

Certificate of Analysis

ISO 9001

Reference Material

Product name

(1R,3r,5S)-8-Methyl-8-azabicyclo[3.2.1]oct-3-ol (Tropine)

Product code

MM0763.01-0025

CAS number

120-29-6

Molecular weight

141.21

Molecular formula

C₈H₁₅NO

Lot number

1190526

Appearance

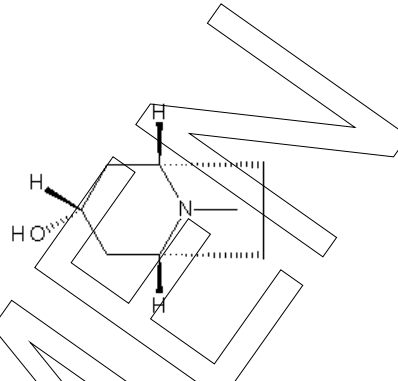
white solid

Melting point

62 °C

Long-term storage

-18 °C, dark
hygroscopic



Assay "as is"
97.6 %

Date of shipment:

08 Nov 2021

Producer confirms that this reference material (RM) meets the specification detailed on this Certificate of Analysis for **two years** from the date of shipment, provided the substance is stored under the recommended conditions unopened in the original container.

Release by:	Date of Release:		Product Release
Dr. Sabine Schröder	Luckenwalde, 29 Oct 2021		



Mikromol™

Product information

For laboratory use only. Not suitable for human or animal consumption.

Before usage of the RM, it should be allowed to warm to room temperature. No drying required, as the certified value is already corrected for the content of water and other volatile materials.

The product quality is controlled by regularly performed quality control tests (retests).

Further content

Identity

Assay

Final result

Revision table

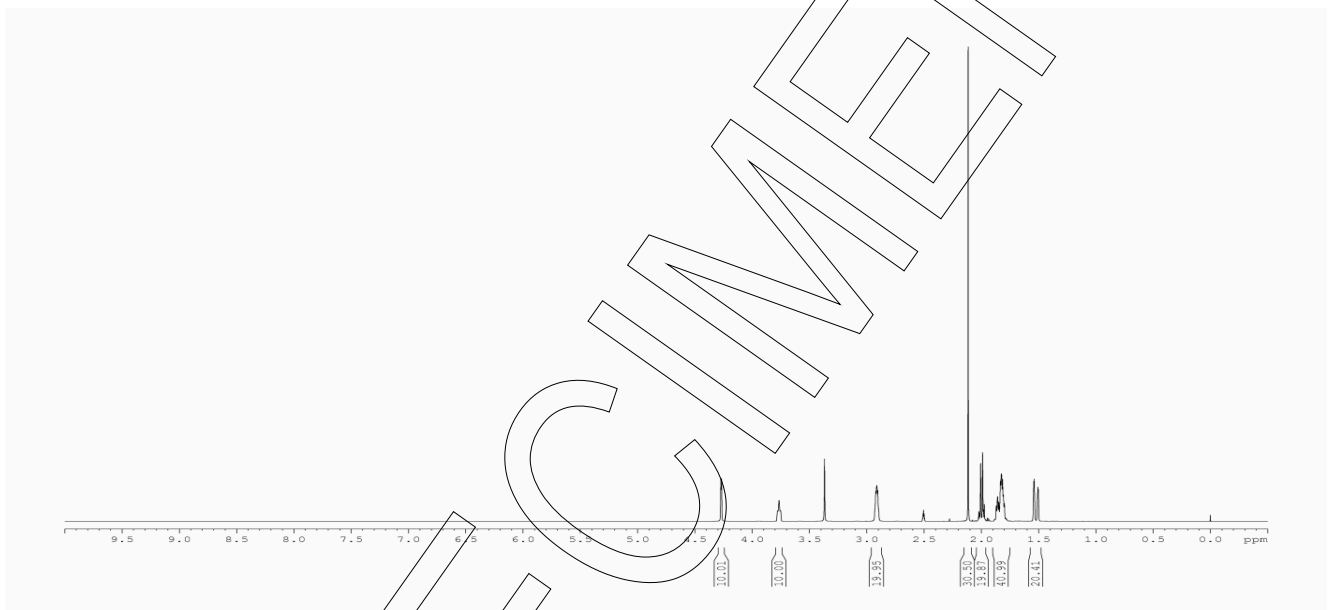
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Identity

