

Certificate of Analysis

3-Methyl pentane

PurTech Standard for GC

Product Number	PSI112	CAS No.	96-14-0
Brand	PureSynth	Lot No.	TTLK01T
Molecular Formula	C ₆ H ₁₄	Date of Mfg.	November.2022
Molecular Weight	86.18 g/mol	Date of Exp.	October.2025

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Clarity	Clear	Clear
Assay (GC-FID)	≥ 99.5 %	99.64 %
Water (By KF)	NMT 0.05 %	0.0243 %
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 Internal Reference standard.**

Storage Condition: Store at room temperature.

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

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Assay by GC-FID

METHOD: GC- FID conditions:

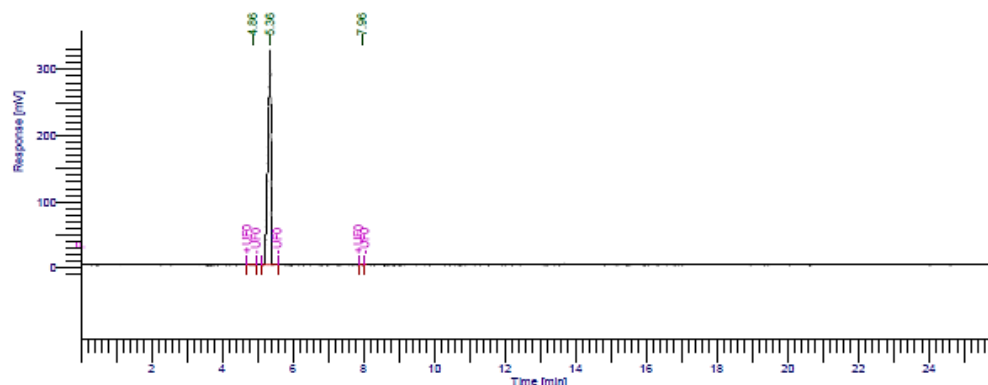
Column: Agilent Technologies DB-FFAP 30mx 0.530mm, 1.0micron

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 : 06/02/2023 4.45.47 PM
Operator : manager	Sample Name : AR23000054-3-METHYLPENTANE-TTLK01T
Sample Number : 1	
AutoSampler : BUILT-IN	
Instrument Name : Clarus 680	Study : GC Purity
Instrument Serial # : None	Rack/Vial : 0/35
Delay Time : 0.00 min	Channel : A
Sampling Rate : 12.5000 pts/s	A/D mV Range : 1000
Sample Volume : 1.000000 ul	End Time : 25.93 min
Sample Amount : 1.0000	
Data Acquisition Time : 06/02/2023 4.13.57 PM	Area Reject : 0.000000
	Dilution Factor : 1.00
	Cycle : 1



GC Reports

06/02/2023 4.45.47 PM Result:

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		4.864	5725.37	1243.01	0.30
2		5.360	1878593.67	323667.69	99.64
3		7.963	1065.22	330.01	0.06
			1885384.27	325240.70	100.00

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

Purity by GC-FID: 99.69 %

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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:

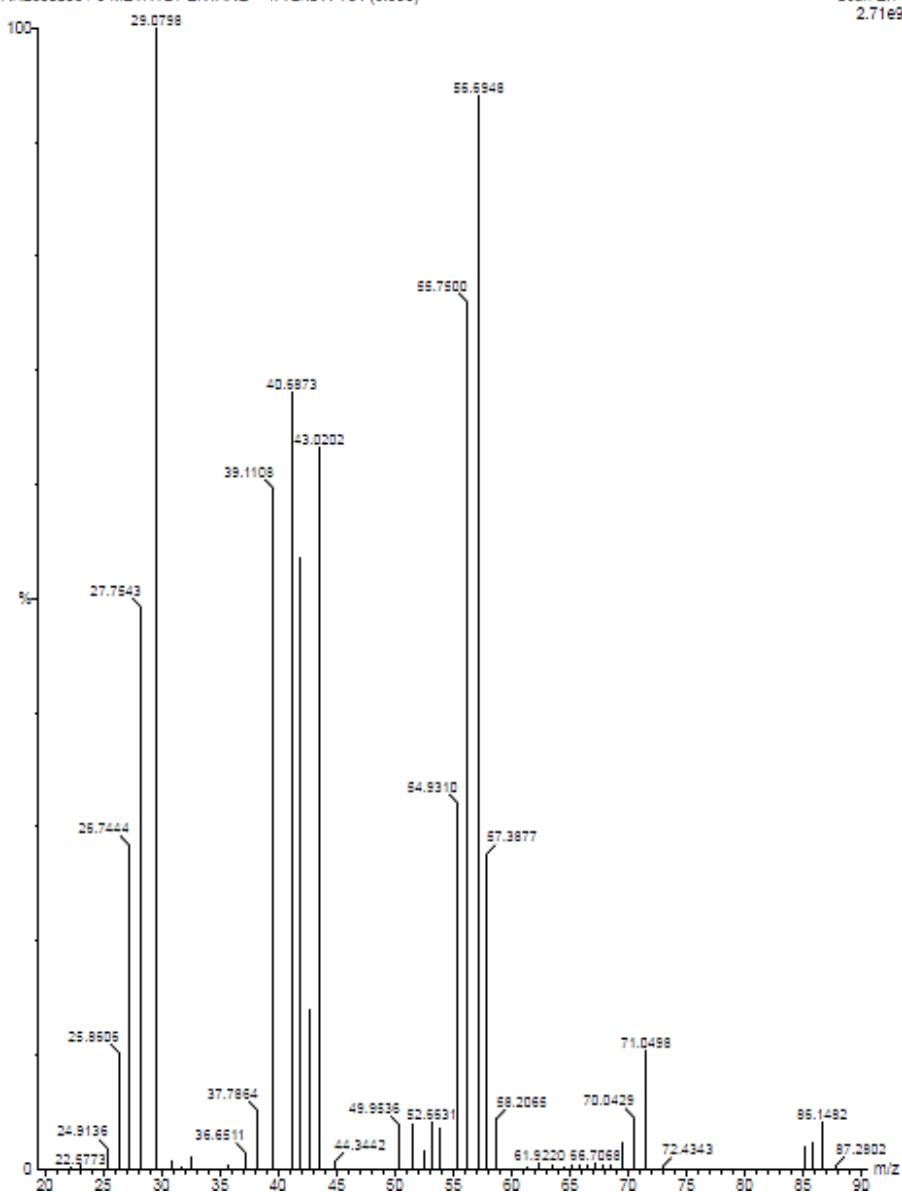
Product Name: 3-Methyl pentane

Product Code: PSI112

Feb-2023 - 15:56:47

Scan EI+
2.71e9

AR23000054-3-METHYL PENTANE- .TTLK01T 791 (3.955)



Identification by GC-MS: Conforms to molecular mass

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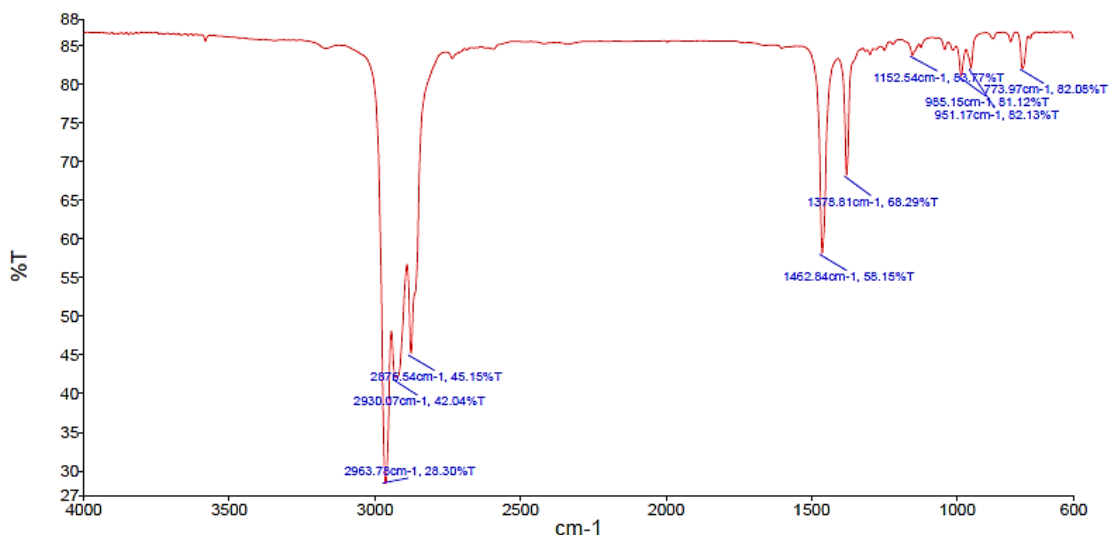
Infrared spectrum:

Product Name: 3-Methyl pentane

Product Code: PSI112

PerkinElmer Spectrum IR ES Version 10.6.1
07 February 2023 10:47

Analyst
Date



Source Spectra Results	
Spectrum Name	Number Of Peaks
3-Methyl pentane_1	9

List of Peak ArealHeight		
Peak Number	X (cm-1)	Y (%T)
1	2963.78	28.30
2	2930.07	42.04
3	2876.54	45.15
4	1462.84	58.15
5	1378.81	68.29
6	1152.54	83.77
7	985.15	81.12
8	951.17	82.13
9	773.97	82.08

