

Certificate of Analysis

Cyclohexane

PurCert Standard for GC

(Secondary Reference Standard)

Product Number	PSR28269	CAS No.	110-82-7
Brand	PureSynth	Lot No.	C28269H0324
Molecular Formula	C ₆ H ₁₂	Date of Mfg.	March, 2024
Molecular Weight	84.16 g/mol	Date of Exp.	February, 2027

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Assay (GC-FID)	≥ 99.5 %	99.98 %
Water (By KF)	NMT 0.02 %	0.0129 %
Density	0.772-0.776 g/cm ³	0.774 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.

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Assay by GC-FID

METHOD: GC- FID conditions:

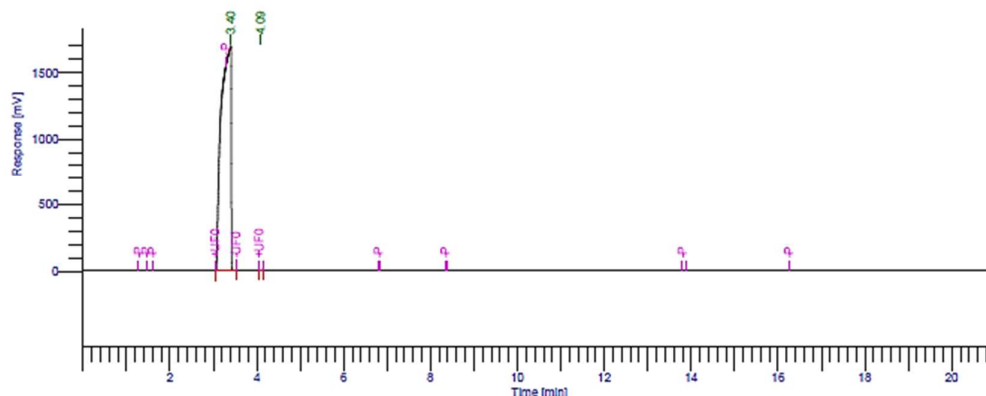
Column: Agilent Technologies DB-FFAP 30mx 0.530mm, 1.0micron

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	: 29-04-2024 10:35:45
Operator	: manager	Sample Name	: CYCLOHEXANE-C28269H0324
Sample Number	: 001	Study	:
AutoSampler	: BUILT-IN	Rack/Vial	: 0/27
Instrument Name	: Clarus 690	Channel	: A
Instrument Serial #	: None	A/D mV Range	: 1000
Delay Time	: 0.00 min	End Time	: 21.00 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	: 26-04-2024 13:15:18	Cycle	: 1



GC Reports

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		3.404	26250272.89	1.69e+06	99.98
2		4.093	5207.27	2342.08	0.02
		26255480.16	1.69e+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: 99.98 %

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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

