LoGiCal®
produced by LGC

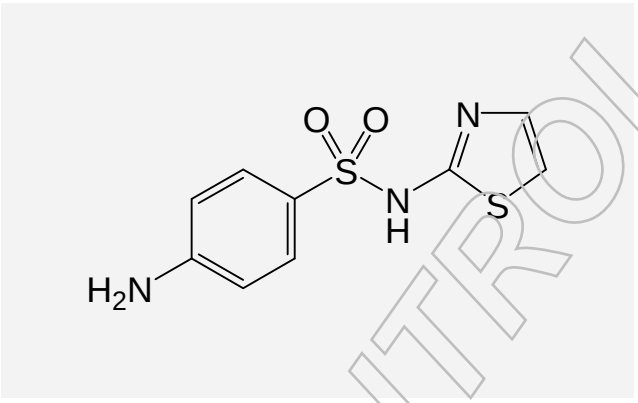
Certificate of Analysis

Reference Substance

Sulfathiazole

Catalogue Number:	LGCFOR0578.00
Lot Number:	37589
Molecular Formula:	$C_9H_9N_3O_2S_2$
Molecular Weight:	255.32
CAS Number:	[72-14-0]

Long-term Storage:	2 to 8 °C, dark
Appearance:	white solid
Melting Point:	203 °C
Assay 'as is':	99.9 %



Date of shipment: **2016-May-20**

This certificate is valid for two years from the date of shipment provided the substance is stored under the recommended conditions.

