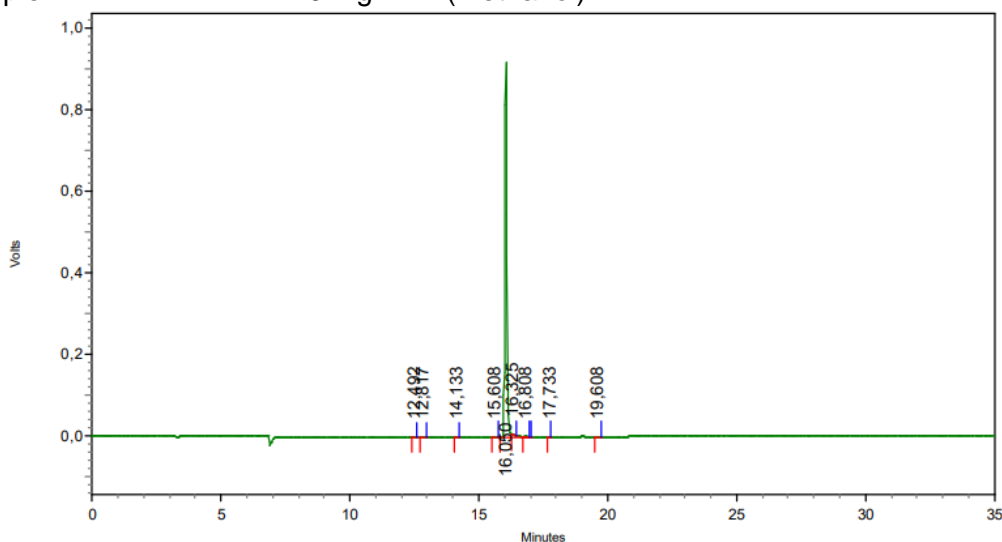


HPLC-Method

Article 688346
 Lot-No. 828645
 Column L=250mm, ID=4.6mm; Luna-Omega C18, 100A, 5µm
 Eluent A Acetonitrile
 Eluent B 0.1 % Phosphoric acid (Water)
 Gradient

time	%A	%B
0min	0	100
22.5min	90	10
25min	90	10

Flow 1.0 ml min⁻¹
 Detector UV-220nm
 Injection-Volume 5 µl
 Sample 1.0 mg ml⁻¹ (Methanol)



Detector A - 1 (220nm)

Retention Time	Height	Area	Area Percent
12,492	130	623	0,01
12,817	116	662	0,01
14,133	53	278	0,01
15,608	115	906	0,02
16,050	919126	5506087	99,56
16,325	3808	18816	0,34
16,808	231	1405	0,03
17,733	256	1094	0,02
19,608	33	290	0,01

Totals	Height	Area	Area Percent
	923868	5530161	100,00

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	688346	828645	Initial Version	14 Nov 2024

689630 **Lot: 816109****Tulathromycin**1. General Information

Formula	C ₄₁ H ₇₉ N ₃ O ₁₂	Expiry Date	01 Feb 2028
Mol. Weight	806.08 g/mol	Store at	-20°C (in the dark)
CAS-No.	217500-96-4		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	97.49 % (g/g)	Expanded Uncertainty	1.50 % (g/g)
Assay Purity (HPLC)	97.49 % (g/g)	Uncertainty	0.75 % (g/g)
Water	<0.01 % (g/g)		

contains about 2,4% Tulathromycin B

Certified on 19 Jan 2023

by Jacqueline Seidel
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \cdot (100 - \text{water content} - \text{impurities})}{100}$
For non-specified hydrates, the overall purity refers to the stated molecular formula.

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use.

Our standards are for laboratory use only and can be used as reference material for calibration of chromatographic systems or related analytical techniques. For handling instructions see the MSDS. A minimum sample of 2 mg is recommended. Deploying less material will increase the uncertainty by a factor 2 for half of sample and 4 for a quarter of sample. The material in the vial can be used multiple times, but it is strongly recommended that all external negative influences to the material are considered and ruled out (e.g. high temperatures, UV-radiation, moisture, oxygen). It is strongly recommended to open the vial at room temperature only and handle the material under inert gas if necessary. The integrity of the purity cannot be guaranteed if the substance is handled under unfavorable conditions.

