



Certificate of Analysis

ISO 9001

Reference Material

Product name

1-Cyclopropyl-2-(2-fluorophenyl)ethane-1,2-dione

Product code

MM3637.01

CAS number

1391054-37-7

Molecular weight

192.19

Molecular formula

C₁₁H₉FO₂

Lot number

1012566

Appearance

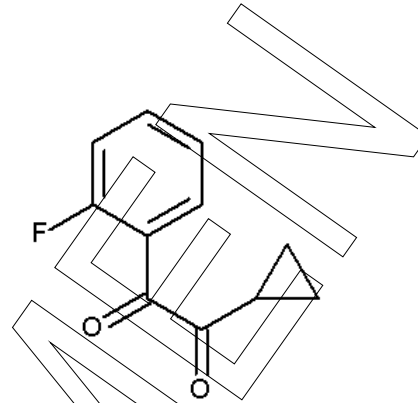
yellow solid

Melting point

41 °C

Long-term storage

-18 °C, dark



Assay "as is"
96.4 %

Date of shipment:

04 Feb 2020

Producer confirms that this reference material (RM) meets the specification detailed on this Certificate of Analysis for **one year** 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, 04 Sep 2019		



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

Purity

Final result

Revision table

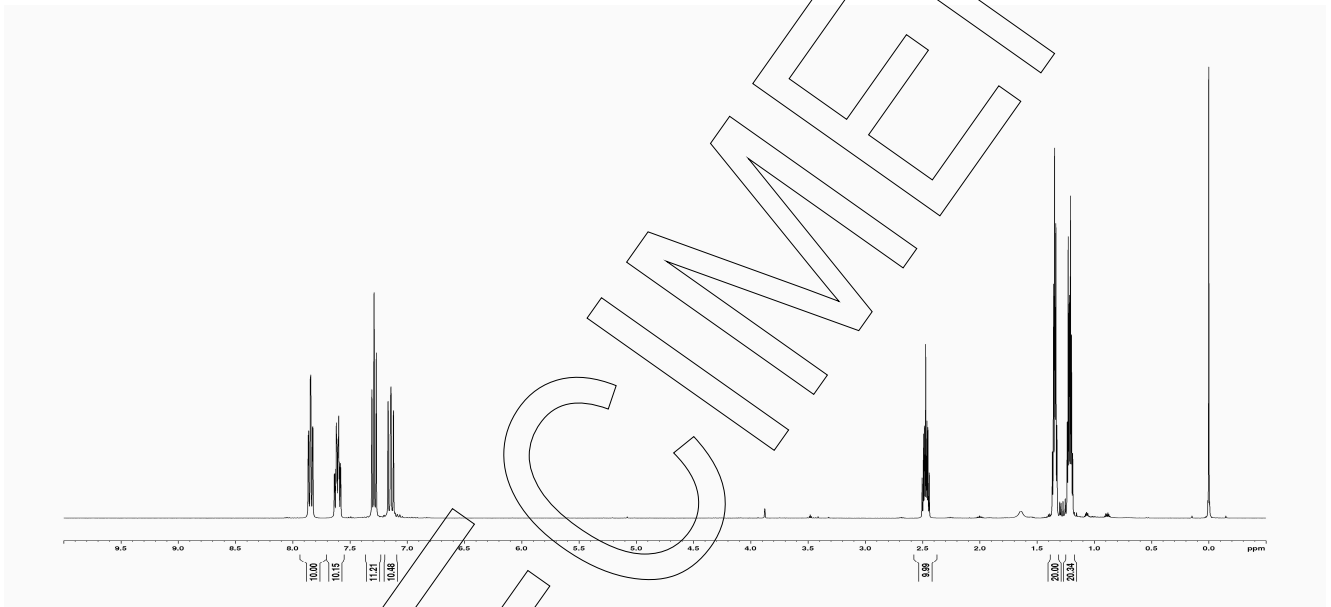
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Identity

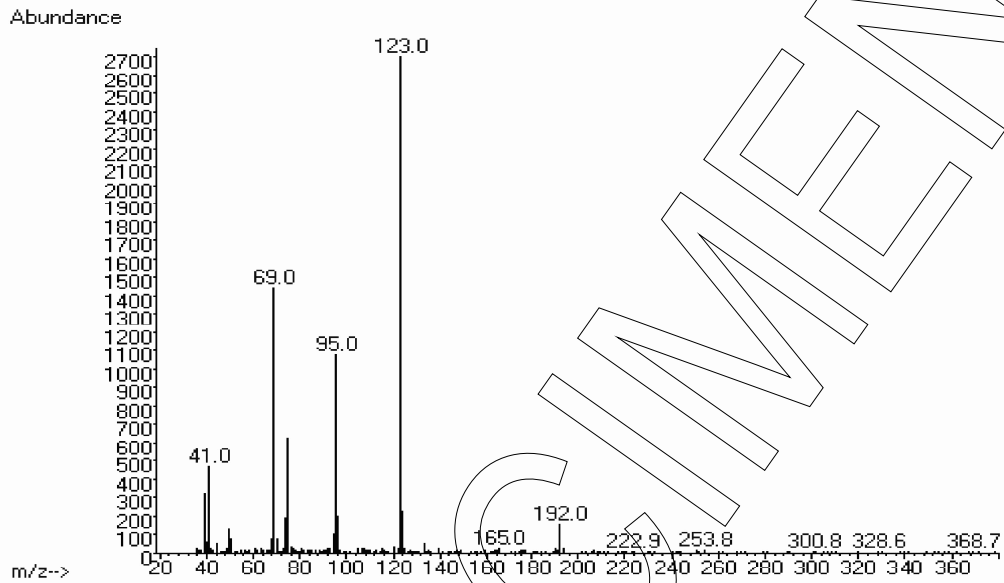
The identity of the reference material was established by following analyses.