Release Date: 2013-10-28

LGC GmbH

Dr. Sabine Schröder
Product Release

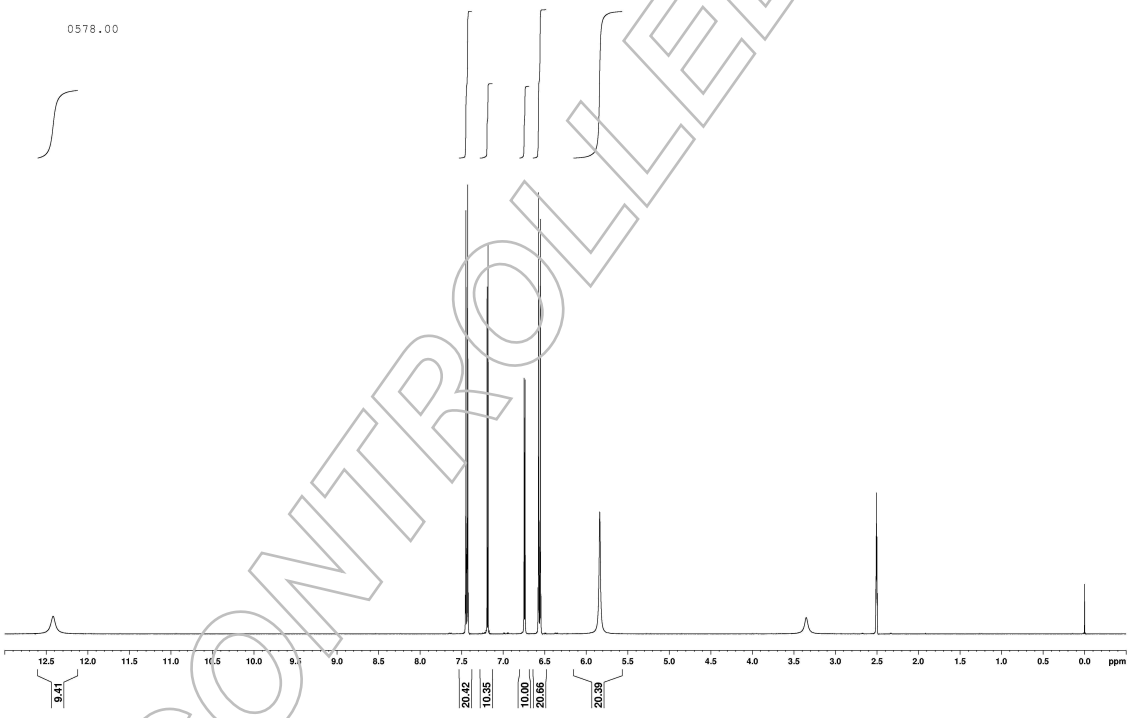
I. Identity

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

Ia. ^{1}H-NMR Spectrum

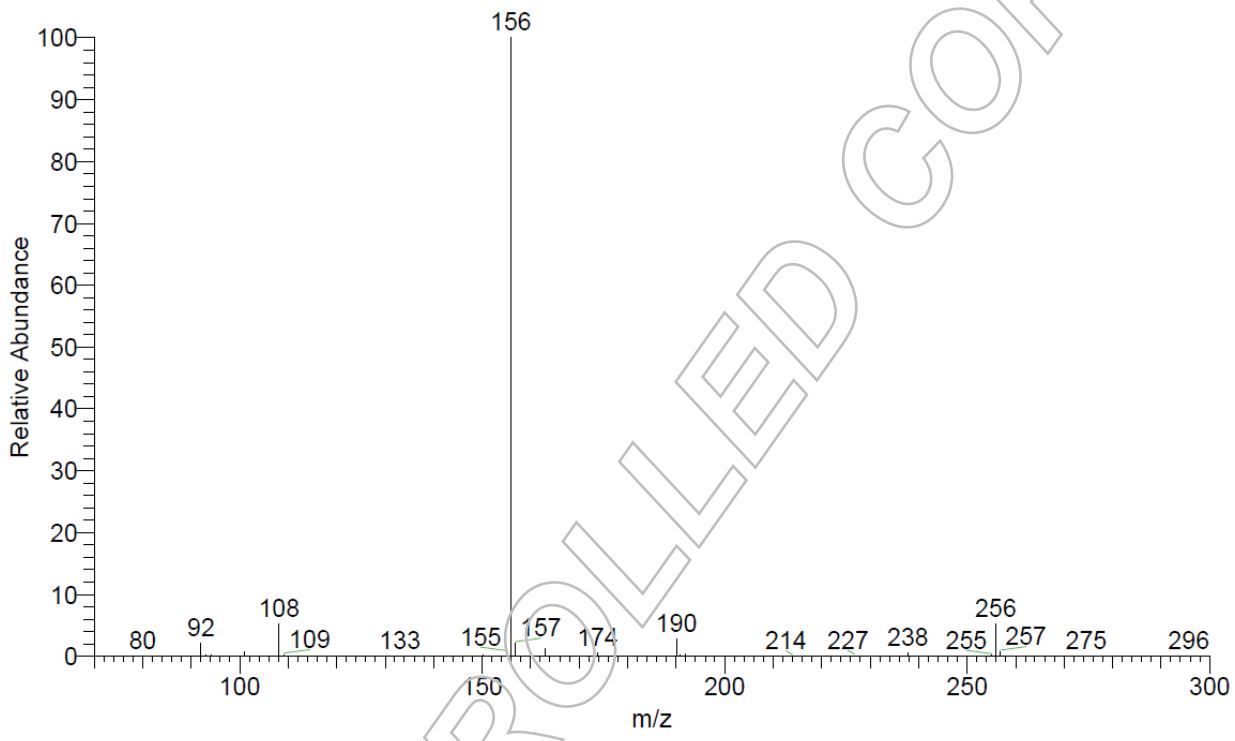
Conditions: 400 MHz, DMSO-d_6

The structure is confirmed with the signals of the spectrum and their interpretation.



Ib. Mass Spectrum

Method: 4.5 kV ESI; vaporization temperature: 200 °C, direct inlet

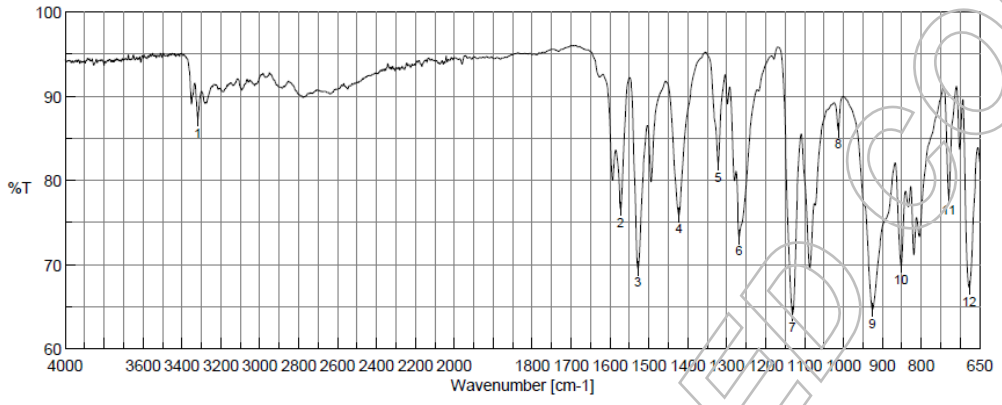


m/z	fragments
256	[MH]
156	[$C_6H_6NO_2S$]

The signals of the mass spectrum and their interpretation are consistent with the structural formula.