The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

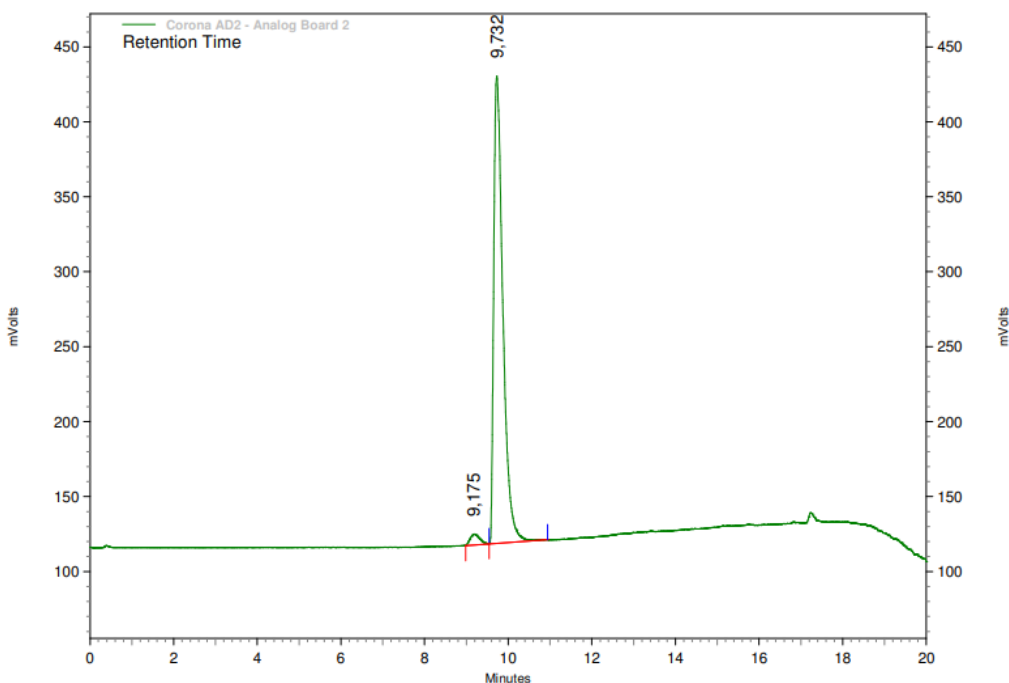


HPLC-Method

Article 689630
 Lot-No. 816109
 Column L=100mm, ID=4.6mm; Kinetex C18, 100A, 2.6µm
 Eluent A Acetonitrile + 0.1% Formic acid
 Eluent B Water + 0.1% Formic acid
 Gradient

time	%A	%B
0min	0	100
15min	95	5
20min	95	5

Flow 0.7 ml min⁻¹
 Detector CAD
 Injection-Volume 1µl
 Sample 1.0 mg ml⁻¹ (Methanol)



Corona AD2 -
Analog Board 2
Results

Retention Time	Height	Area	Area Percent
9,175	7308	115083	2,376
9,732	311777	4728731	97,624

Totals	Height	Area	Area Percent
	319085	4843814	100,000

Peak at RT 9,245 is Tulathromycin B
 Peak at RT 9,762 is Tulathromycin A

Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	689630	816109	Initial Version	19 Jan 2023
2	689630	816109	Text update	08 Jun 2023

689938**Lot: 824127****Gamithromycin**1. General Information

Formula	C ₄₀ H ₇₆ N ₂ O ₁₂	Expiry Date	01 Mar 2028
Mol. Weight	777.04 g/mol	Store at	4°C (in the dark)
CAS-No.	145435-72-9		

2. Batch Analysis

Identity	confirmed by LC-MS		
Overall Purity	96.98 % (g/g)	Expanded Uncertainty	3.86 % (g/g)
Assay Purity (HPLC)	97.14 % (g/g)	Uncertainty	1.93 % (g/g)
Water	0.16 % (g/g)		

Certified on 06 Mar 2024

by Oumaima Bouhmaida
RM Release

The overall purity is calculated by: $\text{Purity(\%)} = \frac{\text{Assay purity} \times (100 - \text{water content} - \text{impurities})}{100}$
For non-specified hydrates, the overall purity refers to the stated molecular formula.

