

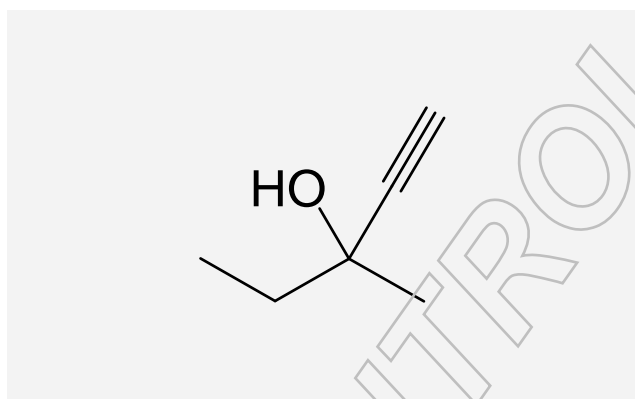
Certificate of Analysis

Reference Substance

Methylpentynol

Catalogue Number: LGCFOR1275.53
Lot Number: 6543
Molecular Formula: C₆H₁₀O
Molecular Weight: 98.14
CAS Number: [77-75-8]

Long-term Storage: 2 to 8 °C, dark
Appearance: colourless liquid
Assay 'as is': 99.6 %



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

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

Release Date: 2011-07-15

LGC GmbH

Dr. Sabine Schröder
Product Release

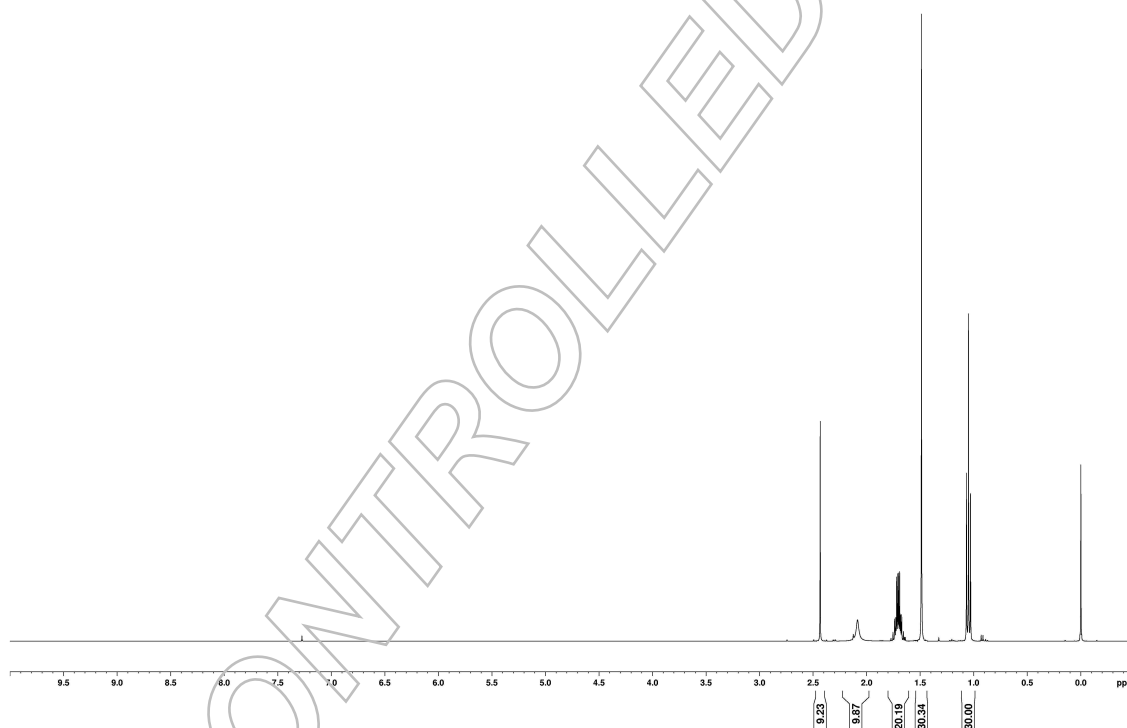
I. Identity

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

Ia. ¹H-NMR Spectrum

Conditions: 400 MHz, CDCl₃

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



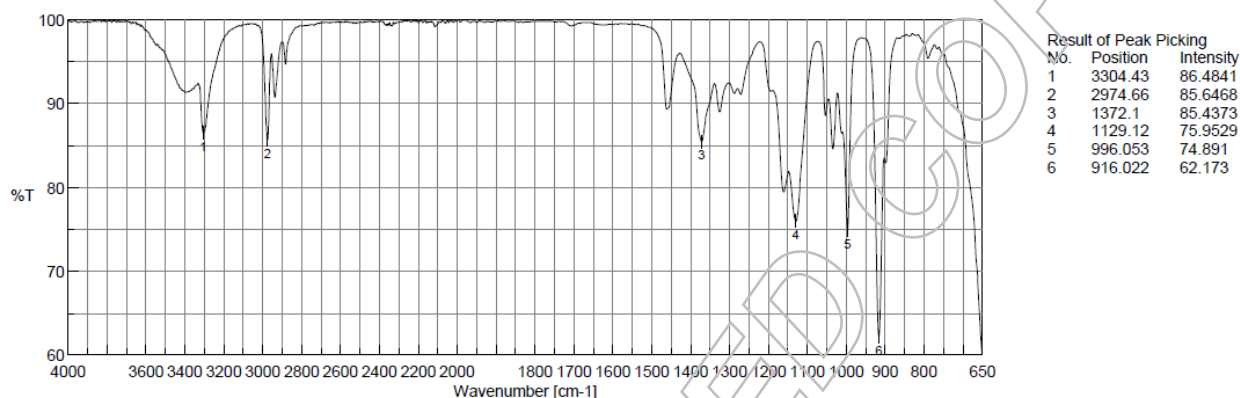
LGCFOR1275.53 Lot Number 6543

LGC GmbH, Im Biotechnologiepark, TGZ II, D-14943 Luckenwalde, Germany

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Ib. IR Spectrum

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



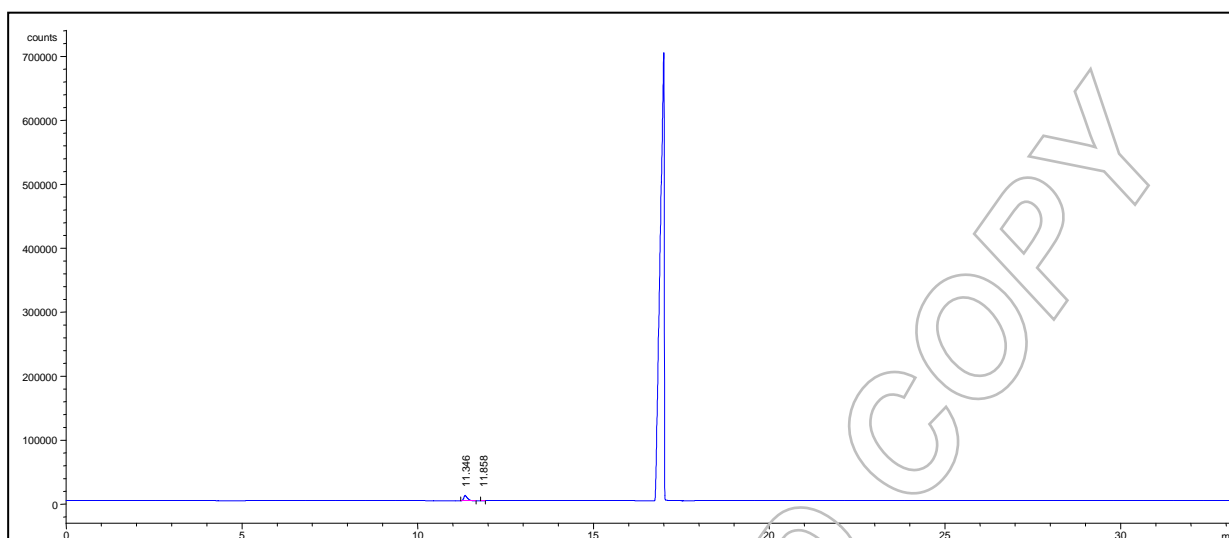
The signals of the IR spectrum and their interpretation are consistent with the structural formula.

II. Purity

The purity of the reference substance was analysed by headspace gas chromatography (GC-FID).

GC Conditions:

Column:	Injector and Flow:	Oven Program:	Detector:
DB 624	splitless Injection, 150 °C	Initial Temp.: 38 °C for 6 min	FID
30 m x 0.32 mm x 1.8 µm	Nitrogen 54 ml/min	Heating Rate: 15 °C/min	Hydrogen 35 ml/min
	Compressed air 350 ml/min	Final Temp.: 200 °C	250 °C



Area Percent Report - Sorted by Signal

Pk #	Retention Time	Area	Area %
1	11.35	54106.59	99.65
2	11.86	190.52	0.35
Totals		54297.11	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	99.67 %
Number of results	n=3
Standard deviation	0.05 %

III. Water Content

Method: Karl Fischer titration

Results:

Average	0.09 %
Number of results	n=3
Standard deviation	0.01 %

IV. Residual Solvents

Method: ¹H-NMR

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

V. Final Result

Total impurities (GC)	0.33 %
Water content	0.09 %
Residual solvents	n. d. (not detected)
Assay (100 % method) ¹	99.58 %

The assay is assessed to be 99.6 % '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:

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

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

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