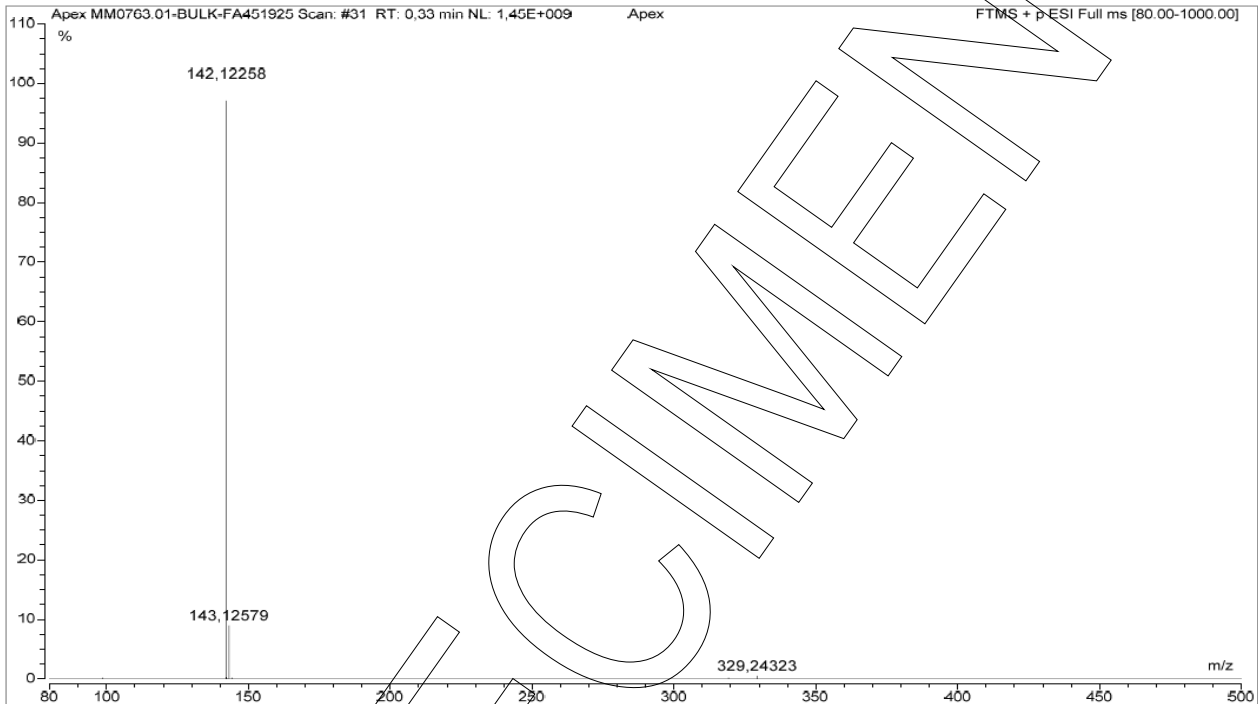
The identity of the reference material was established by following analyses.

Method	Conditions	Result
¹ H-NMR	400 MHz, DMSO-d ₆	Structure confirmed





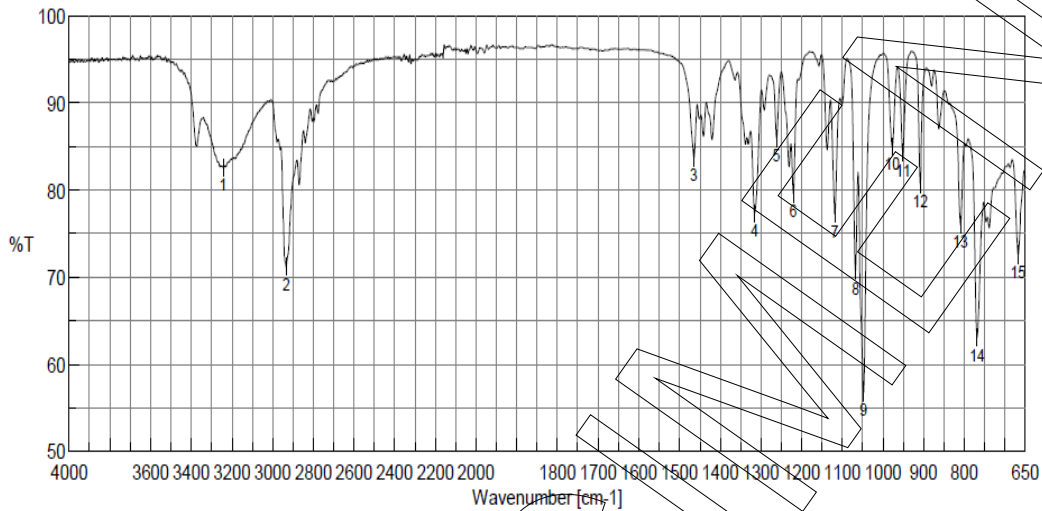
Method	Conditions	Result
MS	3.5 kV ESI+; capillary temperature: 269 °C Theoretical value: 142.12264	Structure confirmed