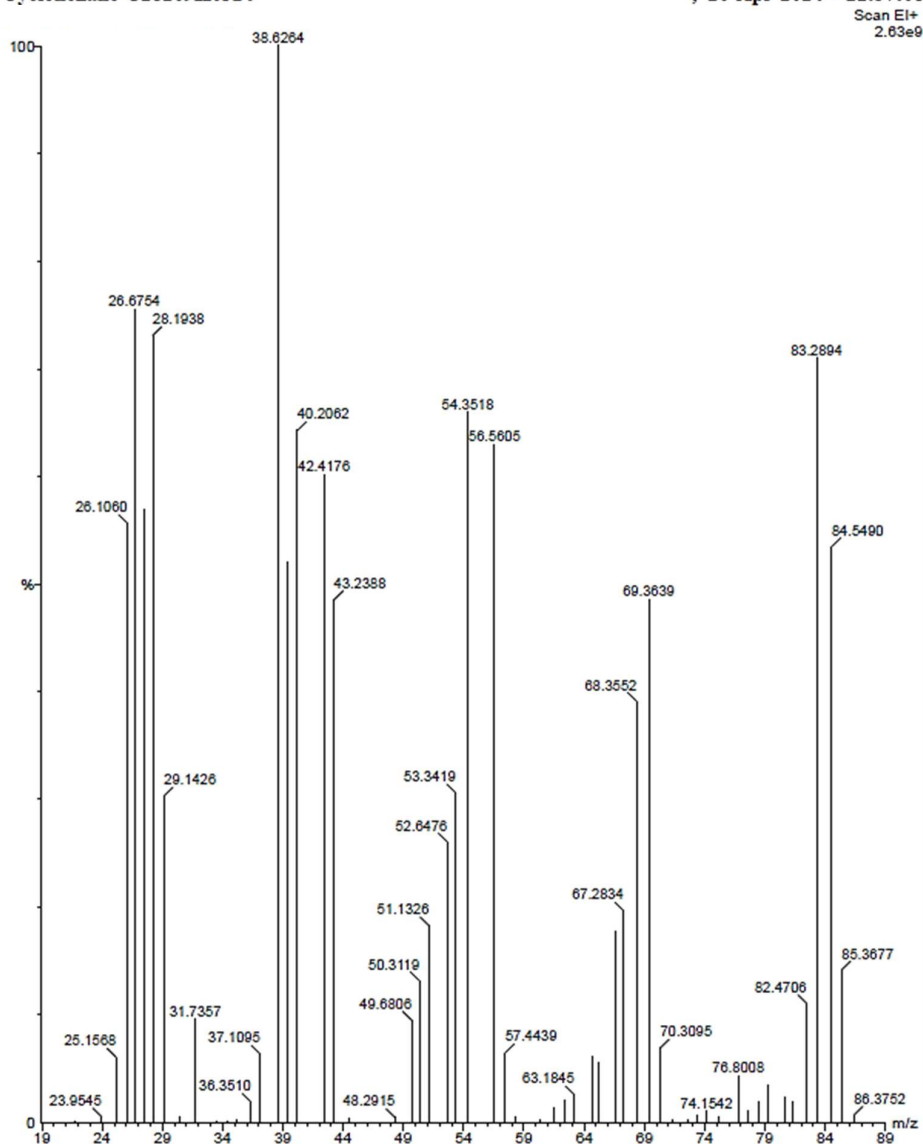
Mass by GC-MS:

Product Name: Cyclohexane

Product Code: PSR28269

Cyclohexane-C28269H0324

, 26-Apr-2024 + 21:57:08



Identification by GC-MS: Conforms to molecular mass

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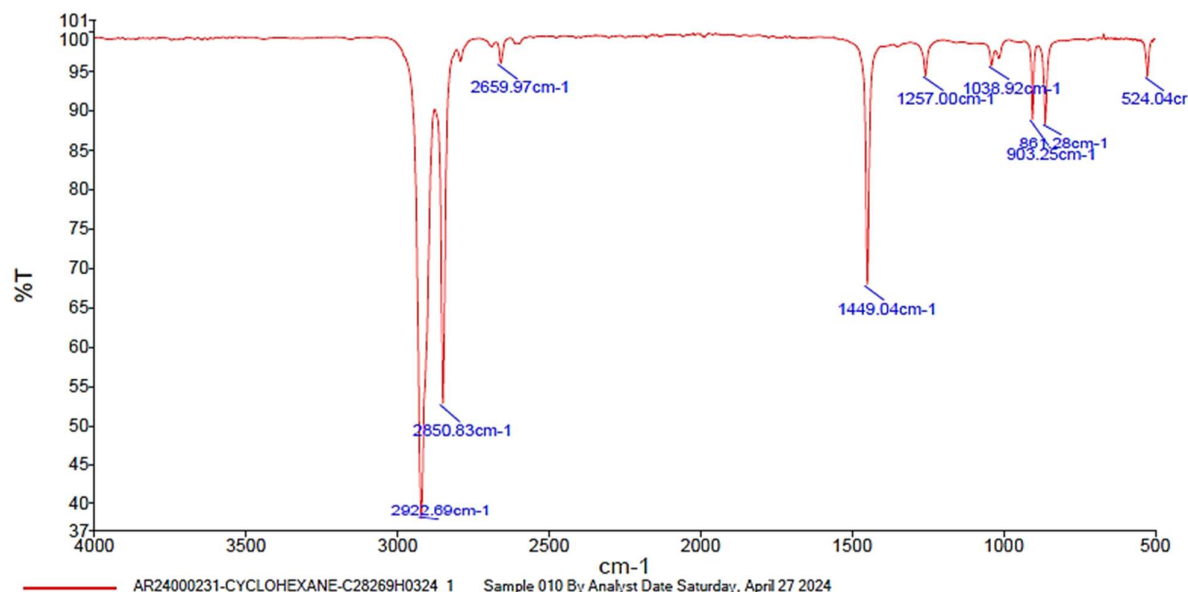
Infrared spectrum:

Product Name: Cyclohexane

Product Code: PSR28269

PerkinElmer Spectrum IR Version 10.7.2
27 April 2024 11:22

Analyst
Date



Source Spectra Results		
Spectrum Name		Number Of Peaks
AR24000231-CYCLOHEXANE-C28269H0324_1		9
List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	2922.69	38.06
2	2850.83	52.87
3	2659.97	96.03
4	1449.04	67.93
5	1257.00	94.48
6	1038.92	95.73
7	903.25	88.94
8	861.28	88.38
9	524.04	94.36

Identification by IR: Conforms to structure

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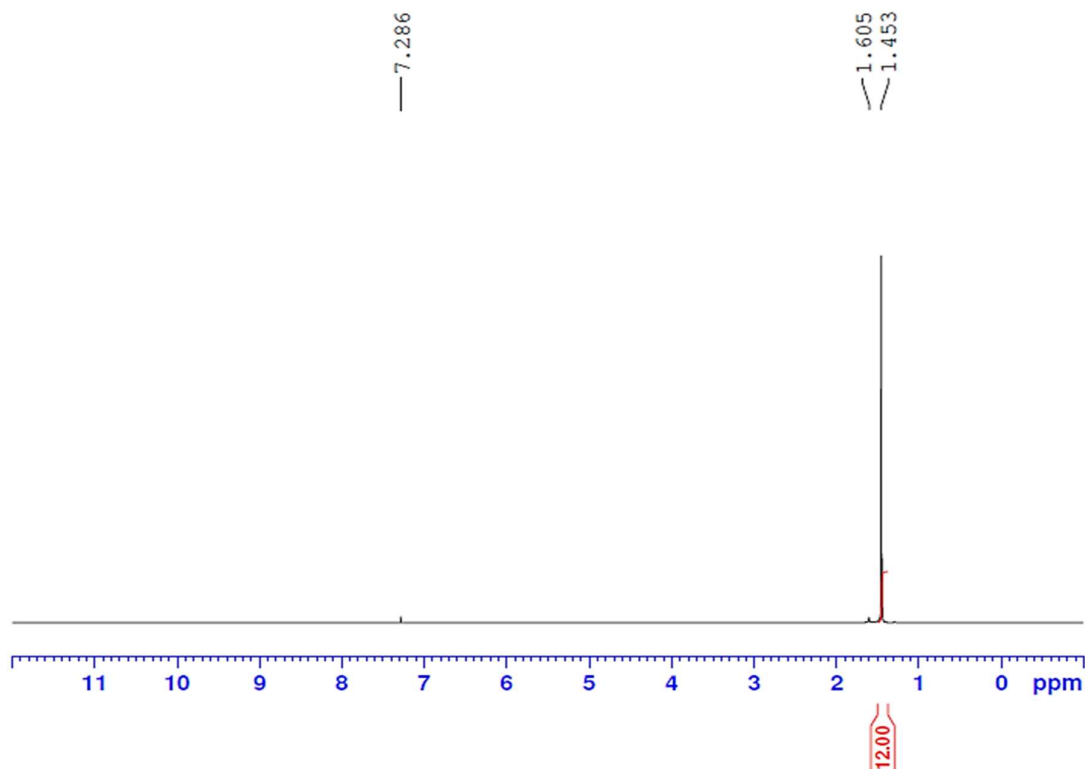
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¹H NMR Spectrum:

Product Name: Cyclohexane

Product Code: PSR28269

Cyclohexane
Batch No: C28269H0324
¹H-NMR in CDCL₃



Identification by ¹H NMR: Conforms to structure

Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSR28269) = **0.0129 %**

Approved By
Head - Technical

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