

Certificate of Analysis

Benzene

PurTech Standard for GC

(Secondary Reference Standard)

Product Number	PSI021	CAS No.	71-43-2
Brand	PureSynth	Lot No.	IIZXM03P
Molecular Formula	C ₆ H ₆	Date of Mfg.	March.2023
Molecular Weight	78.11 g/mol	Date of Exp.	February.2027

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Clarity	Clear	Clear
Assay (GC-FID)	≥ 99.5 %	99.92 %
Water (By KF)	NMT 0.1000 %	0.0625 %
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 1601146, Lot No: R101F0**

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

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

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

Worldwide Helpline No. 1800-120-1234-34 , Email: info@pure-synth.com , Website: www.pure-synth.com

Assay by GC-FID

METHOD: GC- FID conditions:

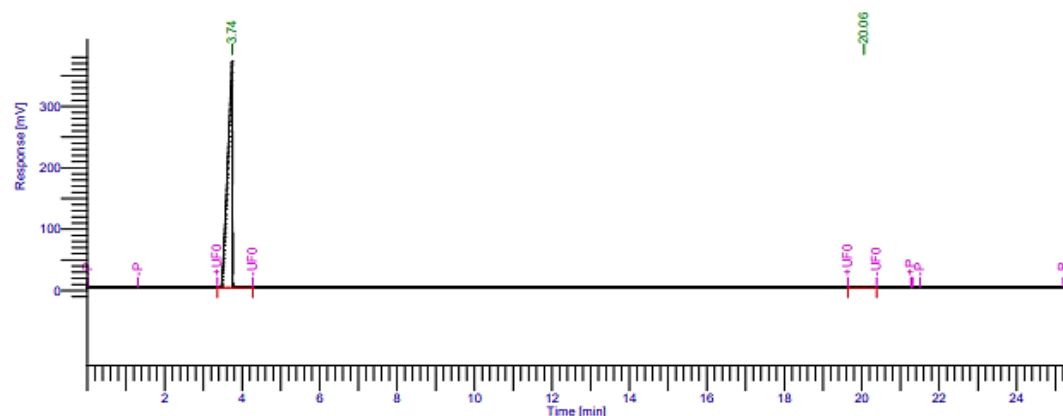
Column: Agilent Technologies DB-FFAP 30mx 0.530mm, 1.0micron

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	: 08/05/2023 2.33.12 PM
Operator	: manager	Sample Name	: AR23000247-BENZENE-IIZXM03P
Sample Number	: 1	Study	: GC Purity
AutoSampler	: BUILT-IN	Rack/Vial	: 0/6
Instrument Name	: Clarus 680	Channel	: A
Instrument Serial #	: None	A/D mV Range	: 1000
Delay Time	: 0.00 min	End Time	: 25.27 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	: 08/05/2023 2.04.18 PM	Cycle	: 1



GC Reports

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		3.739	3045200.31	368473.89	99.92
2		20.060	2491.17	236.03	0.08
			3047691.47	368709.92	100.00

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

Purity by GC-FID: 99.92 %

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

Worldwide Helpline No. 1800-120-1234-34 , Email: info@pure-synth.com , Website: www.pure-synth.com