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Method	Conditions	Result
IR	Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) Spectroscopy	Structure confirmed



Result of Peak Picking		
No.	Position	Intensity
1	3242.72	82.5644
2	2933.2	71.1816
3	1464.67	83.671
4	1315.21	77.2957
5	1261.22	85.9177
6	1220.72	79.5686
7	1117.55	77.2072
8	1067.41	70.6924
9	1047.16	56.6986
10	976.769	84.9381
11	950.734	84.2409
12	908.308	80.6493
13	808.992	76.0236
14	768.494	63.0056
15	668.214	72.5618

Volatile content

Water content

Method	Karl Fischer titration
Result (n = 3)	2.27 %; SD = 0.10 %

Residual solvents

Method	¹ H-NMR
Result (n = 1)	No significant amounts of residual solvents were detected (< 0.05 %).



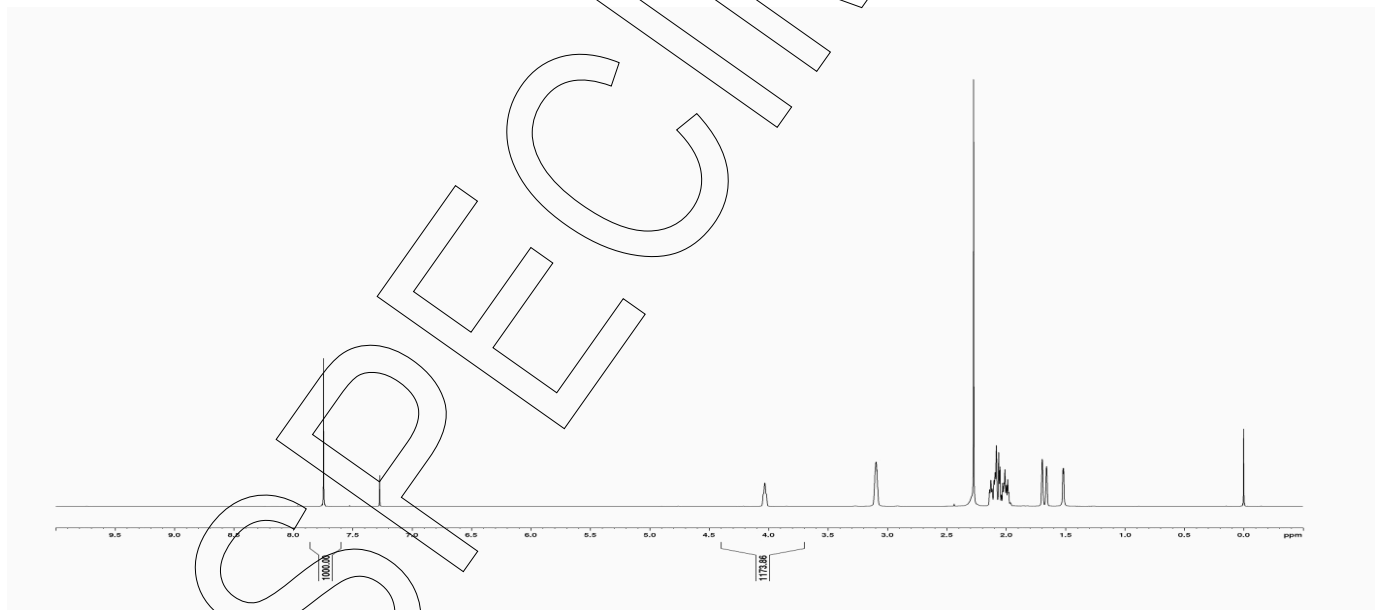
Final result

Assay "as is": **97.56 %**

The assay "as is" is assessed by quantitative NMR spectroscopy and is equivalent to the assay based on the not anhydrous and not dried substance respectively.

Method: Value assigning technique - quantitative NMR spectroscopy	
Conditions	400 MHz, CDCl ₃
Internal standard	2,3,5,6-Tetrachloro-1-nitrobenzene (certified reference material), signal 7.6 - 7.9 ppm, 1 H
Results (mass fraction, n = 3)	97.56 %, SD = 0.04 %

Quantitative NMR spectrum





Revision table

Revision	Date	Reason for revision
00	29 Oct 2021	Release of the Certificate of Analysis - initial version

Product warranties for the RM are set out in the terms and conditions of purchase.

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