

Certificate of Analysis

Benzyl Cyanide **PurTech Standard for GC**

Product Number	PSI185	CAS No.	140-29-4
Brand	PureSynth	Lot No.	3308T1223
Molecular Formula	C ₈ H ₇ N	Date of Mfg.	December,2023
Molecular Weight	117.15 g/mol	Date of Exp.	November,2027

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Assay (GC-FID)	≥ 99.5 %	99.76 %
Water (By KF)	NMT 0.0500 %	0.0437 %
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 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:

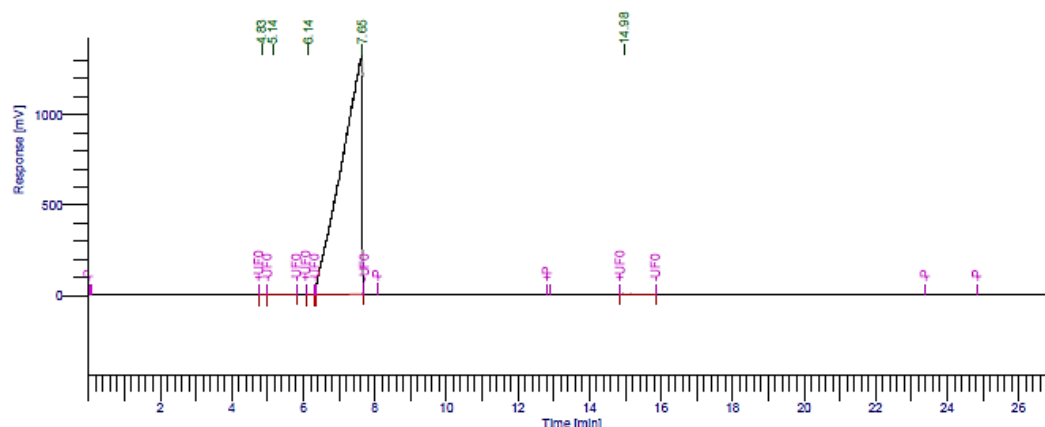
Column: Agilent Technologies DB-FFAP 30mx 0.530mm, 1.0micron

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	: 27-02-2024 15:58:09
Operator	: manager	Sample Name	: BENZYL CYANIDE- 3308T1223
Sample Number	: 001	Study	:
AutoSampler	: BUILT-IN	Rack/Vial	: 0/36
Instrument Name	: Clarus 690	Channel	: A
Instrument Serial #	: None	A/D mV Range	: 1000
Delay Time	: 0.00 min	End Time	: 27.00 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	: 26-02-2024 11:34:05	Cycle	: 1



GC Reports

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		4.835	7880.52	1039.60	0.02
2		5.141	66871.87	3117.63	0.13
3		6.140	4282.64	686.52	0.01
4		7.651	52382738.66	1.33e+06	99.76
5		14.977	47940.73	2059.50	0.09
		52509714.42	1.34e+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: 99.76 %

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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:

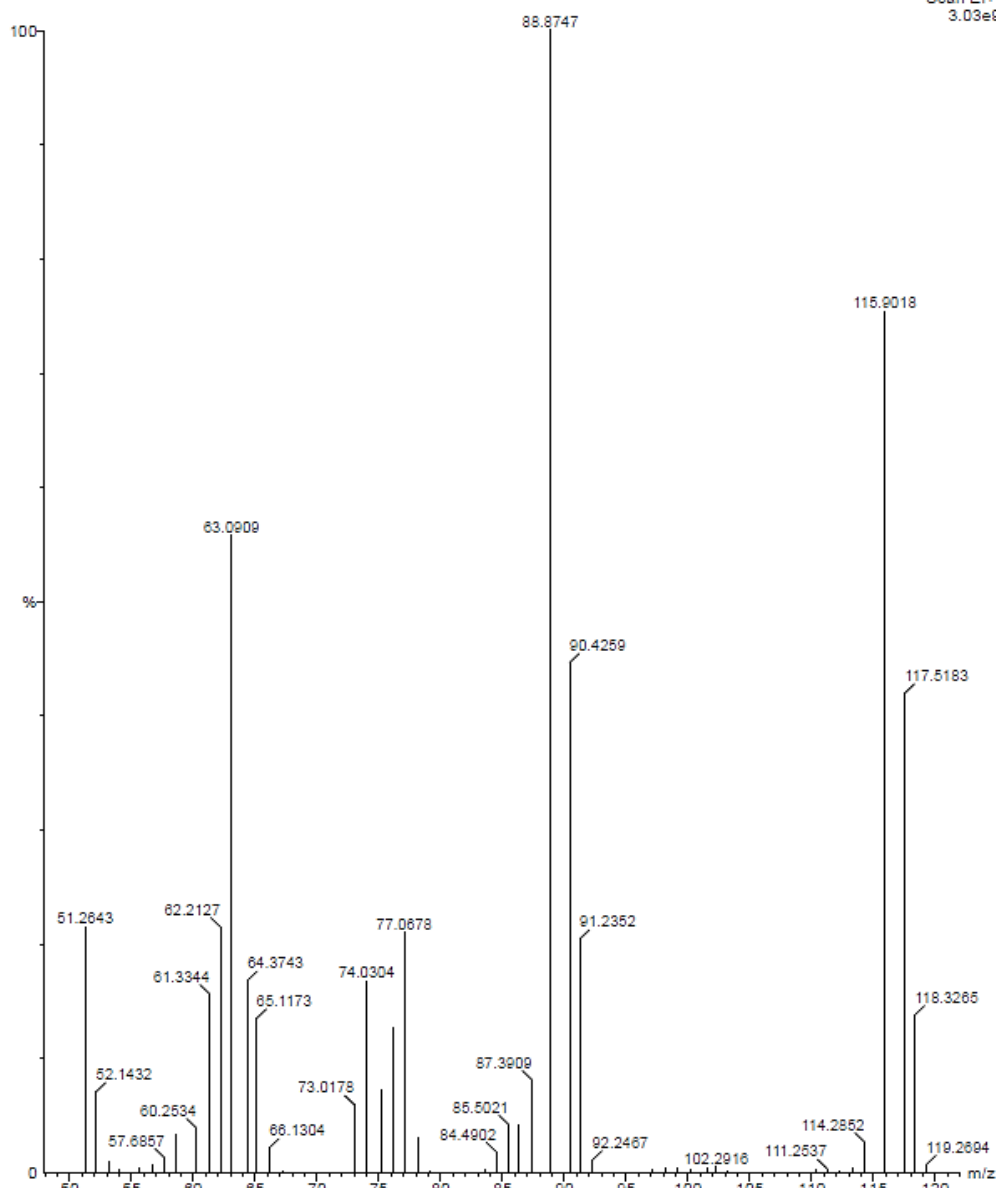
Product Name: Benzyl Cyanide

Product Code: PSI185

BENZYL CYANIDE- 3308T1223

, 26-Feb-2024 + 11:43:15

Scan EI+
3.03e9



Identification by GC-MS: Conforms to molecular mass

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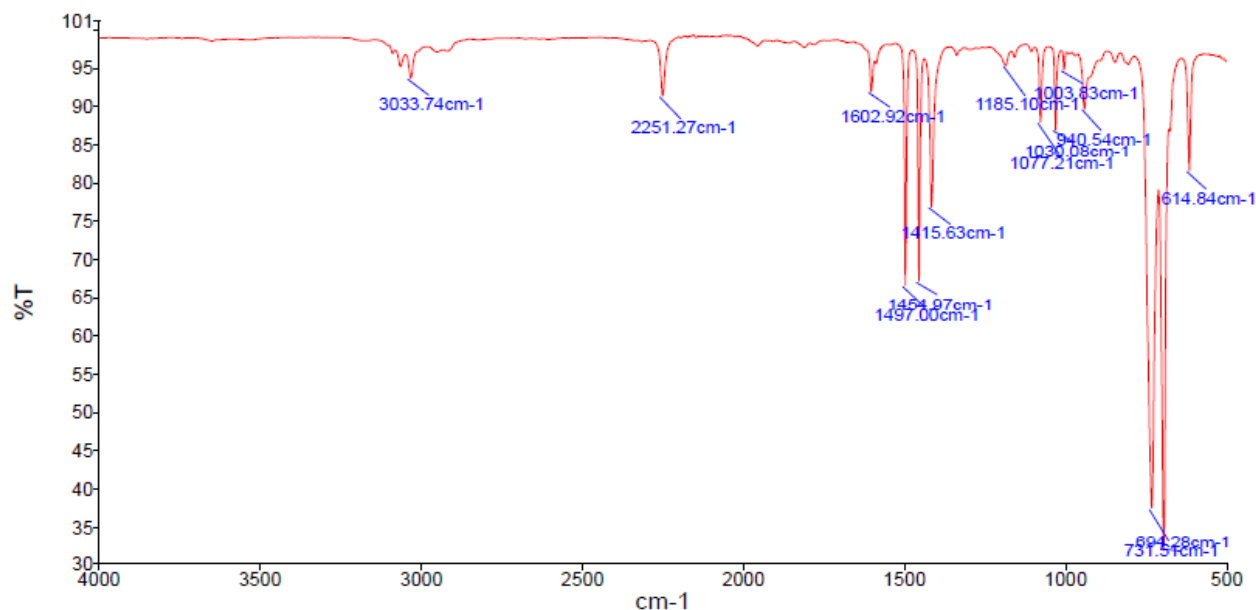
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Infrared spectrum:

Product Name: Benzyl Cyanide

Product Code: PSI185

Analyst
Date



AR24000075-BENZYL CYANIDE- 3308T1223_1 Sample 008 By Analyst Date Tuesday, February 27 2024

Source Spectra Results		
Spectrum Name		Number Of Peaks
AR24000075-BENZYL CYANIDE- 3308T1223_1		14
List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	3033.74	93.82
2	2251.27	91.47
3	1602.92	92.03
4	1497.00	66.66
5	1454.97	67.22
6	1415.63	76.96
7	1185.10	95.47
8	1077.21	88.04
9	1030.08	87.01
10	1003.83	94.86
11	940.54	89.80
12	731.51	37.52
13	694.28	31.92
14	614.84	81.69

Identification by IR: Conforms to structure

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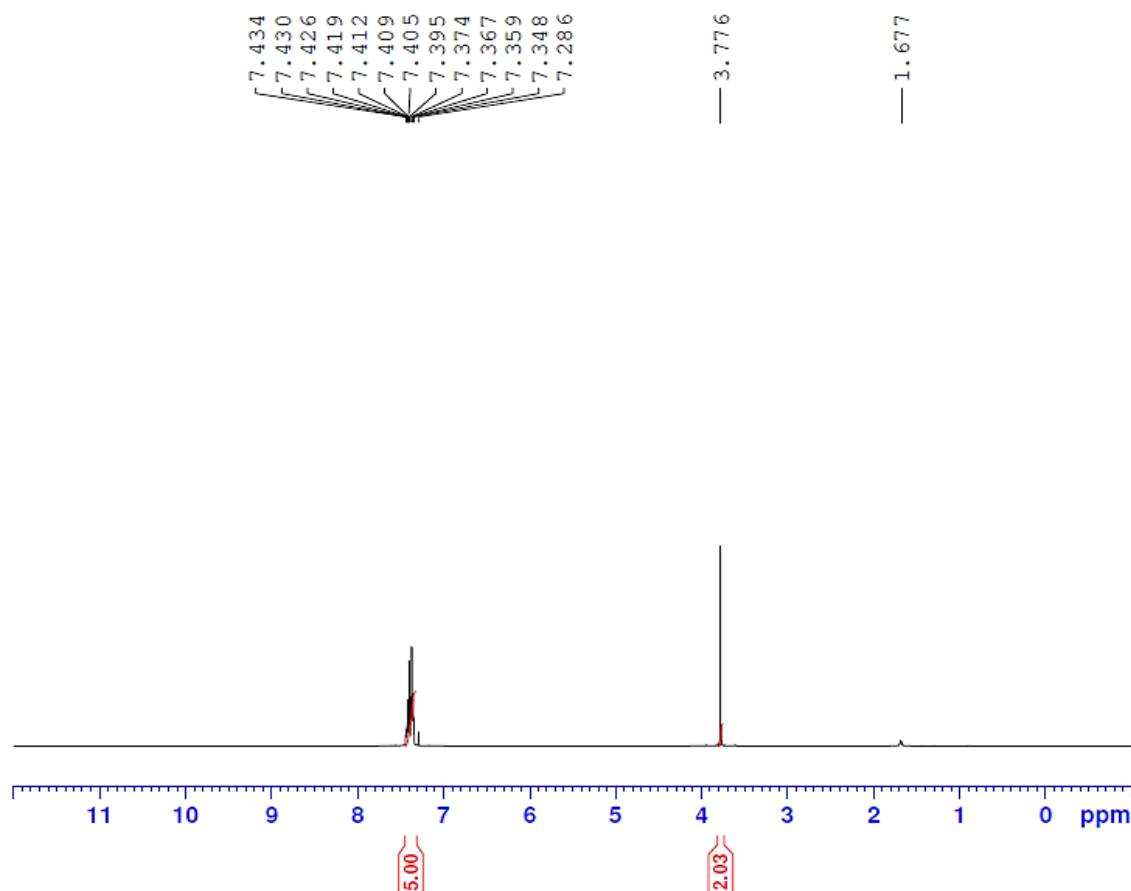
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¹H NMR Spectrum:

Product Name: Benzyl Cyanide

Product Code: PSI185

Benzyl Cyanide
B.NO:- 3308T1223
1H-NMR in CDCL₃



Identification by ¹H NMR: Conforms to structure

Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSI185) = **0.0437 %**

Approved By
Head - Technical

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