The reported uncertainties are determined in accordance with ISO 17034 with a 95% confidence level ($k=2$). The Uncertainty is based on the combined uncertainties, including uncertainties of characterization and stability testing. The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flask. If the substance is proven to be unstable under the given storage conditions, you will be contacted immediately. The warranty of this product is limited to the purchasing price of this product and to the first point of use. The indicated long-term storage temperature can vary in a range of ± 4 °C.

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The balances used are calibrated with weights traceable to the national standards (DKD).

The HPC Standards GmbH produces reference materials according to ISO 17034. For further information, check:

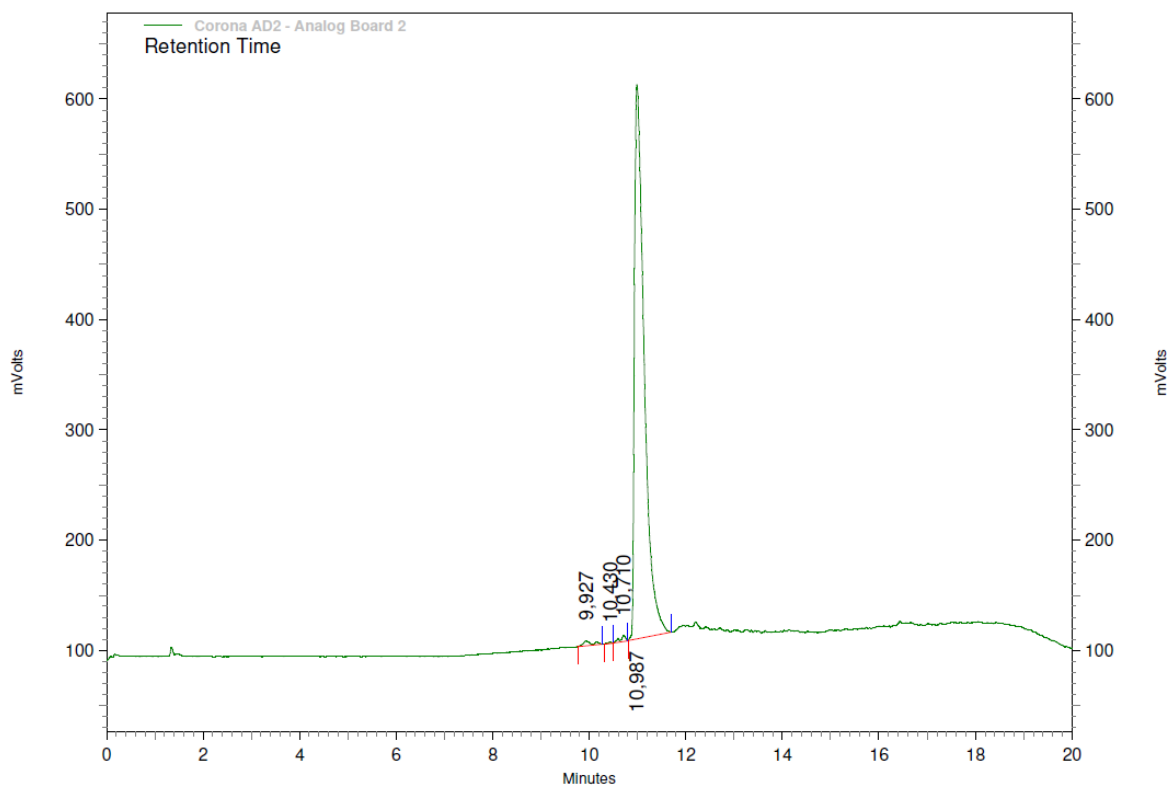


HPLC-Method

Article 689938
 Lot-No. 824127
 Column Kinetex C18 ; 100 x 4,6mm; 100 A; 2,6µm
 Eluent A 0.1 % Formic acid (Acetonitrile)
 Eluent B 0.1 % Formic acid (Water)
 Gradient

time	%A	%B
0min	0	100
15min	95	5
20min	95	5

Flow 0.7 ml min⁻¹
 Detector CAD
 Injection-Volume 1 µl
 Sample 3.0 mg ml⁻¹ (Methanol)



Retention Time	Height	Area	Area Percent
9,927	4567	54675	0,770
10,430	1363	7190	0,101
10,710	5234	44869	0,632
10,987	502491	6997570	98,498

Totals	513655	7104304	100,000
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Exemplary chromatogram of given method.

Version	Article	Lot	Reason for Change	Date
1	689938	824127	Initial Version	06 Mar 2024