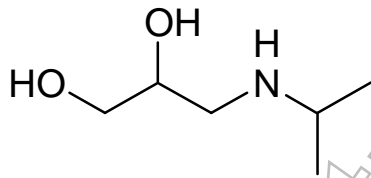




Certificate of Analysis

Reference Standard

(2RS)-3-[(1-Methylethyl)amino]propane-1,2-diol



Molecular Formula: $C_6H_{15}NO_2$
Molecular Weight: 133.19
CAS Number: [6452-57-9]

Catalogue Number: MM0027.16
Lot Number: 38112
Long-term Storage: 2 to 8 °C, dark
Appearance: colourless oil
Assay 'as is': 96.7 %

Date of shipment: **2015-July-05**

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

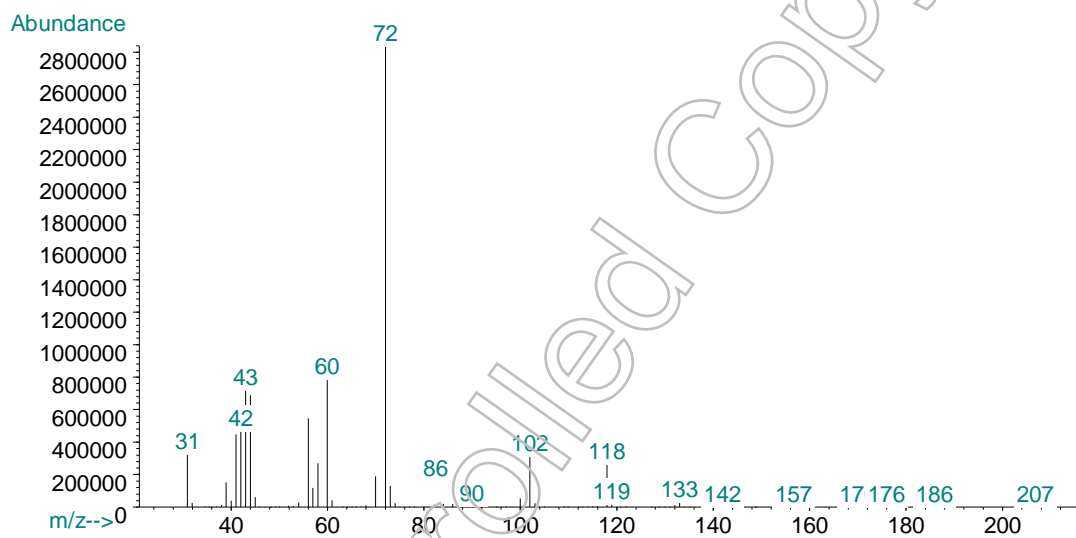


I. Identity

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

1a. Mass Spectrum

Method: EI, 70eV, detector temperature: 280 °C



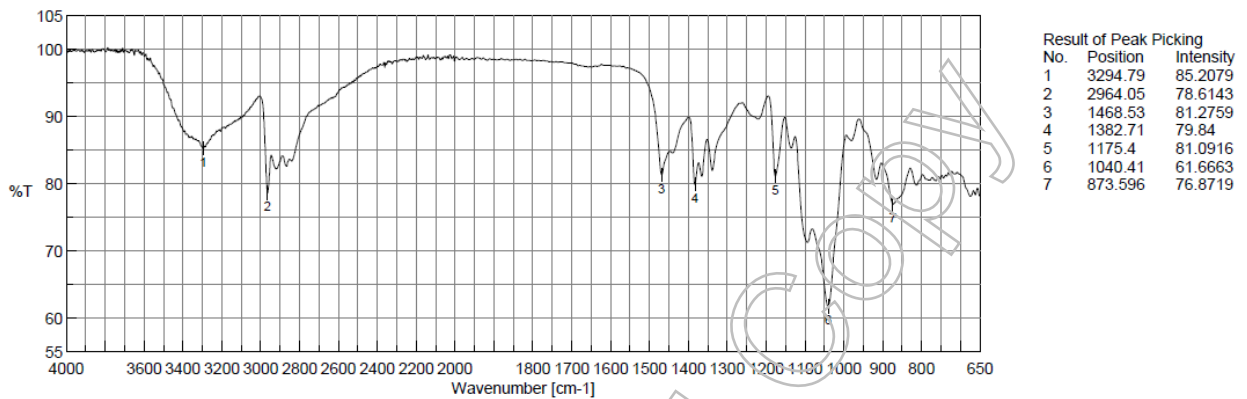
m/z	fragments
133	[M]
102	[M – CH ₂ OH]
72	[102 – CHOH]

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



Ib. IR Spectrum

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



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 gas chromatography (GC).

GC Conditions:

Column:

HP-5MS
30 m x 0.25 mm x 0.25 µm

Injector and Flow:

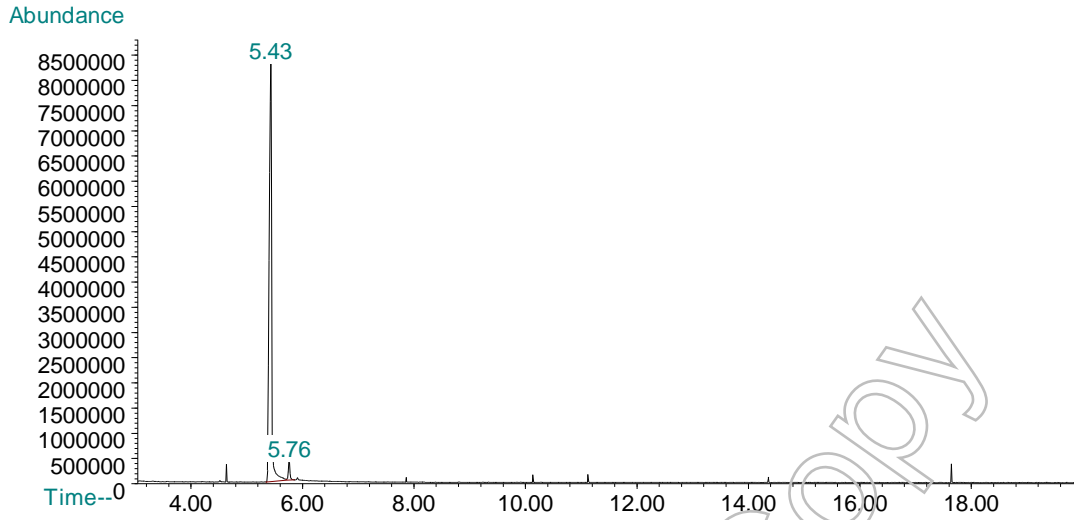
splitless Injection, 220 °C
Helium 1.50 ml/min

Oven Program:

Initial Temp.: 70 °C for 3 min
Heating Rate: 30 °C/min
Final Temp.: 250 °C

Detector:

EI, 70 eV
30 to 550 amu
280 °C



Area Percent Report - Sorted by Signal

Pk #	Retention Time	Area	Area %
1	5.434	271976967	97.07
2	5.764	8200732	2.93
Totals		280177699	100.00

For the calculation the air 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 96.97 %
Number of results r=6
Standard deviation 0.10 %

III. Water Content

Method: Karl Fischer titration

Results:

Average 0.25 %
Number of results n=2



IV. Final Result

Total impurities (GC)	3.03 %
Water content	0.25 %
Assay (100 % method)¹	96.73 %

The assay is assessed to be 96.7 % 'as is'

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

Release Date: 2013-10-28

LGC GmbH

Dr. Sabine Schröder
Product Release

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

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

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