

Certificate of Analysis

Methyl Acetoacetate

PurCert Standard for GC

Product Number	PSR40094	CAS No.	105-45-3
Brand	PureSynth	Lot No.	M40094P0525
Molecular Formula	C ₅ H ₈ O ₃	Date of Mfg.	May, 2025
Molecular Weight	116.12 g/mol	Date of Exp.	April, 2030

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Assay (GC-FID)	≥ 98.0 %	99.23 %
Water (By KF)	NMT 0.5000 %	0.277 %
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.

Assay by GC-FID

METHOD: GC- FID conditions:

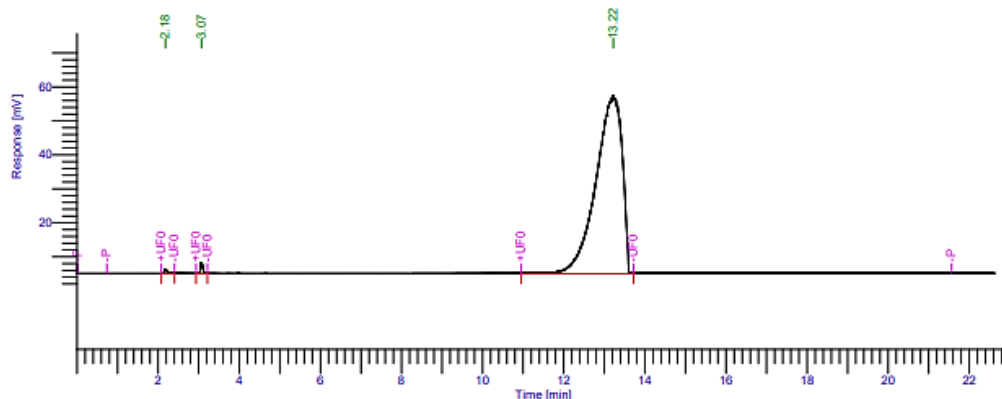
Column: Agilent Technologies DB-FFAP 30mx 0.530mm, 1.0micron

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	: 03-06-2025 12:31:29
Operator	: manager	Sample Name	: METHYL ACETOACETATE-M40094P
Sample Number	: 001		: 0525
AutoSampler	: BUILT-IN	Study	:
Instrument Name	: Clarus 690	Rack/Vial	: 0/17
Instrument Serial #	: None	Channel	: A
Delay Time	: 0.00 min	A/D mV Range	: 1000
Sampling Rate	: 12.5000 pts/s	End Time	: 22.60 min
Sample Volume	: 1.000000 ul		
Sample Amount	: 1.0000	Area Reject	: 0.000000
Data Acquisition Time	: 02-06-2025 17:21:39	Dilution Factor	: 1.00
		Cycle	: 1



GC Reports

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		2.179	6180.35	1304.82	0.26
2		3.067	12138.03	3226.94	0.51
3		13.223	2351889.48	52525.34	99.23
			2370207.86	57057.10	100.00

