

Certificate of Analysis

Triethylene glycol
PurCert Standard for GC
(Secondary Reference Standard)

Product Number	PSR37200	CAS No.	112-27-6
Brand	PureSynth	Lot No.	T37200P0525
Molecular Formula	C ₆ H ₁₄ O ₄	Date of Mfg.	May,2025
Molecular Weight	150.17 g/mol	Date of Exp.	April,2030

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Assay (GC-FID)	≥ 99.5 %	99.98 %
Water (By KF)	NMT 0.05 %	0.046 %
Density	1.121-1.25 g/cm ³	1.123 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 1683708, Lot No: R159H0**

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.

Assay by GC-FID

METHOD: GC- FID conditions:

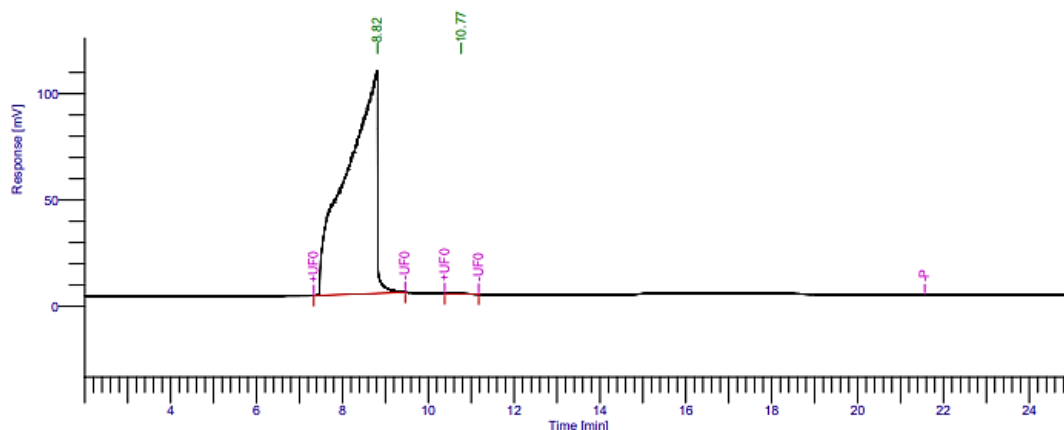
Column: Agilent Technologies DB-FFAP 30mx 0.530mm, 1.0micron

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	: 07-06-2025 09:20:00
Operator	: manager	Sample Name	: TRIETHYLENE GLYCOL
Sample Number	: 001	Study	:
AutoSampler	: BUILT-IN	Rack/Vial	: 0/29
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	: 06-06-2025 11:44:59	Cycle	: 1



GC Reports

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		8.816	5088573.54	104816.02	99.98
2		10.769	994.23	51.16	0.02
		5089567.77	104867.18	100.00	

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

Purity by GC-FID: 99.98 %

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:

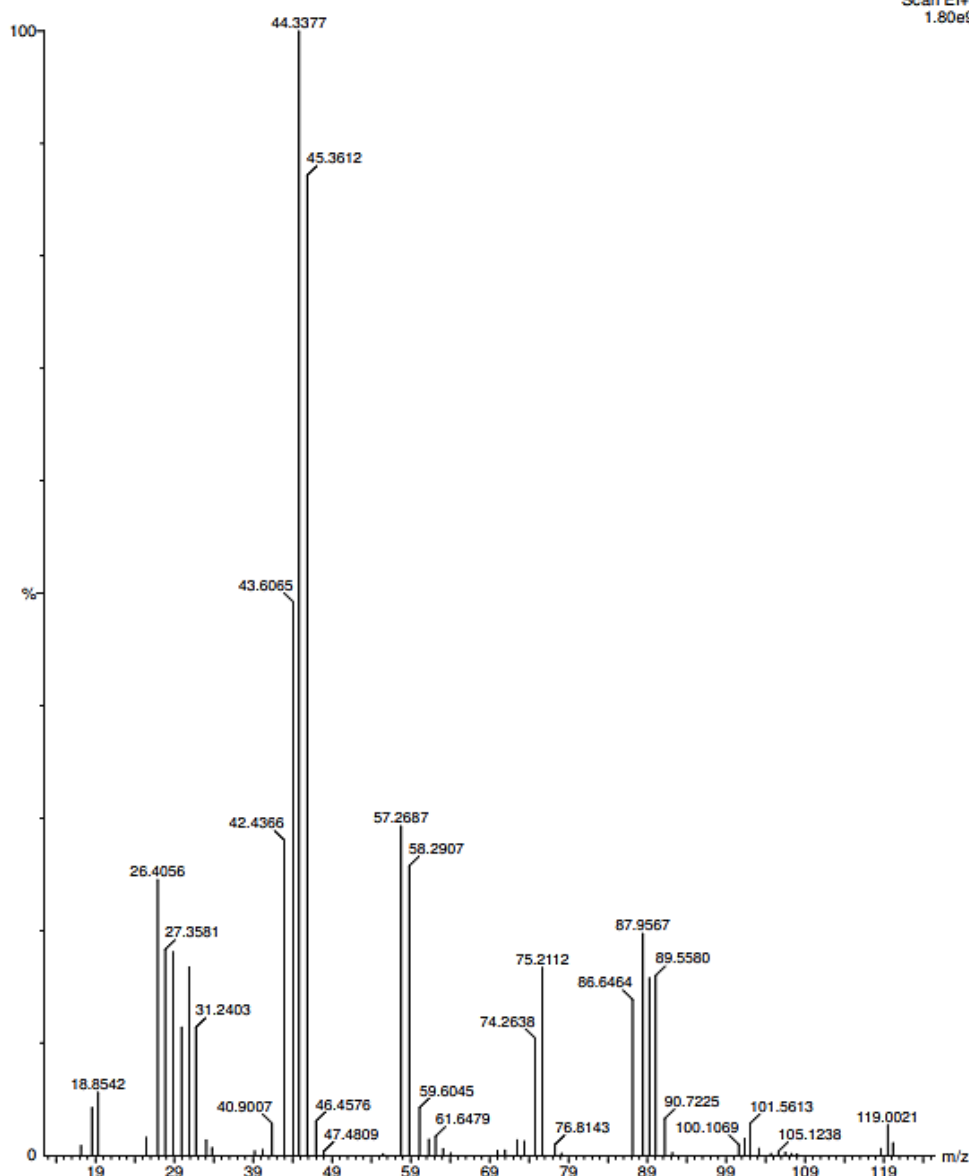
Product Name: Triethylene glycol

Product Code: PSR37200

TRIETHYLENE GLYCOL-T37200P0525

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Scan EI+
1.80e9



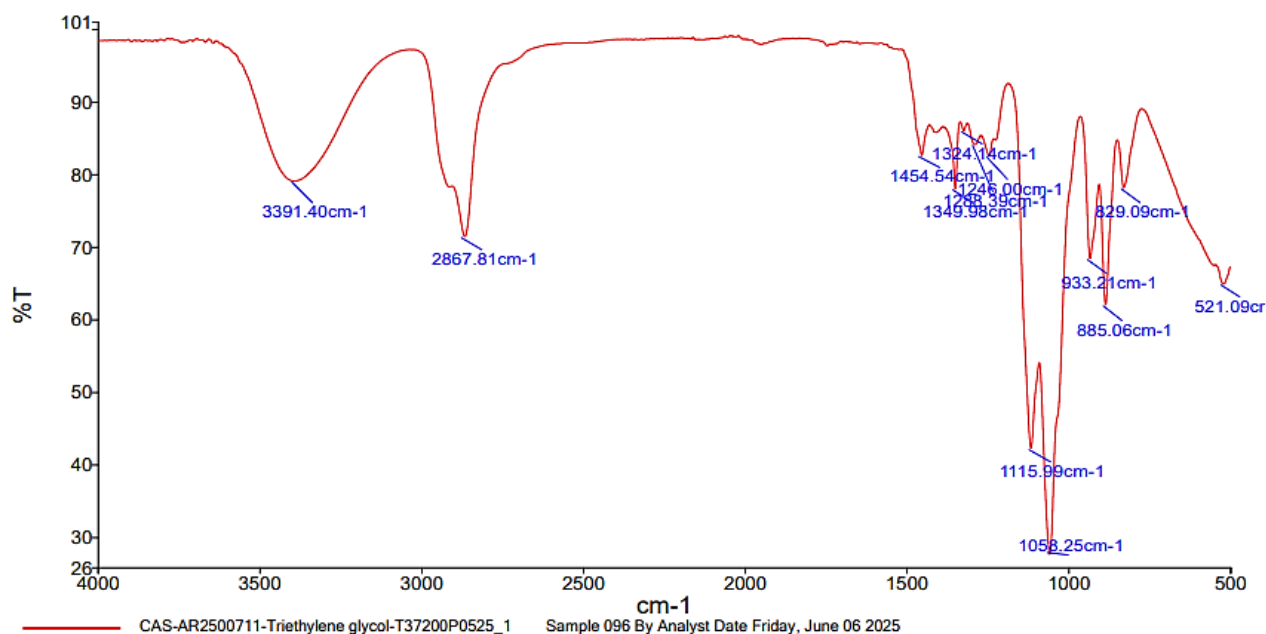
Identification by GC-MS: Conforms to molecular mass