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

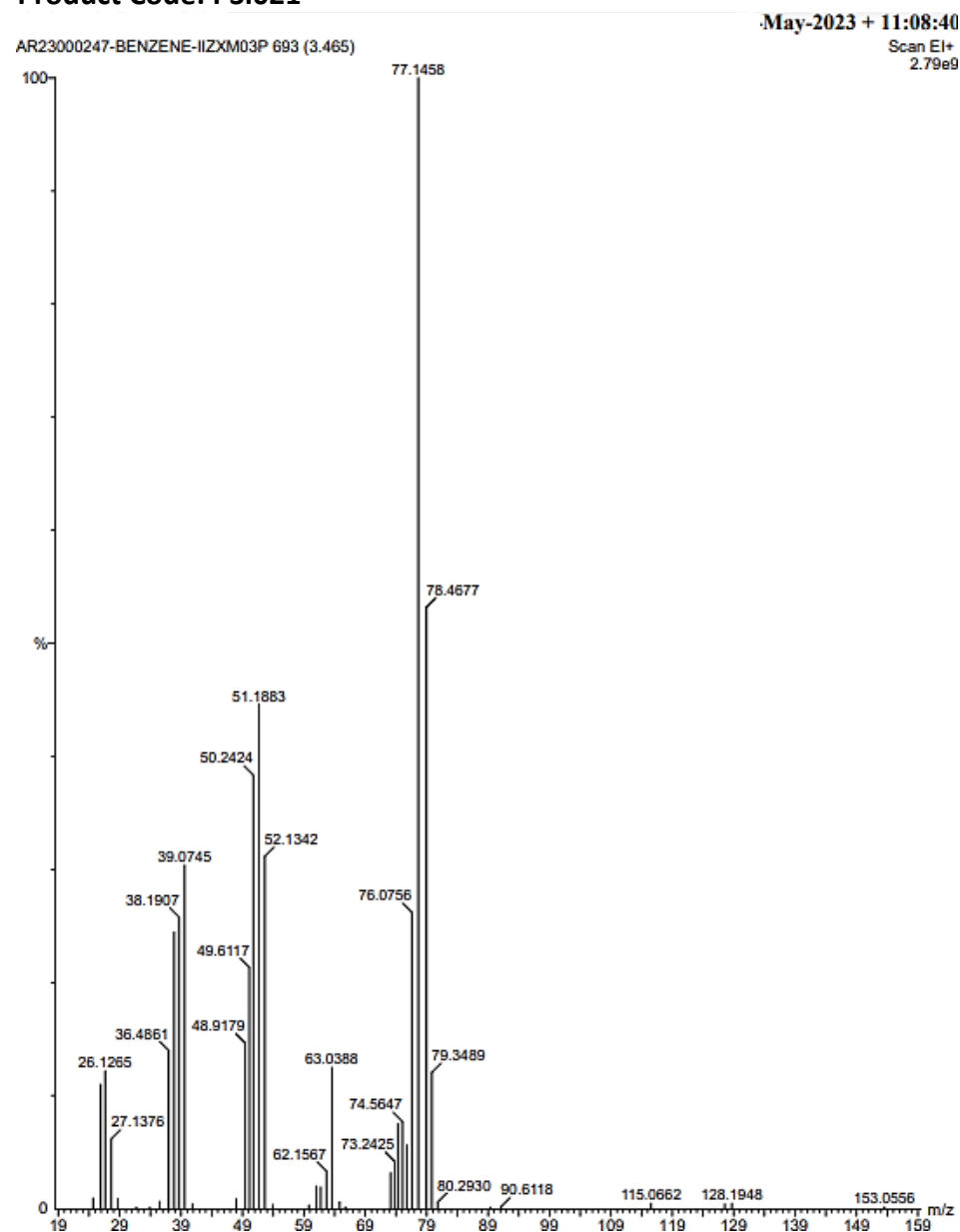
Inlet Temp.: 180°C, **Diluent:** Methanol

Source energy: 70eV

Mass by GC-MS:

Product Name: Benzene

Product Code: PSI021



Identification by GC-MS: Conforms to molecular mass

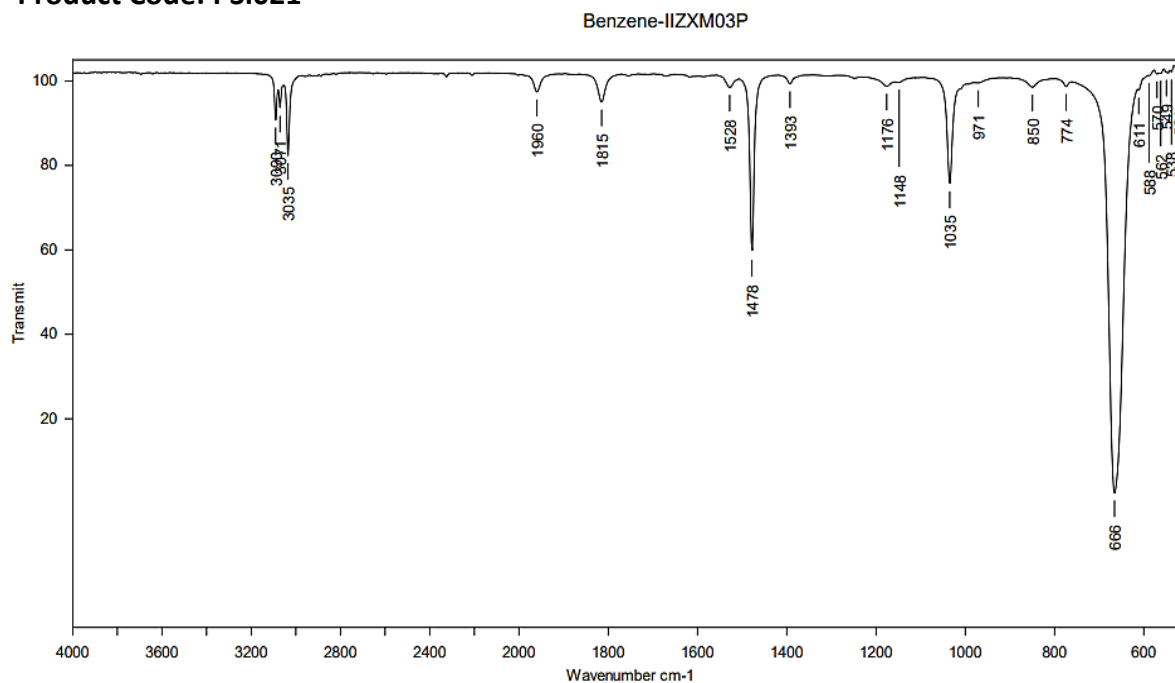
This is a computer-generated report -does not required sign

