PureSynth
Research Chemicals

Certificate of Analysis

N,N-Dimethylformamide

PurTech Standard for GC

Product Number	PSI030	**CAS No.**	68-12-2
Brand	PureSynth	**Lot No.**	IKO03H
Molecular Formula	C_3H_7NO	**Date of Mfg.**	Mar.2022
Molecular Weight	73.10 g/mol	**Date of Exp.**	Feb.2026

Test	Specification	Result
Description	Colorless liquid	Colorless liquid
Clarity	Clear	Clear
Assay (By GC-FID)	≥ 99.5 %	99.96 %
Water (By KF)	NMT 0.2 %	0.13 %
Density		0.944 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 the 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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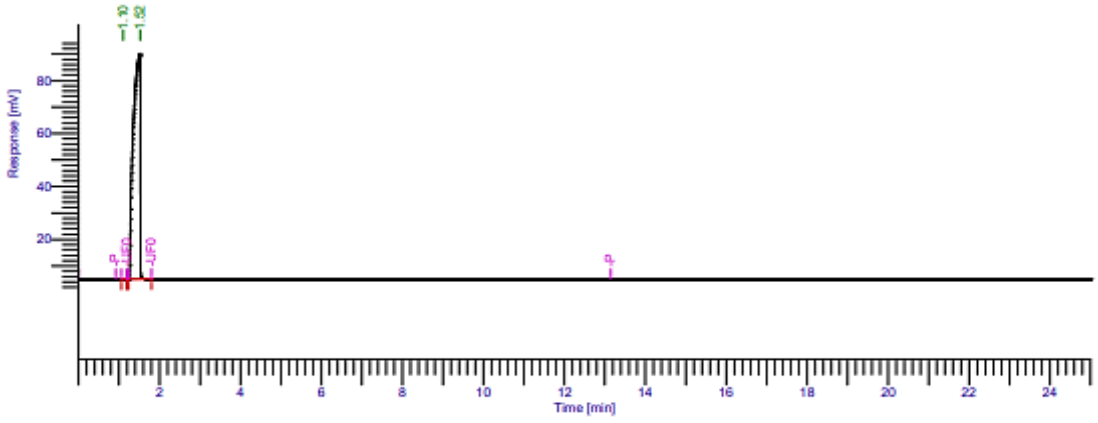
Assay by GC-FID

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	: 19/04/2022 4.32.34 PM
Operator	: manager	Sample Name	: AR22000214-N_N-DIMETHYLFORMAMIDE_ IKO03H
Sample Number	: 1		
AutoSampler	: BUILT-IN		
Instrument Name	: Clarus 680	Study	: GC Purity
Instrument Serial #	: None	Rack/Vial	: 0/11
Delay Time	: 0.00 min	Channel	: A
Sampling Rate	: 12.5000 pts/s	A/D mV Range	: 1000
Sample Volume	: 1.000000 ul	End Time	: 25.00 min
Sample Amount	: 1.0000		
Data Acquisition Time	: 19/04/2022 3.51.18 PM	Area Reject	: 0.000000
		Dilution Factor	: 1.00
		Cycle	: 1



GC Reports

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]
1		1.101	405.18	173.27	0.04
2		1.517	1015827.51	85185.62	99.96
			1016232.69	85358.89	100.00