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

Purity by GC-FID: 99.23 %

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

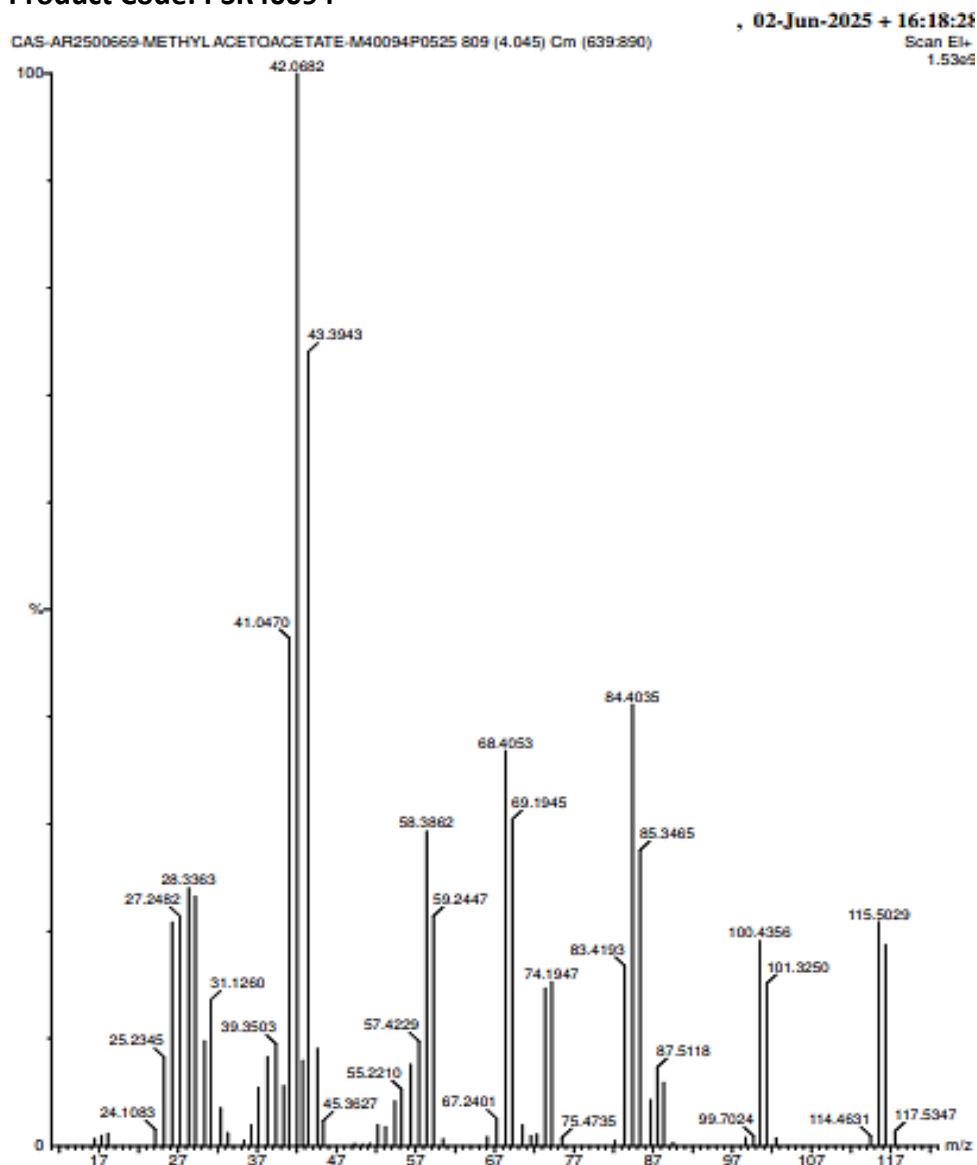
Inlet Temp.: 180°C, **Diluent:** Methanol

Source energy: 70eV

Mass by GC-MS:

Product Name: Methyl Acetoacetate

Product Code: PSR40094



Identification by GC-MS: Conforms to molecular mass

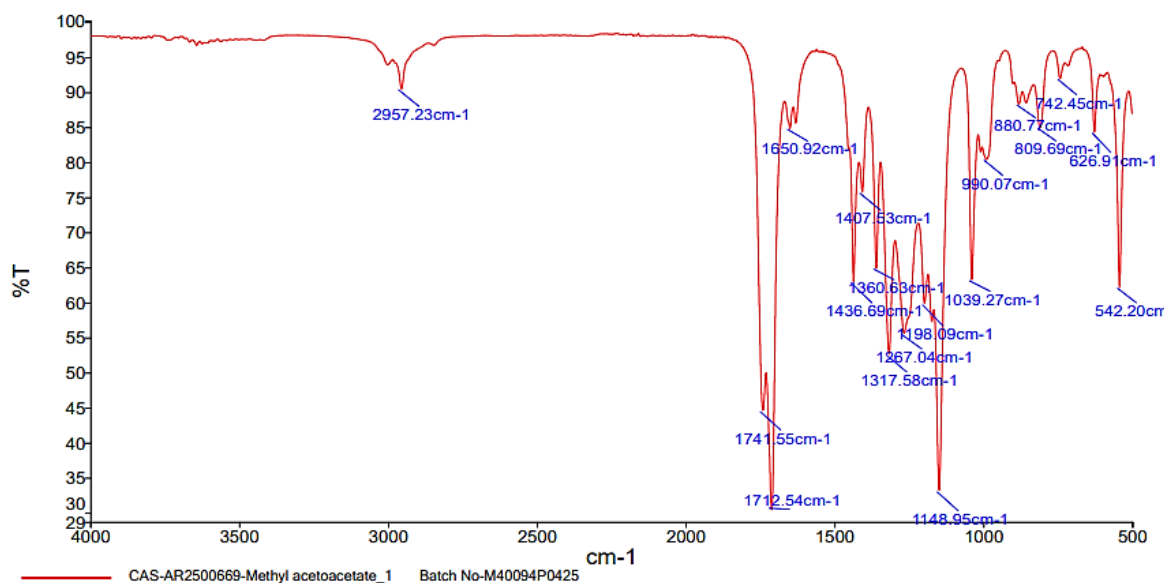
Infrared spectrum:

Product Name: Methyl Acetoacetate

Product Code: PSR40094

Analyst
Date

Analyst
02 June 2025 16:05



Source Spectra Results		
Spectrum Name	Number Of Peaks	
CAS-AR2500669-Methyl acetoacetate_1	22	
List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	3646.36	96.82
2	2957.23	90.59
3	1741.55	44.69
4	1712.54	30.45
5	1650.92	84.95
6	1631.48	85.74
7	1436.69	63.06
8	1407.53	75.84
9	1360.63	65.02
10	1317.58	52.72
11	1267.04	55.68
12	1198.09	59.92
13	1173.61	57.35
14	1148.95	33.25
15	1039.27	63.35
16	990.07	80.53
17	880.77	88.42
18	856.79	88.58
19	809.69	85.11
20	742.45	92.06
21	626.91	84.41
22	542.20	62.28

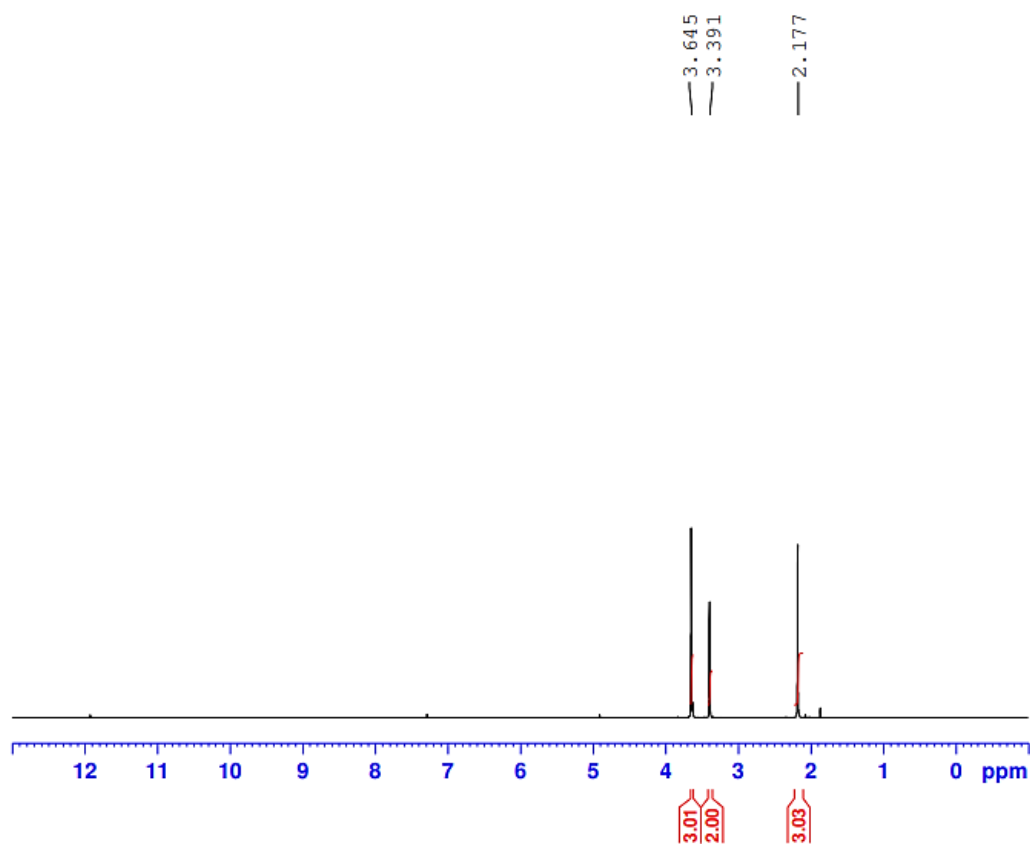
Identification by IR: Conforms to structure

¹H NMR Spectrum:

Product Name: Methyl Acetoacetate

Product Code: PSR40094

Methyl Acetoacetate
B.No : M40094P0525
¹H-NMR in CDCL₃



Identification by ¹H NMR: Conforms to structure

Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSR40094) = **0.277 %**

Approved By
Head - Technical

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