

Certificate of Analysis

Trifluoroacetic acid

PurCert Standard for GC

Product Number	PSR28380	CAS No.	76-05-1
Brand	PureSynth	Lot No.	T095P0
Molecular Formula	C ₂ F ₃ O ₂ H	Date of Mfg.	September.2024
Molecular Weight	114.02 g/mol	Date of Exp.	August.2027

Test	Specification	Result
Description	Colorless Liquid	Colorless Liquid
Assay (GC-FID)	≥ 98.0 %	98.83 %
Water (By KF)	NMT 0.1 %	0.098 %
Density	1.488-1.490 g/cm ³	1.489 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 Internal Reference Standard**

Storage Condition: Store at ambient temperature and keep container tightly closed in a dry and well-Ventilated place.

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

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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:

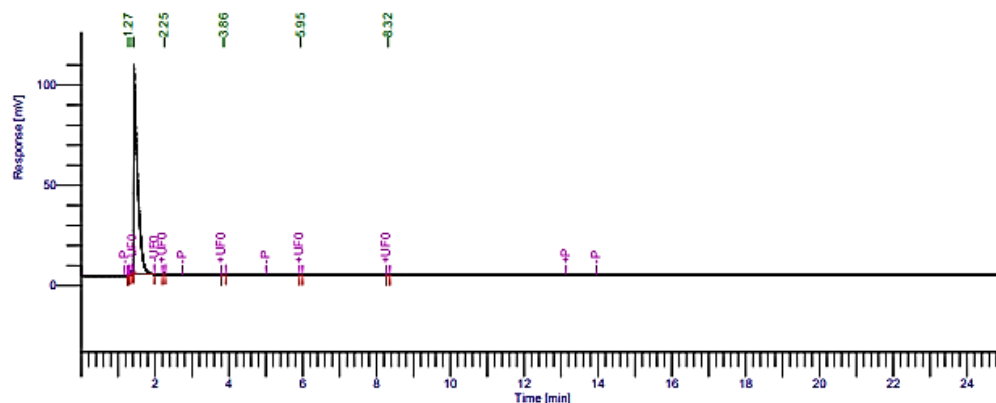
Column: Agilent Technologies DB-FFAP 30mx 0.530mm, 1.0micron

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	: 09-11-2024 13:10:49
Operator	: manager	Sample Name	: TRIFLUOROACETIC ACID
Sample Number	: 001	Study	:
AutoSampler	: BUILT-IN	Rack/Vial	: 0/39
Instrument Name	: Clarus 690	Channel	: A
Instrument Serial #	: None	A/D mV Range	: 1000
Delay Time	: 0.00 min	End Time	: 25.00 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	: 05-11-2024 12:30:03	Cycle	: 1



GC Reports

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		1.273	1009.00	789.15	0.14
2		1.359	3667.78	1492.04	0.50
3		1.425	719352.69	103808.99	98.83
4		2.248	1202.48	590.86	0.17
5		3.856	1717.15	604.85	0.24
6		5.945	524.20	185.63	0.07
7		8.316	362.82	118.29	0.05
			727836.12	107589.83	100.00

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

Purity by GC-FID: 98.83 %

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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:

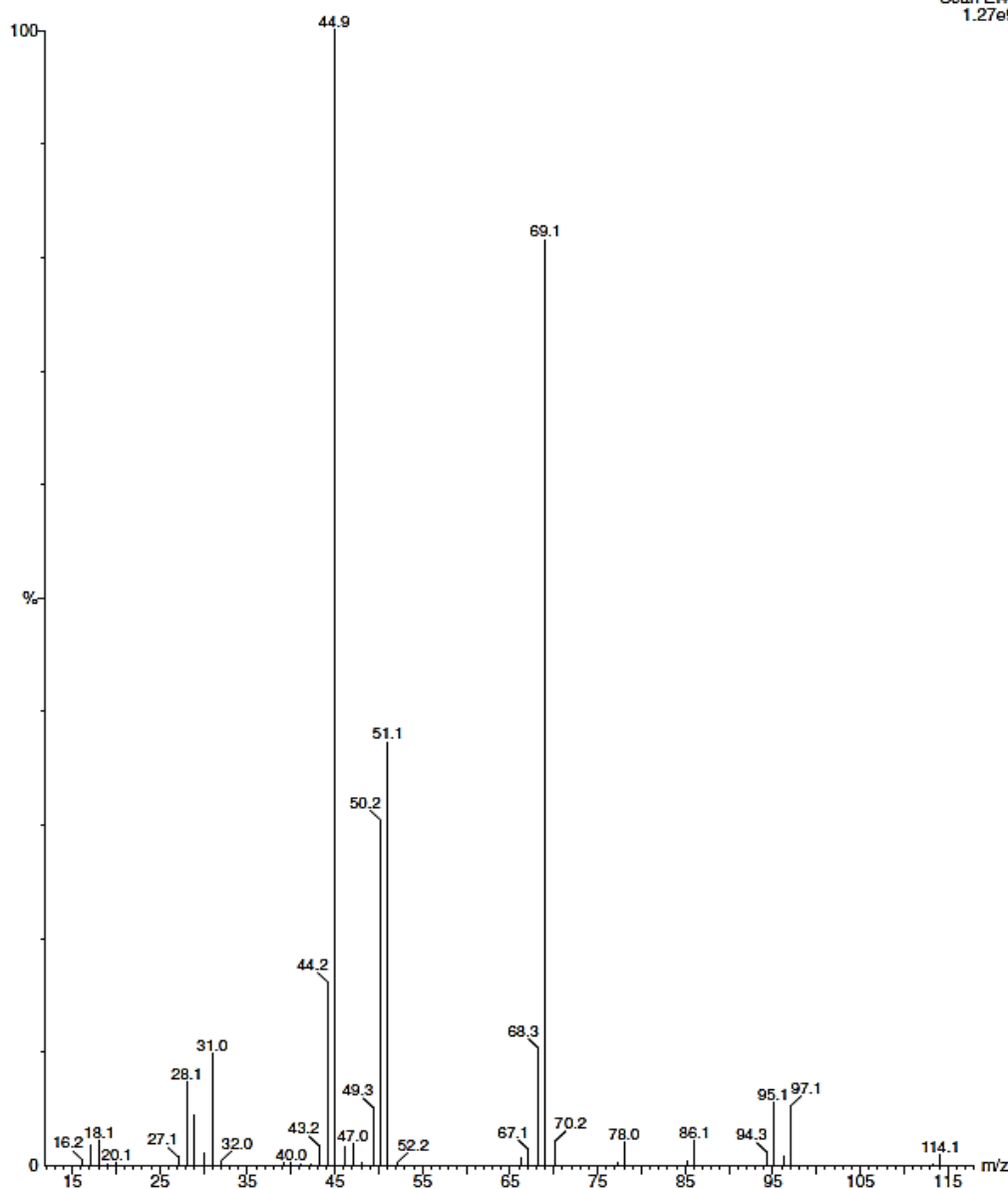
Product Name: Trifluoroacetic acid

Product Code: PSR28380

TRIFLUOROACETIC ACID

, 30-Oct-2024 + 15:52:54

Scan EI+
1.27e9



Identification by GC-MS: Conforms to molecular mass

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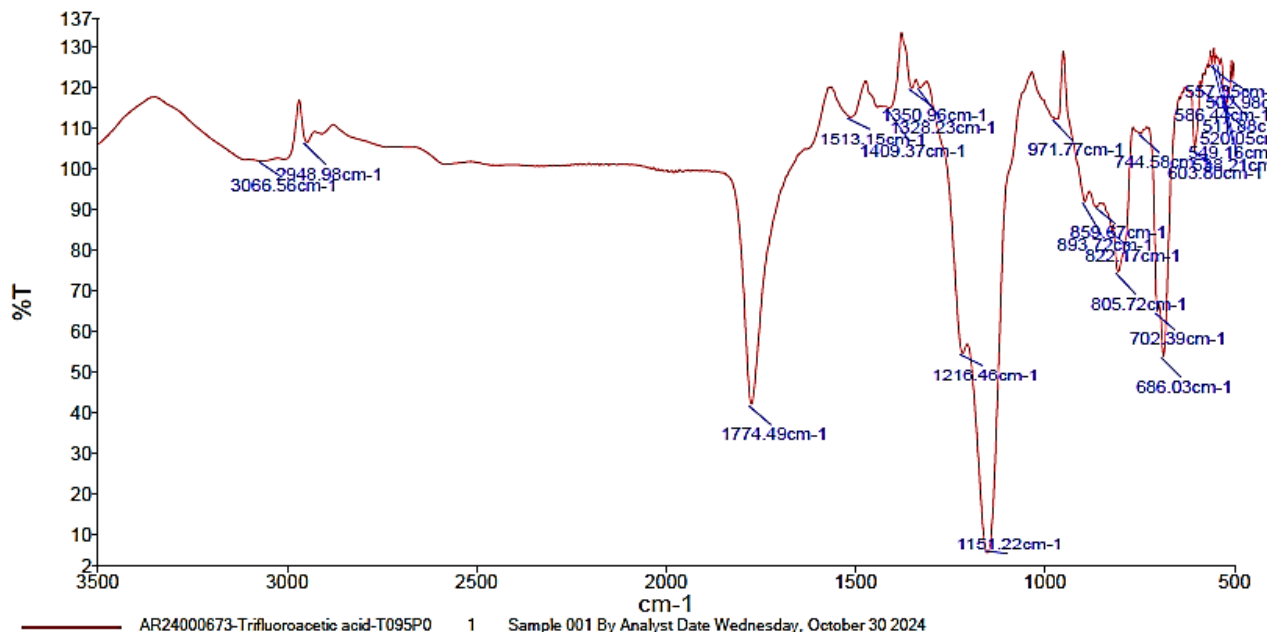
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Infrared spectrum:

Product Name: Trifluoroacetic acid

Product Code: PSR28380

Analyst
Date



Source Spectra Results		
Spectrum Name		Number Of Peaks
AR24000673-Trifluoroacetic acid-T095P09 1		25
List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	3066.56	102.00
2	2948.98	106.64
3	1774.49	42.08
4	1513.15	112.71
5	1409.37	115.02
6	1350.96	119.91
7	1328.23	120.03
8	1216.46	54.64
9	1151.22	5.44
10	971.77	112.30
11	893.72	92.01
12	859.67	90.77
13	822.17	84.91
14	805.72	74.68
15	744.58	108.75
16	702.39	64.83
17	686.03	53.86
18	603.80	104.63
19	586.44	120.06
20	557.35	125.71
21	549.16	125.72
22	538.21	125.83
23	520.05	115.06
24	511.88	118.27
25	502.98	122.07

Identification by IR: Conforms to structure

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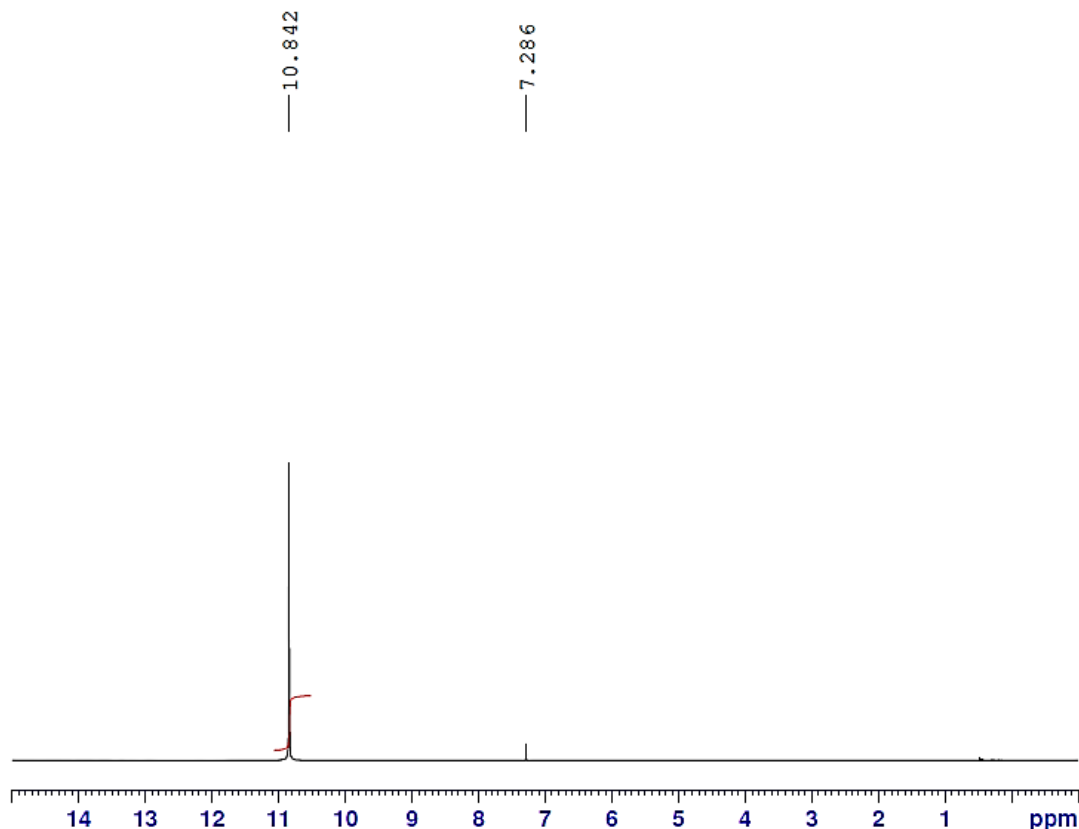
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¹H NMR Spectrum:

Product Name: Trifluoroacetic acid

Product Code: PSR28380

Trifluoroacetic acid
B.No : T095P0
1H-NMR in CDCL3



Identification by ¹H NMR: Conforms to structure

Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSR28380) = **0.098 %**

Approved By
Head - Technical

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