

Certificate of Analysis

Cyclohexane

PurCert Standard for GC

(Secondary Reference Standard)

Product Number	PSR28269	CAS No.	110-82-7
Brand	PureSynth	Lot No.	C28269P0325
Molecular Formula	C ₆ H ₁₂	Date of Mfg.	March, 2025
Molecular Weight	84.16 g/mol	Date of Exp.	February, 2030

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Assay (GC-FID)	≥ 99.5 %	99.99 %
Water (By KF)	NMT 0.02 %	0.0154 %
Density	0.772-0.800 g/cm ³	0.779 g/cm ³
Identification by ¹ H NMR	Conforms to structure	Conforms
Identification by GC-MS	Conforms to molecular mass	Conforms
Identification by IR	Conforms to structure	Conforms

***Traceable to USP Reference standard 1601408, Lot No: R047N0**

Storage Condition: Store at room temperature and keep the container tightly closed.

Remark: The batch complies with the prescribed quality of the above specification.

Assay by GC-FID

METHOD: GC- FID conditions:

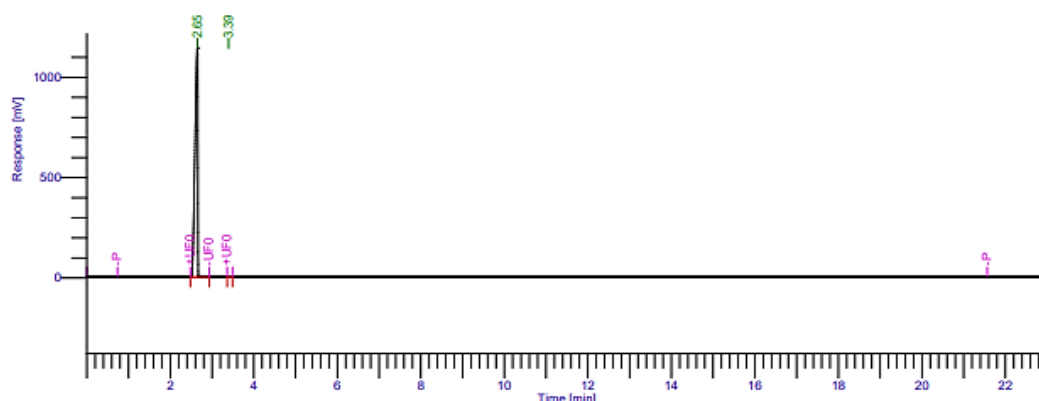
Column: Agilent Technologies DB-FFAP 30mx 0.530mm, 1.0micron

Instrument: PerkinElmer, GC 2014,

Detector: FID, **Carrier gas:** Nitrogen

Temp programming: Initial 50°C hold for 1min, 5°C Ramp/ min., 100 °C hold for 1 min., 25°C Ramp up to 250°C hold for 2 min., Run time 20 min.

Software Version	: 6.3.4.0700	Date	: 09-04-2025 09:30:30
Operator	: manager	Sample Name	: CYCLOHEXANE-C28269P0325
Sample Number	: 001	Study	:
AutoSampler	: BUILT-IN	Rack/Vial	: 0/24
Instrument Name	: Clarus 690	Channel	: A
Instrument Serial #	: None	A/D mV Range	: 1000
Delay Time	: 0.00 min	End Time	: 23.00 min
Sampling Rate	: 12.5000 pts/s		
Sample Volume	: 1.000000 ul	Area Reject	: 0.000000
Sample Amount	: 1.0000	Dilution Factor	: 1.00
Data Acquisition Time	: 09-04-2025 09:01:40	Cycle	: 1



GC Reports

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		2.652	5324430.44	1.18e+06	99.99
2		3.395	629.06	213.75	0.01
			5325059.50	1.18e+06	100.00

Warning -- Signal level out-of-range in peak

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

Purity by GC-FID: 99.99 %

IDENTIFICATION TESTS

GC-MS Spectrum:

METHOD: GC-MS conditions:

Column: Agilent Technologies, Elite -5MS, 30 m X 0.25 mm, 1.0micron

Instrument: Perkin Elmer, **Carrier gas:** Helium

Source Temp.: 230°C, **Transfer line:** 250°C

Inlet Temp.: 180°C, **Diluent:** Methanol

Source energy: 70eV

Mass by GC-MS:

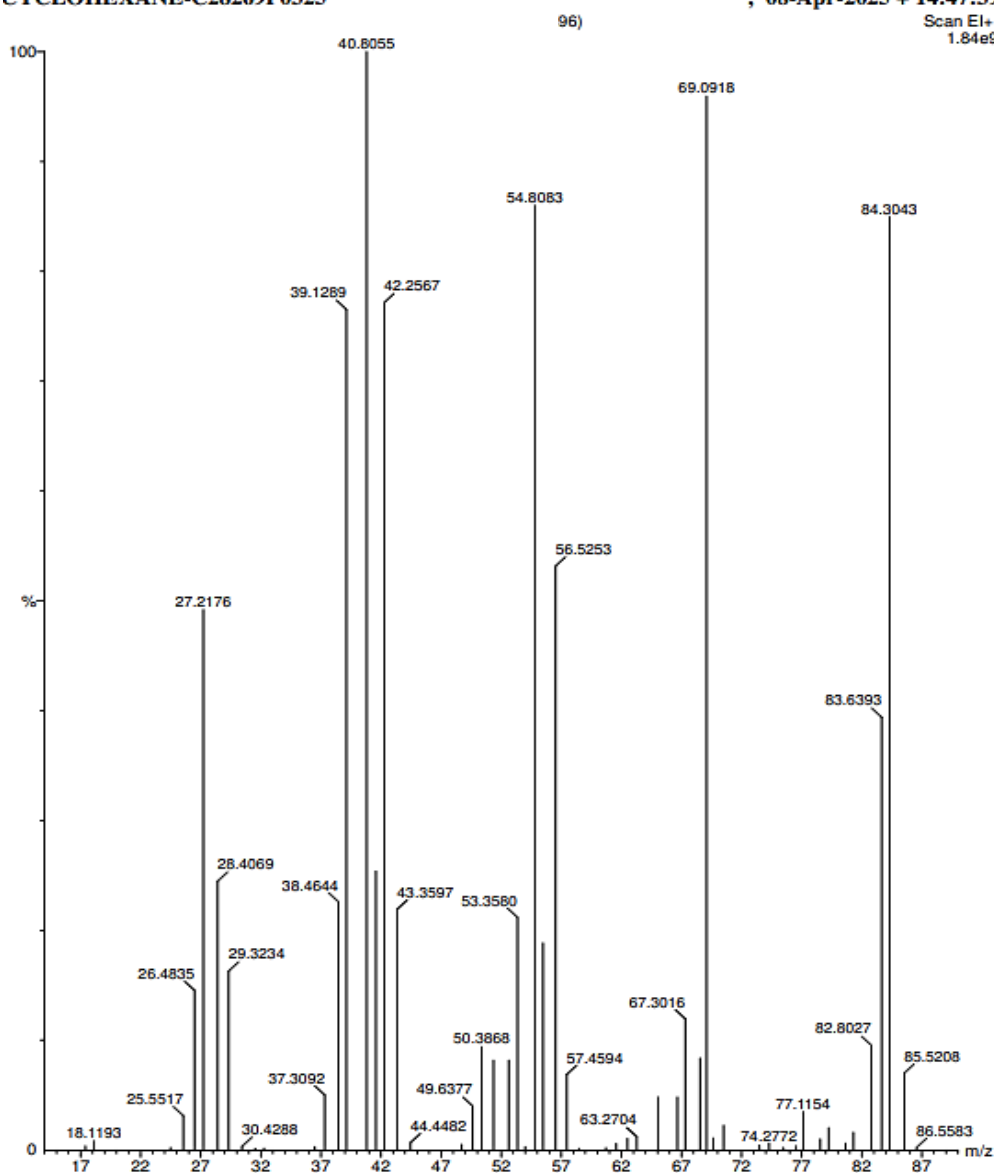
Product Name: Cyclohexane

Product Code: PSR28269

CYCLOHEXANE-C28269P0325

, 08-Apr-2025 + 14:47:39

Scan EI+
1.84e9



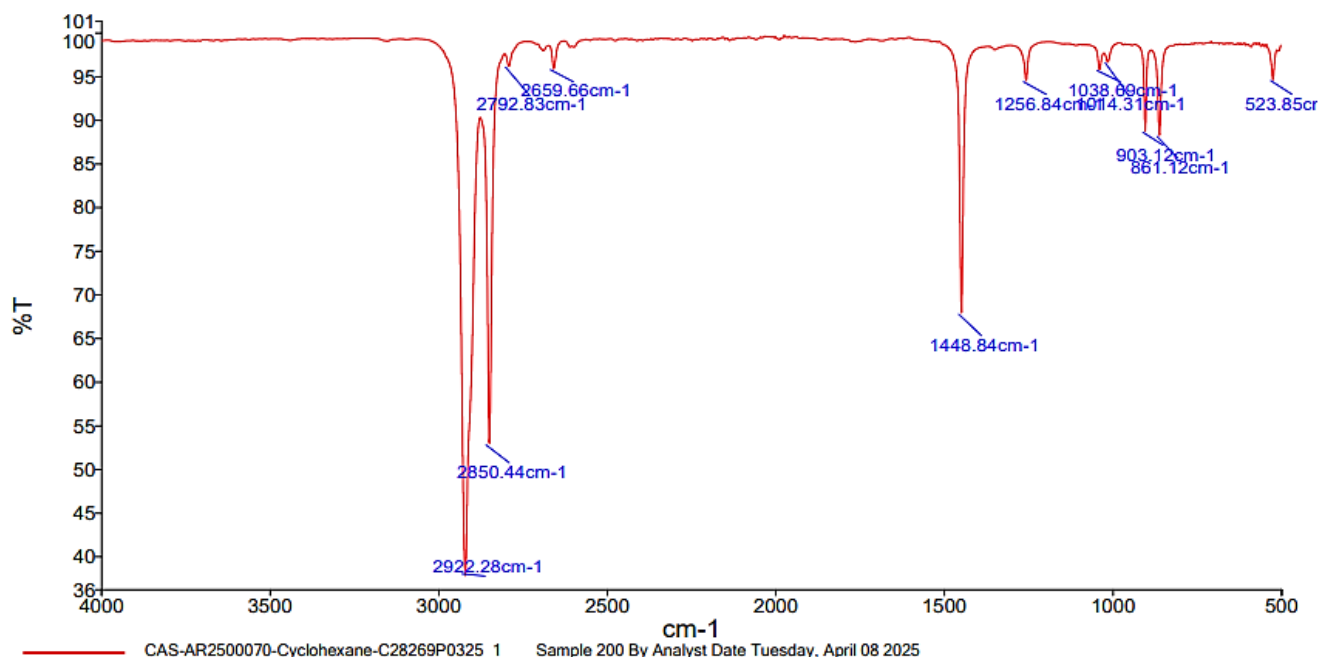
Identification by GC-MS: Conforms to molecular mass

Infrared spectrum:

Product Name: Cyclohexane

Product Code: PSR28269

Analyst
Date



Source Spectra Results		
Spectrum Name		Number Of Peaks
CAS-AR2500070-Cyclohexane-C28269P0325_1		11
List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	2922.28	37.80
2	2850.44	53.00
3	2792.83	96.25
4	2659.66	95.98
5	1448.84	67.97
6	1256.84	94.59
7	1038.69	95.90
8	1014.31	96.76
9	903.12	88.80
10	861.12	88.34
11	523.85	94.72