Identification by IR: Conforms to structure

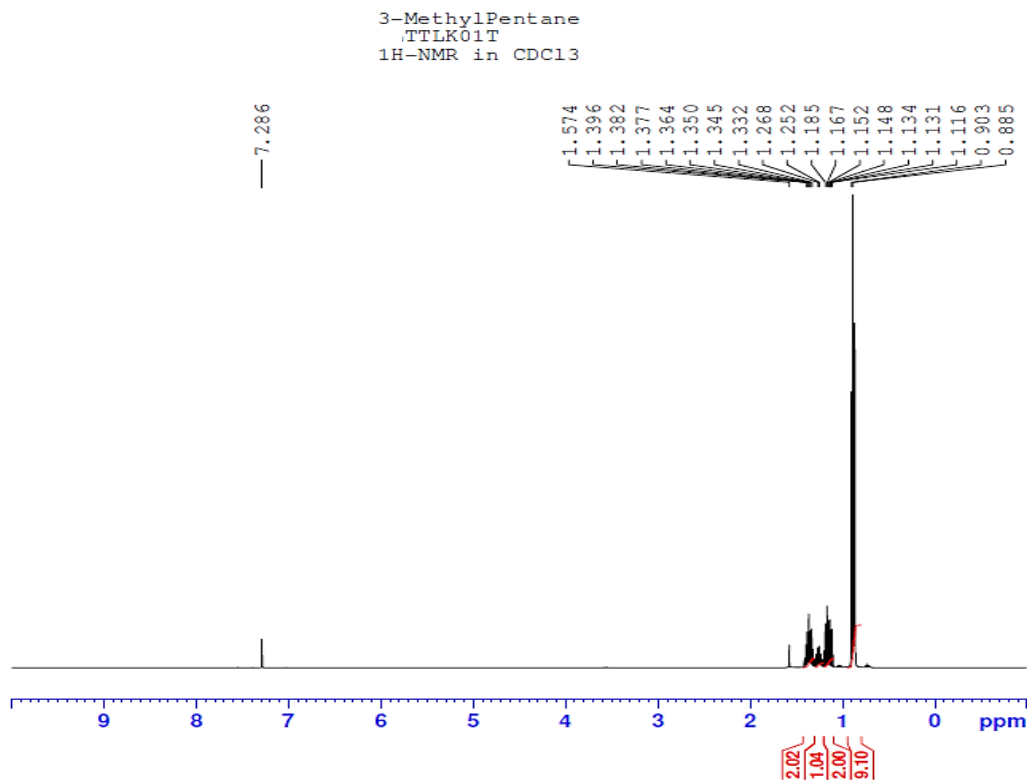
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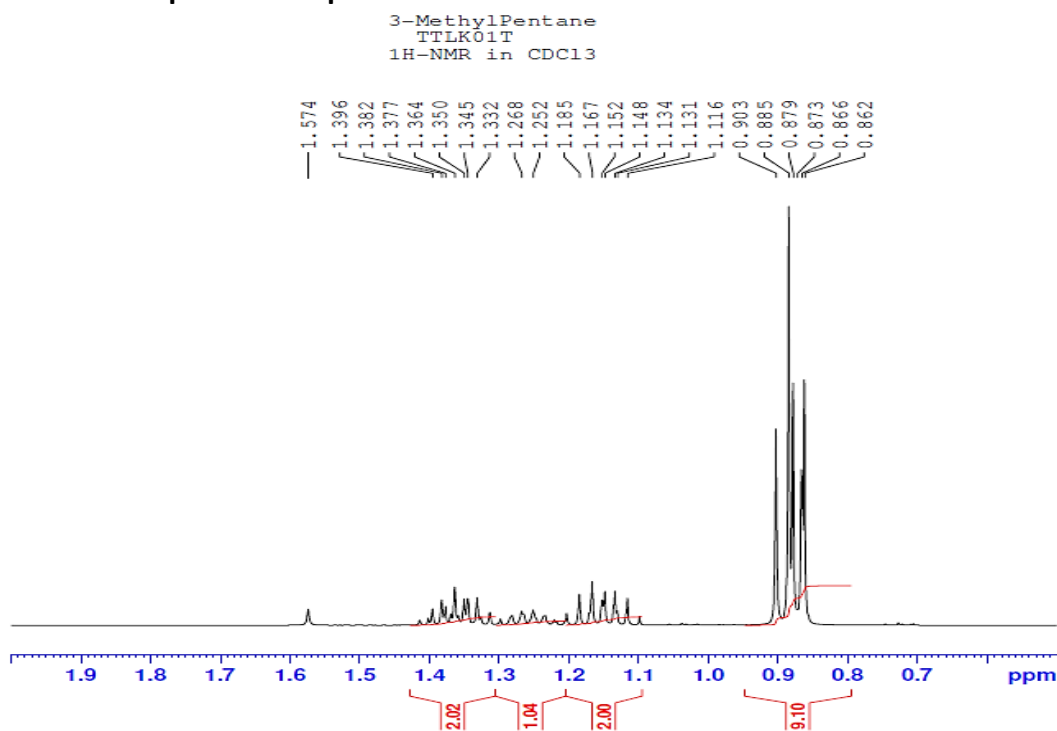
¹H NMR Spectrum:

Product Name: 3-Methyl pentane

Product Code: PSI112



¹H NMR Spectrum: Expansion



Identification by ¹H NMR: Conforms to structure

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Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSI112) = **0.0243 %**

Approved By
Head - Technical

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