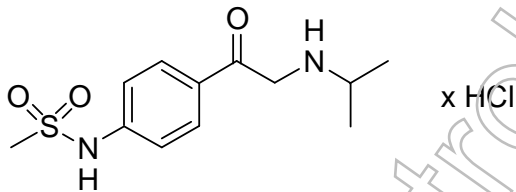




# Certificate of Analysis

## Reference Standard

N-[4-[[[(1-Methylethyl)amino]acetyl]phenyl]-methanesulphonamide Hydrochloride



Molecular Formula: C<sub>12</sub>H<sub>18</sub>N<sub>2</sub>O<sub>3</sub>S HCl  
Molecular Weight: 306.80  
CAS Number: [ 5576-49-8 ]

Catalogue Number: MM0046.02  
Lot Number: 46.02.08.03  
Long-term Storage: 2 to 8 °C, dark  
Appearance: white solid  
Melting Point: 234 °C (dec.)  
Assay 'as is': 99.9 %

Date of shipment: **2015-July-04**

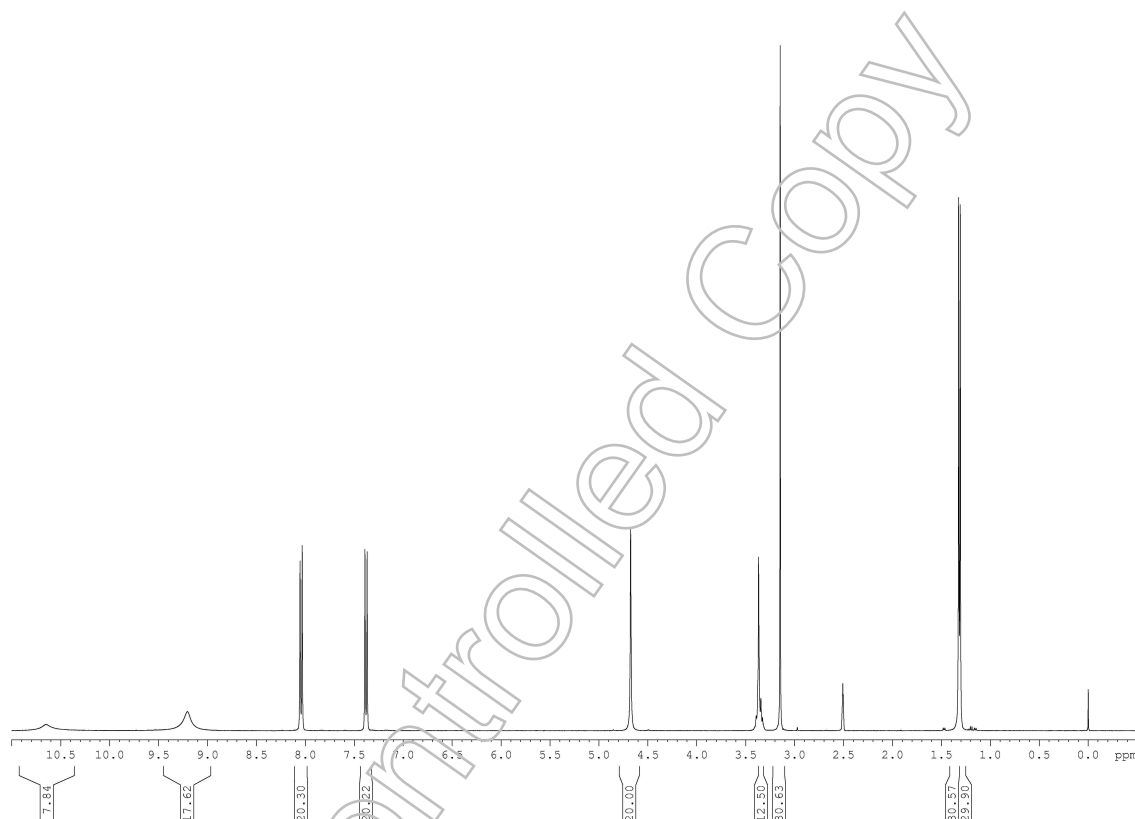
This certificate is valid for two years from the date of shipment provided the substance is stored under the recommended conditions.



## I. Identity

The identity of the reference substance was established by  $^1\text{H-NMR}$  spectroscopy. The structure is confirmed with the signals of the spectrum and their interpretation.

Conditions: 400 MHz,  $\text{DMSO-d}_6$

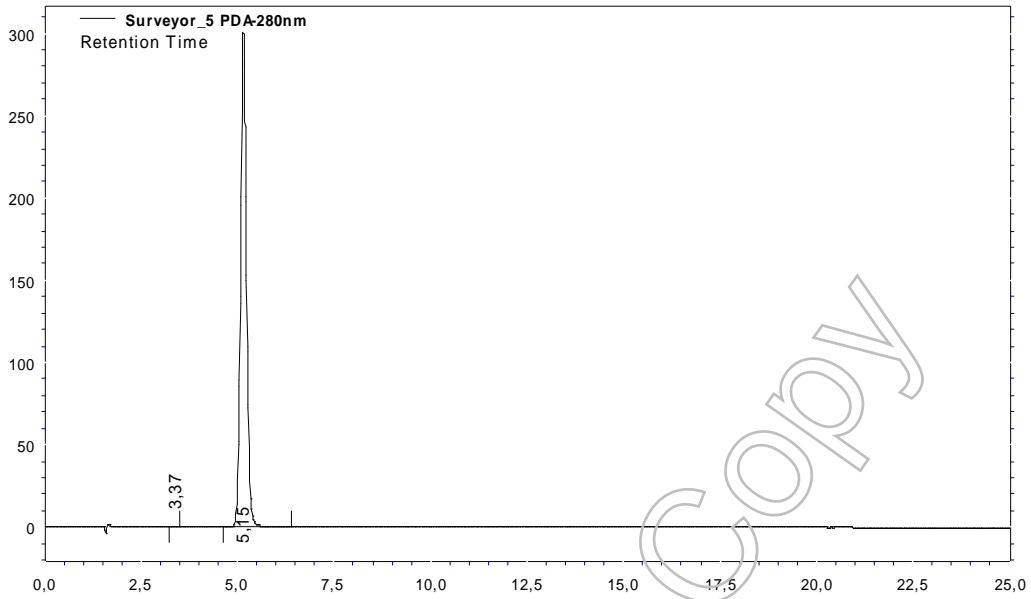


## II. Purity

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 $\mu\text{m}$ , 125 x 4 mm	Water/Acetonitrile 95/5 (v/v);	280 nm	2 $\mu\text{l}$ ; 0.107 mg/ml in
	0.1 % $\text{H}_3\text{PO}_4$		Water/Acetonitrile 50/50 (v/v)



**Area Percent Report - Sorted by Signal**

Pk #	Retention Time	Area	Area %
1	3.37	730	0.02
2	5.15	3347155	99.98
Totals		3347885	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 99.98 %  
Number of results n=6  
Standard deviation 0.01 %

**III. Water Content**

Method: Karl Fischer titration

**Results:**

Average 0.05 %  
Number of results n=3  
Standard deviation 0.01 %



#### IV. Residual Solvents

Method:  $^1\text{H-NMR}$

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

#### V. Final Result

<b>Total impurities (HPLC)</b>	0.02 %
<b>Water content</b>	0.05 %
<b>Residual solvents</b>	No significant amounts of residual solvents were detected ( $\leq 0.05\%$ ).
<b>Assay (100 % method)</b>	99.93 %

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.

Release Date: 2008-10-10

LGC GmbH

Dr. Sabine Schröder  
Product Release