Method	Conditions	Result
¹ H-NMR	400 MHz, CDCl ₃	Structure confirmed





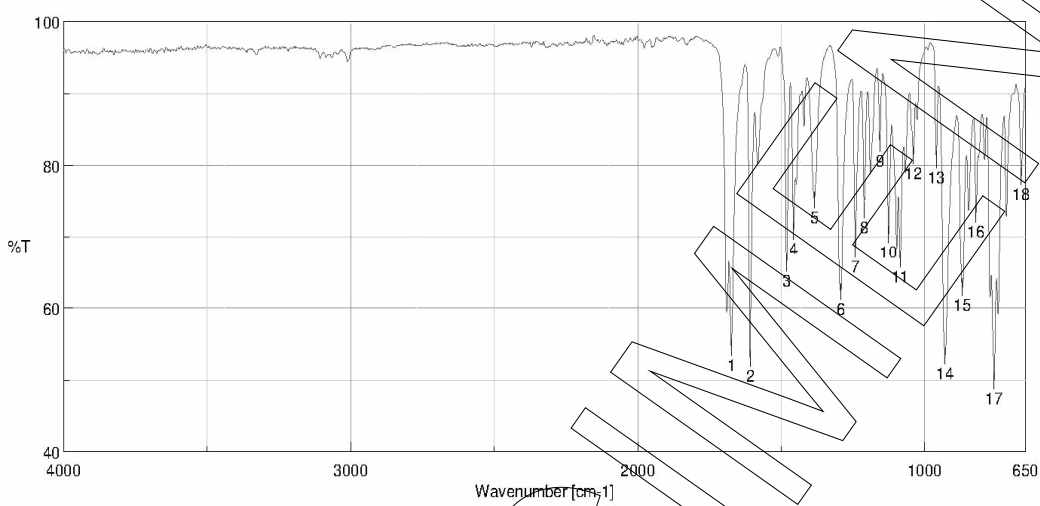
Method	Conditions	Result
MS	EI, 70eV, detector temperature: 280 °C	Structure confirmed



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



No	Position	Intensity
1	1673.91	54.5617
2	1608.34	53.0368
3	1481.06	66.2017
4	1456.96	70.7799
5	1385.6	75.2492
6	1293.04	62.3273
7	1241.93	68.2085
8	1211.08	73.8425
9	1157.08	83.0434
10	1126.22	70.2802
11	1085.73	66.8757
12	1039.44	81.3424
13	960.377	80.7503
14	929.521	53.4097
15	868.774	62.8636
16	821.527	73.205
17	758.852	49.9085
18	664.357	78.4899



Purity

Volatile content

Water content

Method	Karl Fischer titration
Result (n = 3)	0.11 %; SD = 0.01 %

Residual solvents

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

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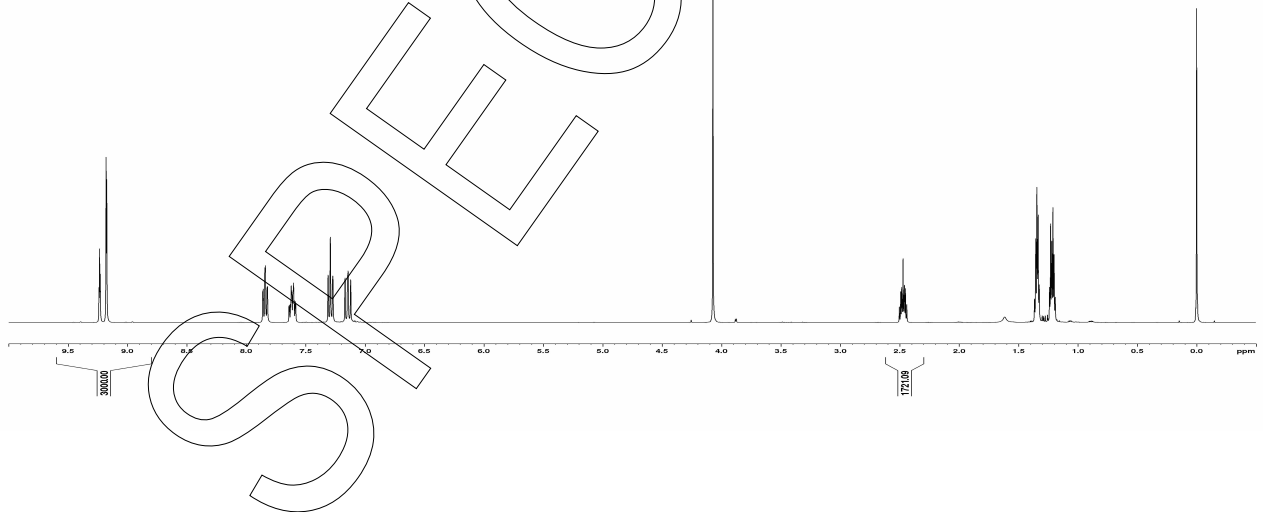
Final result

Assay "as is": **96.41 %**

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	Methyl 3,5-dinitrobenzoate (certified reference material), signal 8.8 - 9.6 ppm, 3 H
Result (mass fraction, n = 6)	96.41 %, SD = 0.04 %

Quantitative NMR spectrum





Revision table

Revision	Date	Reason for revision
00	04 Sep 2019	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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