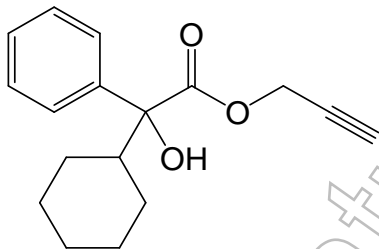




Certificate of Analysis

Reference Standard

Propargyl (RS)-2-Cyclohexyl-2-hydroxy-2-phenylacetate (Phenylcyclohexylglycolic Acid Propargyl Ester)



Molecular Formula: $C_{17}H_{26}O_3$
Molecular Weight: 272.34
CAS Number: [81039-74-9]

Catalogue Number: MM0047.50
Lot Number: 47.50.09.01
Long-term Storage: 2 to 8 °C, dark
Appearance: colourless oil
Assay 'as is': 97.2 %

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

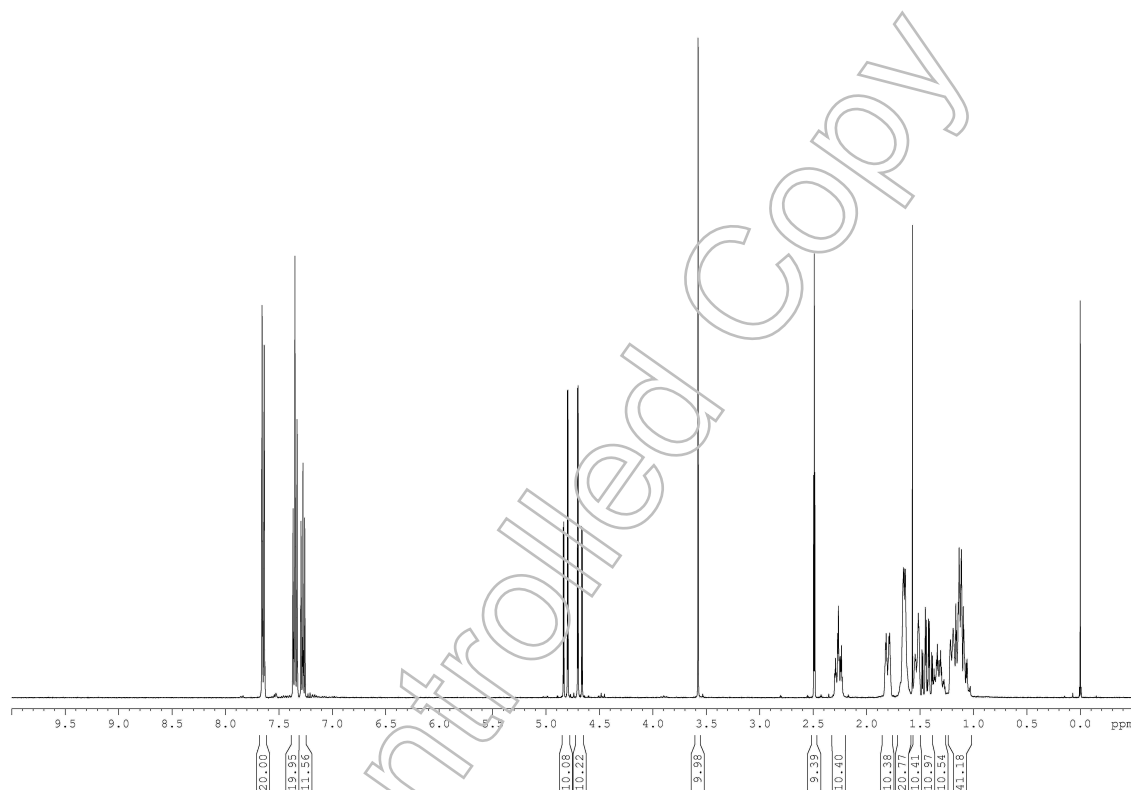
This certificate is valid for two years from the date of shipment provided the substance is stored under the recommended conditions.



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, CDCl_3

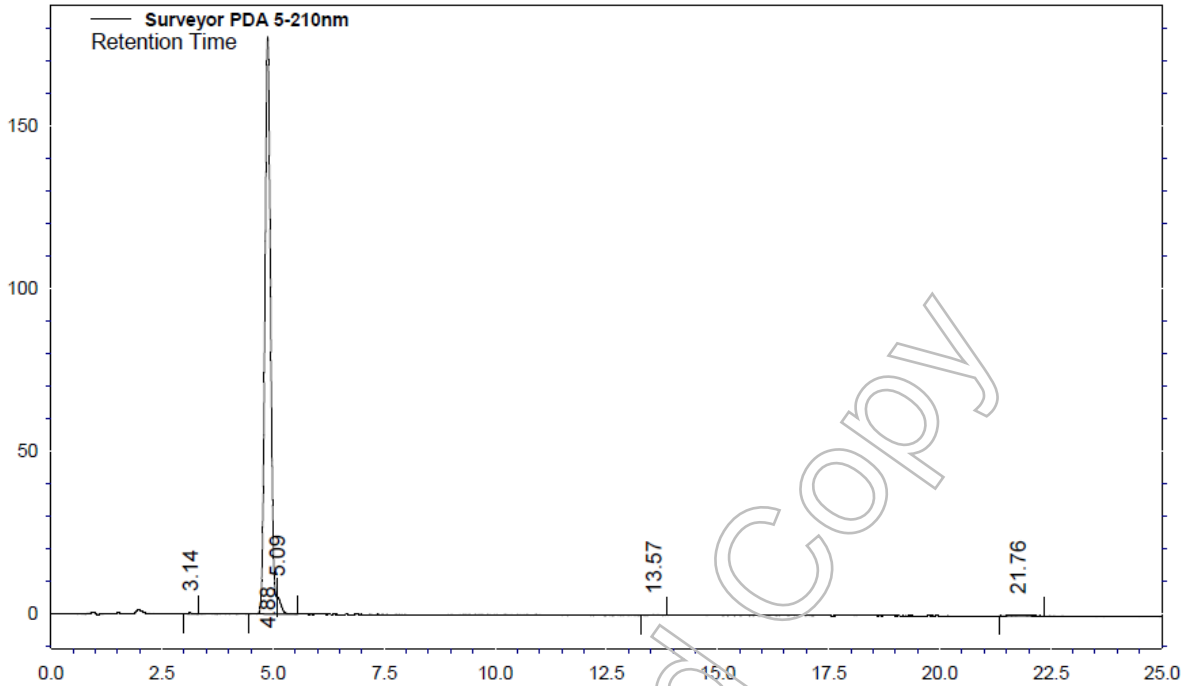


II. Purity

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 45/55 (v/v); 0.1 % H_3PO_4	210 nm	5 μl ; 0.0638 mg/ml in Acetonitrile



Area Percent Report - Sorted by Signal

Pk #	Retention Time	Area	Area %
1	3.14	2211	0.14
2	4.88	1573561	97.15
3	5.09	34392	2.12
4	13.57	2408	0.15
5	21.76	7146	0.44
Totals		1619718	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 97.19 %
Number of results n=3
Standard deviation 0.10 %



III. Residual Solvents

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

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

IV. Final Result

Total impurities (HPLC)	2.81 %
Residual solvents	n. d. (not detected)
Assay (100 % method)	97.19 %

The assay is assessed to be 97.2 % 'as is'

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

Release Date: 2009-08-27

LGC GmbH

Dr. Sabine Schröder
Product Release