Purity by GC-FID: 99.96 %

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

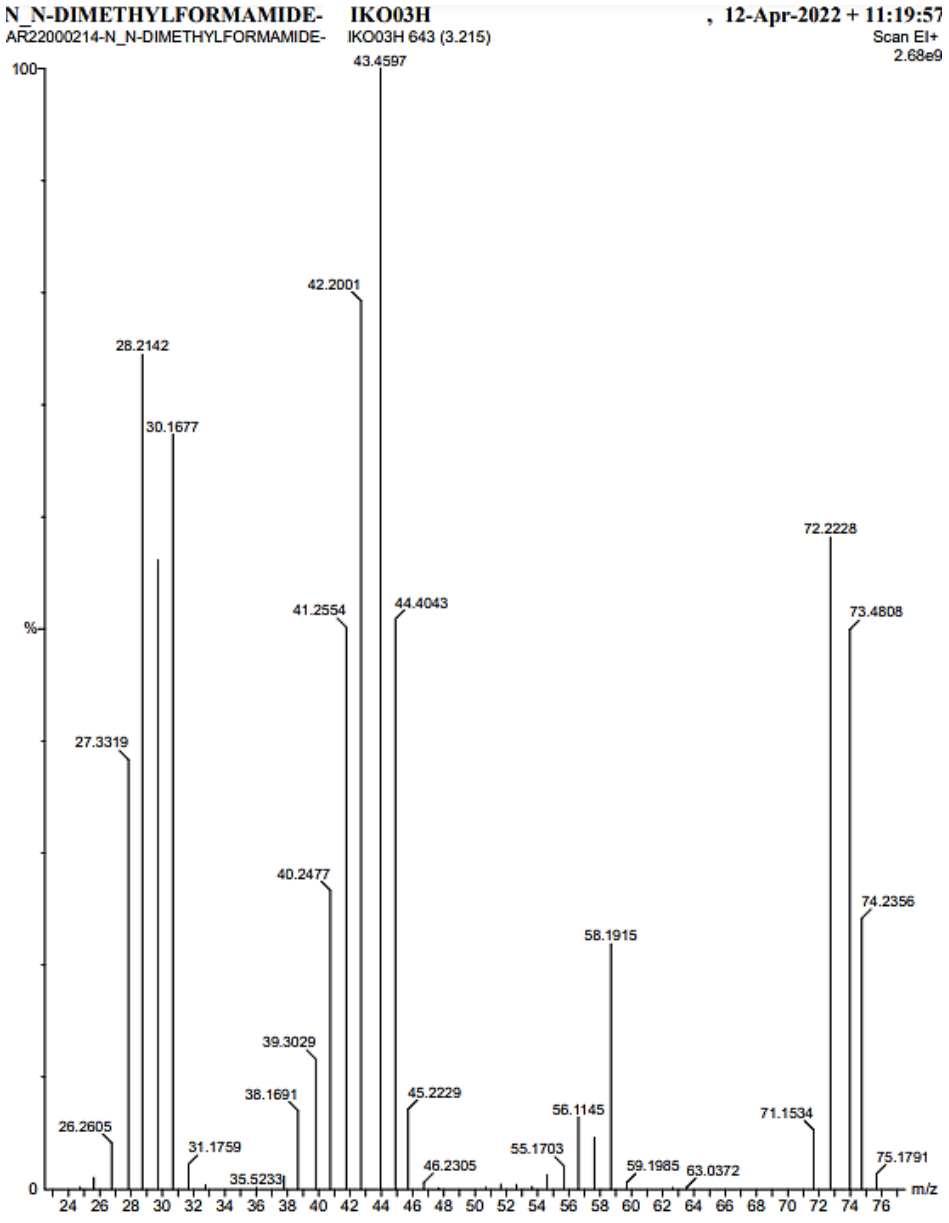
IDENTIFICATION TESTS

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: N,N-Dimethylformamide
Product Code: PSI030



Identification by GC-MS: Conforms to molecular mass

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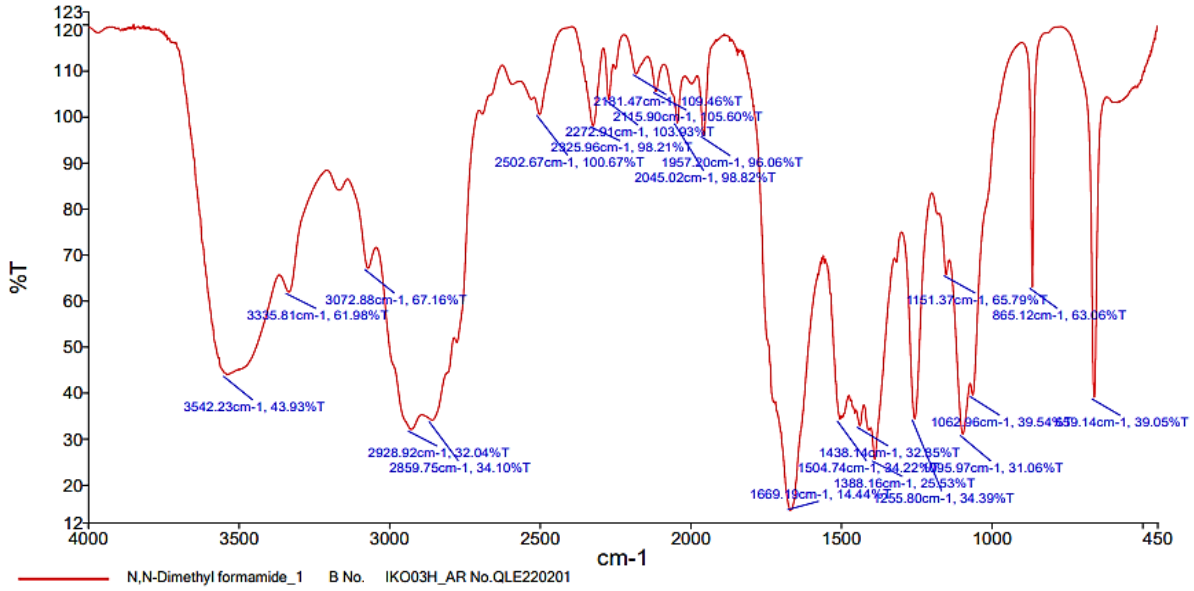
Infrared spectrum:

