

Certificate of Analysis

n-Hexane

PurTech Standard for GC

(Secondary Reference Standard)

Product Number	PSI031	CAS No.	110-54-3
Brand	PureSynth	Lot No.	H28270S1
Molecular Formula	C ₆ H ₁₄	Date of Mfg.	December,2024
Molecular Weight	86.18 g/mol	Date of Exp.	November,2027

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Assay (GC-FID)	≥ 99.5 %	99.52 %
Water (By KF)	NMT 0.03 %	0.0295 %
Density	0.64-0.69 g/cm ³	0.66 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 1601601, Lot No: R084L0**

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,

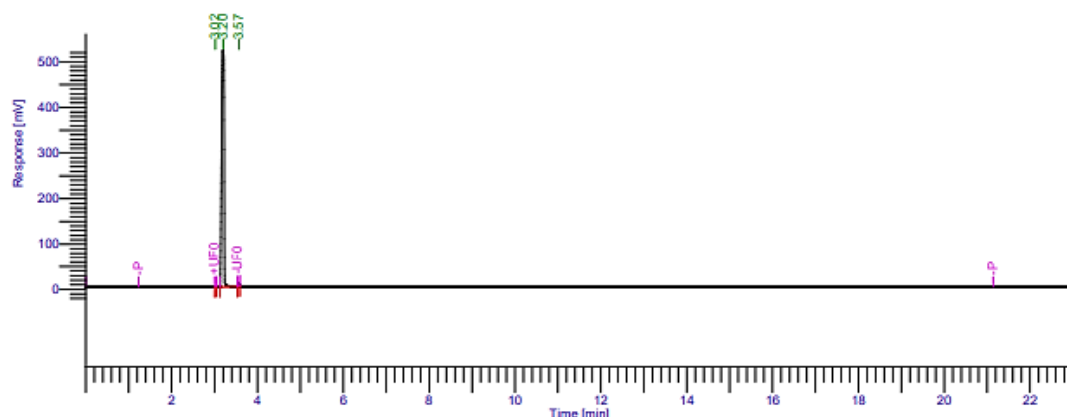
Detector: FID, **Carrier gas:** Nitrogen

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
Operator : manager
Sample Number : 001
AutoSampler : BUILT-IN
Instrument Name : Clarus 690
Instrument Serial # : None
Delay Time : 0.00 min
Sampling Rate : 12.5000 pts/s
Sample Volume : 1.000000 ul
Sample Amount : 1.0000
Data Acquisition Time : 13-01-2025 10:03:01

Date : 15-01-2025 12:28:30
Sample Name : HEXANE
Study :
Rack/Vial : 0/31
Channel : A
A/D mV Range : 1000
End Time : 23.00 min

Area Reject : 0.000000
Dilution Factor : 1.00
Cycle : 1



GC Reports

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		3.019	1027.60	837.45	0.05
2		3.197	2080308.37	519503.32	99.52
3		3.567	8977.76	6657.85	0.43
			2090313.73	526998.62	100.00

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

Purity by GC-FID: 99.52 %

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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: n-Hexane