Worldwide Helpline No. 1800-120-1234-34 , Email: info@pure-synth.com , Website: www.pure-synth.com

Infrared spectrum:

Product Name: Benzene

Product Code: PSI021



Experiment ATR_ZnSe1.XPM

Operator Name Admin

Instrument Type Alpha II

Resolution 4

Path of File C:\PRL

Date of Measurement 09-05-2023

Sample Form Liquid

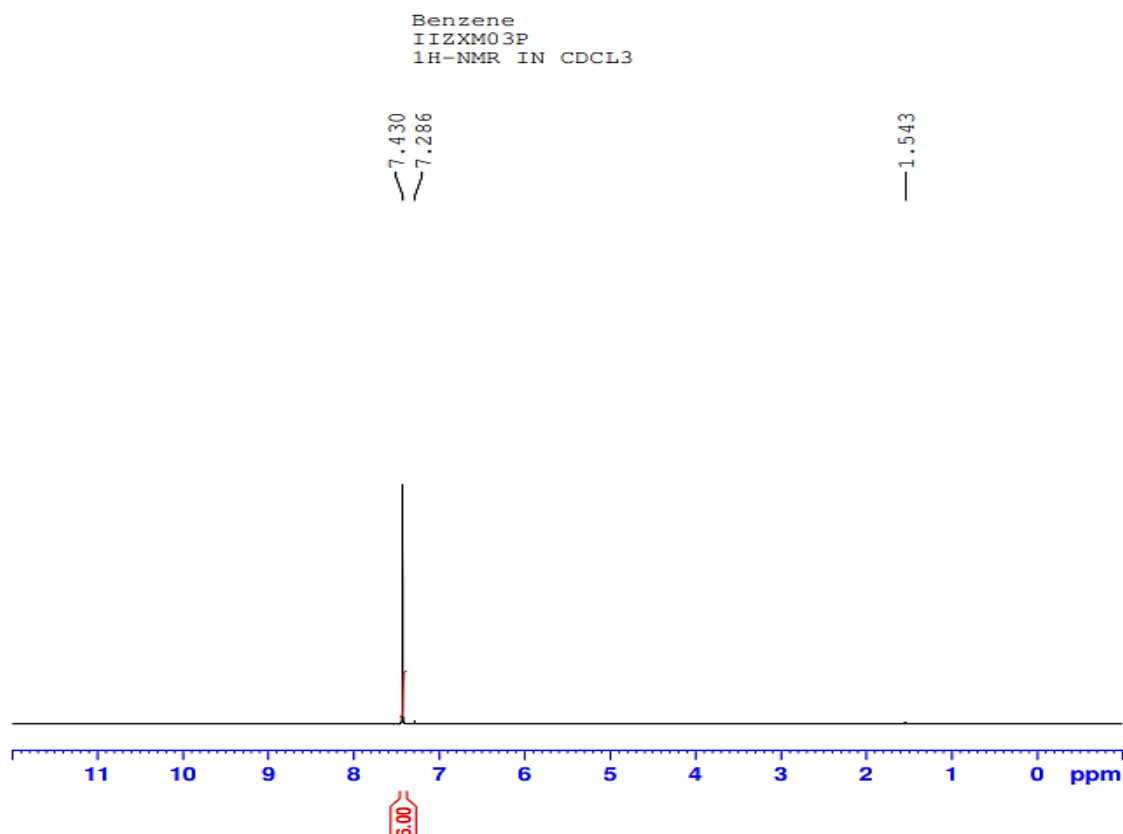
Sample Scans 32

Identification by IR: Conforms to structure

¹H NMR Spectrum:

Product Name: Benzene

Product Code: PSI021



Identification by ¹H NMR: Conforms to structure

Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSI021) = 0.0625 %

Approved By
Head - Technical

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

Worldwide Helpline No. 1800-120-1234-34 , Email: info@pure-synth.com , Website: www.pure-synth.com