Ic. IR Spectrum

Method: Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) Spectroscopy



Result of Peak Picking

No.	Position	Intensity
1	3317.93	87.2361
2	1572.66	76.5712
3	1528.31	69.4966
4	1423.21	75.8377
5	1321.96	82.011
6	1267.97	73.2598
7	1131.05	64.1192
8	1013.41	85.9297
9	925.664	64.6121
10	852.382	69.8129
11	729.925	78.0824
12	676.892	67.2571

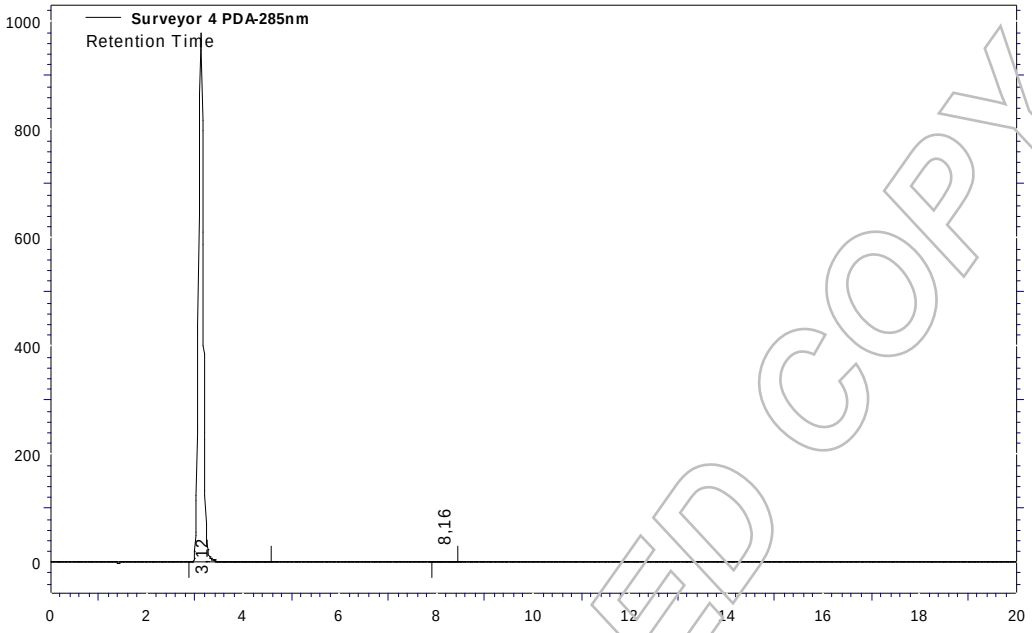
The signals of the IR spectrum and their interpretation are consistent with the structural formula.

II. Purity

The purity of the reference substance was analysed by high performance liquid chromatography (HPLC).

HPLC Conditions:

Column:	**Conditions:**	**Detector:**	**Injector:**
RP 60 Select B	1.0 ml/min, 40 °C	DAD	Auto
5 µm, 125 x 4 mm	Water/Acetonitrile 85/15 (v/v);	285 nm	4 µl; 0.0908 mg/ml in
	0.1 % H_3PO_4		Water/Acetonitrile 50/50 (v/v)



Area Percent Report - Sorted by Signal

Pk #	Retention Time	Area	Area %
1	3.12	6692008	99.96
2	8.16	2421	0.04
Totals		6694429	100.00

For the calculation the system peaks were ignored. The content of the analyte was determined as ratio of the peak area of the analyte and the cumulative areas of the purities, added up to 100 %.

Results:

Average	99.96 %
Number of results	n=6
Standard deviation	< 0.01 %

III. Water Content

Method: Karl Fischer titration

Result: 0.09 %

IV. Residual Solvents

Method: ^{1}H-NMR

No significant amounts of residual solvents were detected (< 0.05 %).

V. Final Result

Total impurities (HPLC)	0.04 %
Water content	0.09 %
Residual solvents	n. d. (not detected)
Assay (100 % method) [1]	99.87 %

The assay is assessed to be 99.9 % 'as is'

The assay 'as is' is equivalent to the assay based on the not anhydrous and not dried substance respectively.

[1] The calculation of the 100 % method follows the formula:

$$\text{Assay (\%)} = (100\ \% - \text{KF} - \text{RES}) * \frac{\text{Purity HPLC (\%)}}{100\ \%}$$

Water (KF) and Residual solvents (RES) are considered as absolute contributions, HPLC purity is considered as relative contribution.