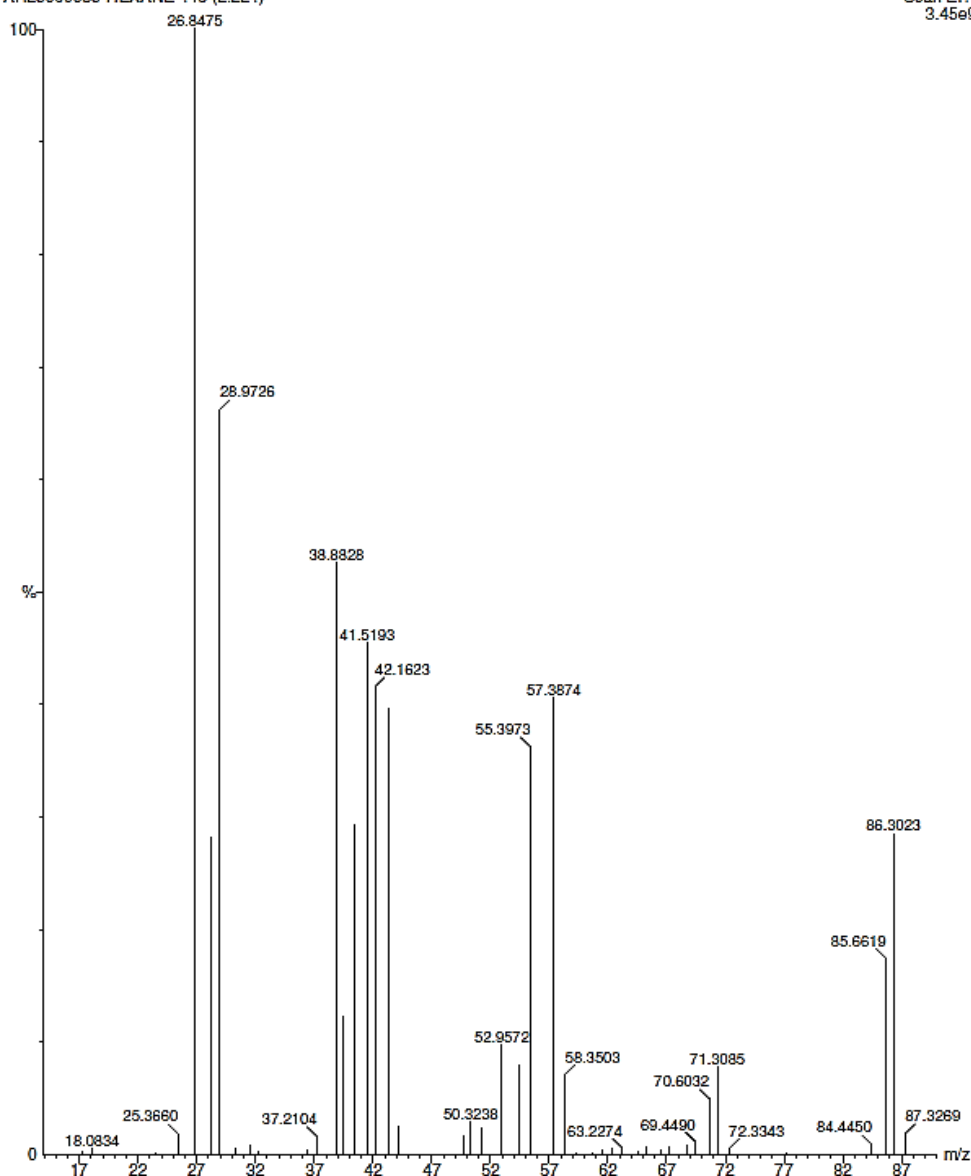
Product Code: PSI031

HEXANE

AR25000035-HEXANE 445 (2.224)

, 13-Jan-2025 + 10:24:22

Scan EI+
3.45e9



Identification by GC-MS: Conforms to molecular mass

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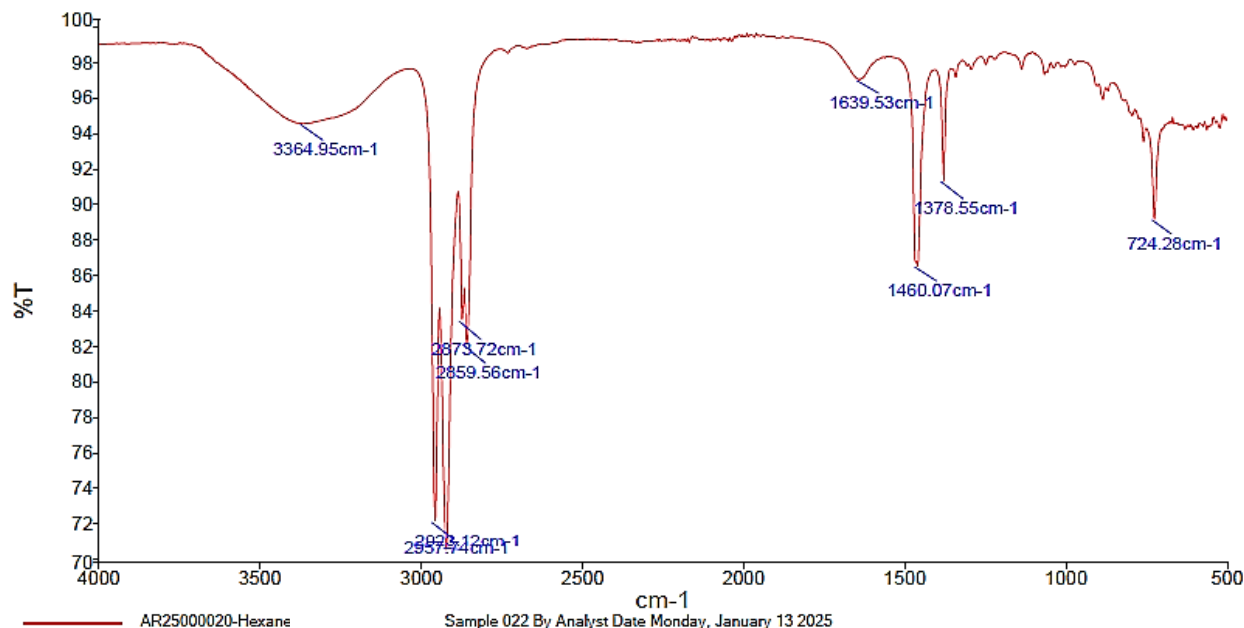
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Infrared spectrum:

Product Name: n-Hexane

Product Code: PSI031

Analyst
Date



Source Spectra Results		
Spectrum Name		Number Of Peaks
AR25000020-Hexane		9
List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	3364.95	94.58
2	2957.74	72.16
3	2923.12	70.54
4	2873.72	83.51
5	2859.56	82.15
6	1639.53	97.06
7	1460.07	86.55
8	1378.55	91.37
9	724.28	89.20

Identification by IR: Conforms to structure

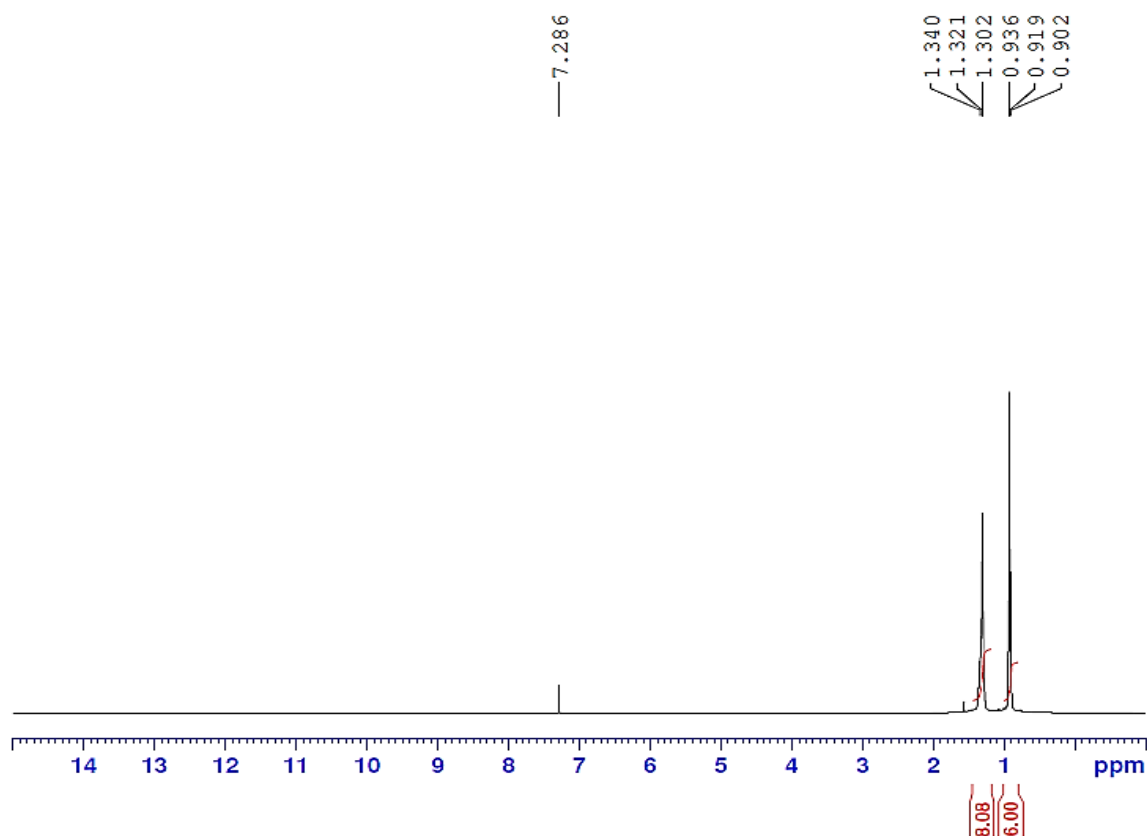
¹H NMR Spectrum:

Product Name: n-Hexane

Product Code: PSI031

Hexane

¹H-NMR in CDCl₃



Identification by ¹H NMR: Conforms to structure

Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSI031) = **0.0295 %**

Approved By
Head - Technical

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