Infrared spectrum:

Product Name: Triethylene glycol

Product Code: PSR37200

Analyst
Date



Source Spectra Results		
Spectrum Name		Number Of Peaks
CAS-AR2500711-Triethylene glycol-T37200P0525_1		13
List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	3391.40	79.14
2	2867.81	71.52
3	1454.54	82.70
4	1349.98	78.10
5	1324.14	86.12
6	1288.39	84.22
7	1246.00	82.70
8	1115.99	42.31
9	1058.25	27.65
10	933.21	68.48
11	885.06	62.10
12	829.09	78.24
13	521.09	64.99

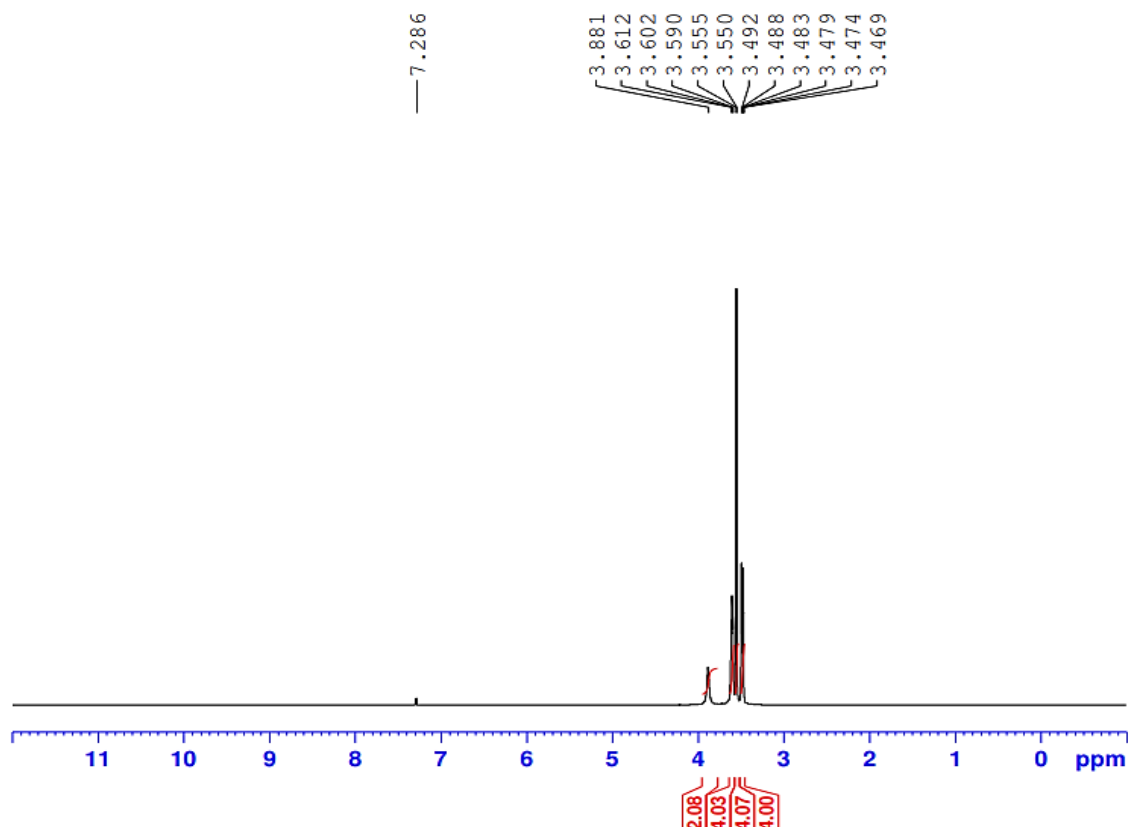
Identification by IR: Conforms to structure

¹H NMR Spectrum:

Product Name: 2,4-Dichlorobenzaldehyde

Product Code: PSR37200

Triethylene glycol
Batch no-T37200P0525
¹H-NMR in CDCl₃



Identification by ¹H NMR: Conforms to structure

Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSR37200) = **0.046 %**

Approved By
Head - Technical

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