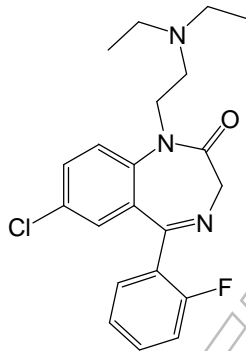




Certificate of Analysis

Reference Standard

Flurazepam



Molecular Formula: $C_{21}H_{23}ClFN_3O$
Molecular Weight: 387.88
CAS Number: [17617-23-1]

Catalogue Number: MM0070.06
Lot Number: 70.06.08.01
Long Term Storage: 2 to 8 °C, dark
Appearance: white solid
Melting Point: 80 °C
Assay 'as is': 99.9 %

Date of shipment: **2017-09-05**

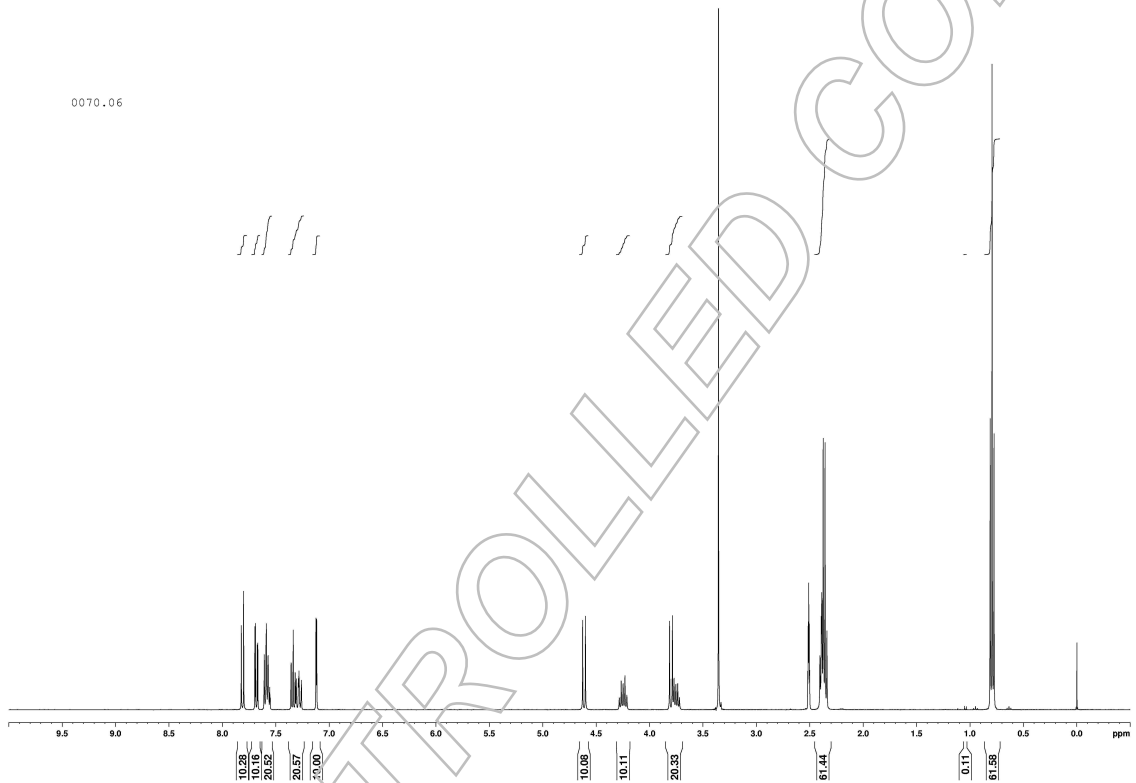
This certificate is valid for two years from the date of shipment provided the substance is stored under the recommended conditions.



I. Identity

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

Conditions: 400 MHz, DMSO-d_6



II. Purity

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

HPLC Conditions:

Column:

RP 60 Select B
5 μm , 125 x 4 mm

Conditions:

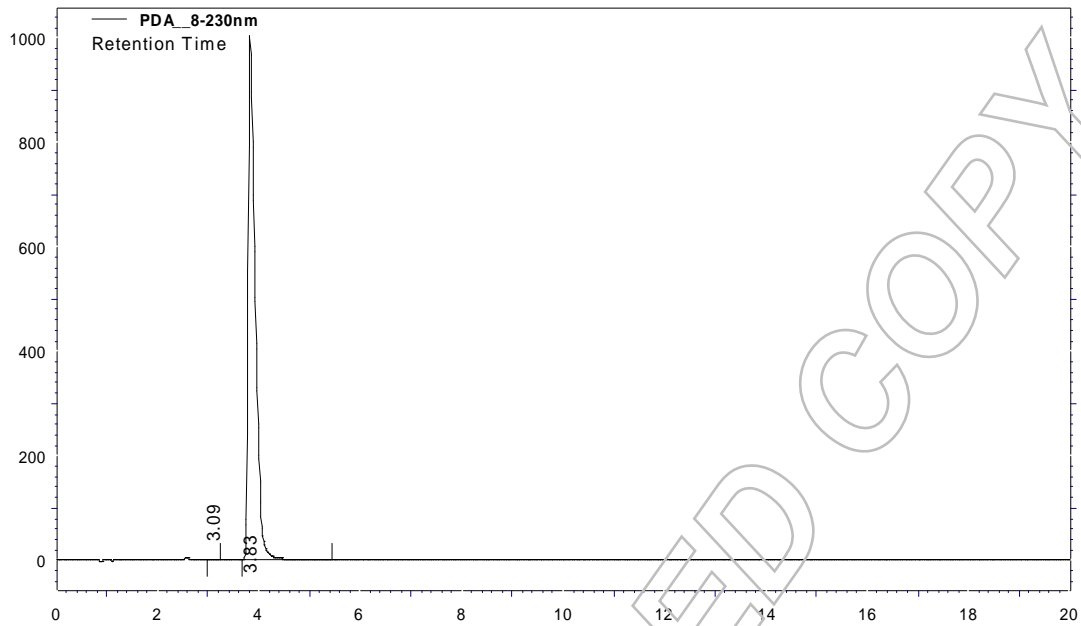
1.0 ml/min, 40 °C
Water/Acetonitrile 65/35 (v/v);
0.1 % H_3PO_4

Detector:

DAD
230 nm

Injector:

Auto
7 μl ; 0.064 mg/ml in
Water/Acetonitrile 50/50 (v/v)



Area Percent Report - Sorted by Signal

Pk #	Retention Time	Area	Area %
1	3.09	1419	0.01
2	3.83	9978357	99.99
Totals		9979776	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 99.99 %

Number of results n=2

III. Water Content

Method: Karl Fischer titration

Results:

Average 0.04 %

Number of results n=3

Standard deviation 0.02 %



IV. Residual Solvents

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

Result: 0.03 % 2-Propanol

V. Assay by Elementary Analysis (Carbon Titration)

Method: percentage carbon found in relation to percentage carbon as calculated for molecular formula

Results:

Arithmetic mean (n=3) 99.69 % (mass fraction)

VI. Final Result

Total impurities (HPLC)	0.01 %
Water content	0.04 %
Residual solvents	0.03 %
Assay (100 % method)	99.92 %

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

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

Release Date: 2008-12-03

LGC GmbH

Dr. Sabine Schröder
Product Release