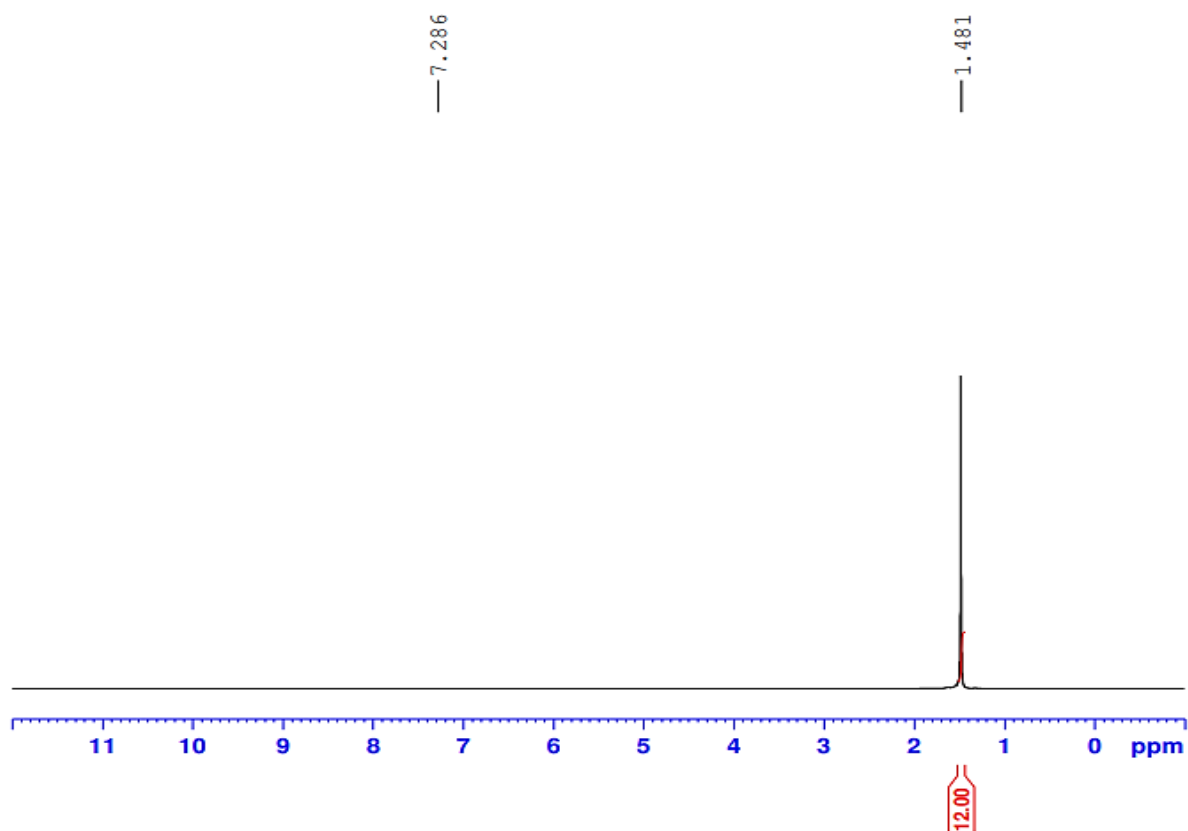
Identification by IR: Conforms to structure

¹H NMR Spectrum:

Product Name: Cyclohexane

Product Code: PSR28269

Cyclohexane
Batch no- C28269P0325
1H-NMR in CDCl₃



Identification by ¹H NMR: Conforms to structure

Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSR28269) = **0.0154 %**

Approved By
Head - Technical

This is a computer-generated report -does not required sign