Product Name: N,N-Dimethylformamide
Product Code: PSI030



Source Spectra Results	
Spectrum Name	Number Of Peaks
N,N-Dimethyl formamide_1	22

List of Peak Area/Height		
Peak Number	X (cm-1)	Y (%T)
1	3542.23	43.93
2	3335.81	61.98
3	3072.88	67.16
4	2928.92	32.04
5	2859.75	34.10
6	2502.67	100.67
7	2325.96	98.21
8	2272.91	103.93
9	2181.47	109.46
10	2115.90	105.60
11	2045.02	98.82
12	1957.20	96.06
13	1669.19	14.44
14	1504.74	34.22
15	1438.14	32.85
16	1388.16	25.53
17	1255.80	34.39
18	1151.37	65.79
19	1095.97	31.06
20	1062.96	39.54
21	865.12	63.06
22	659.14	39.05

Identification by IR: Conforms to structure

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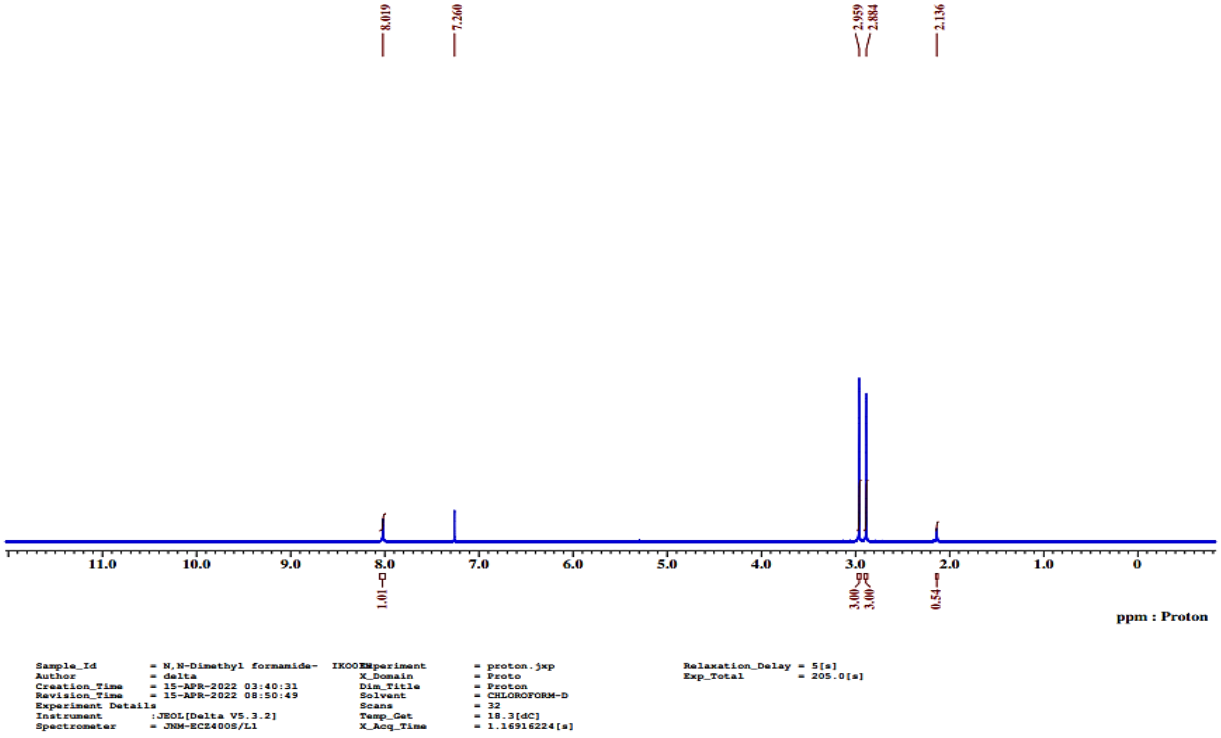
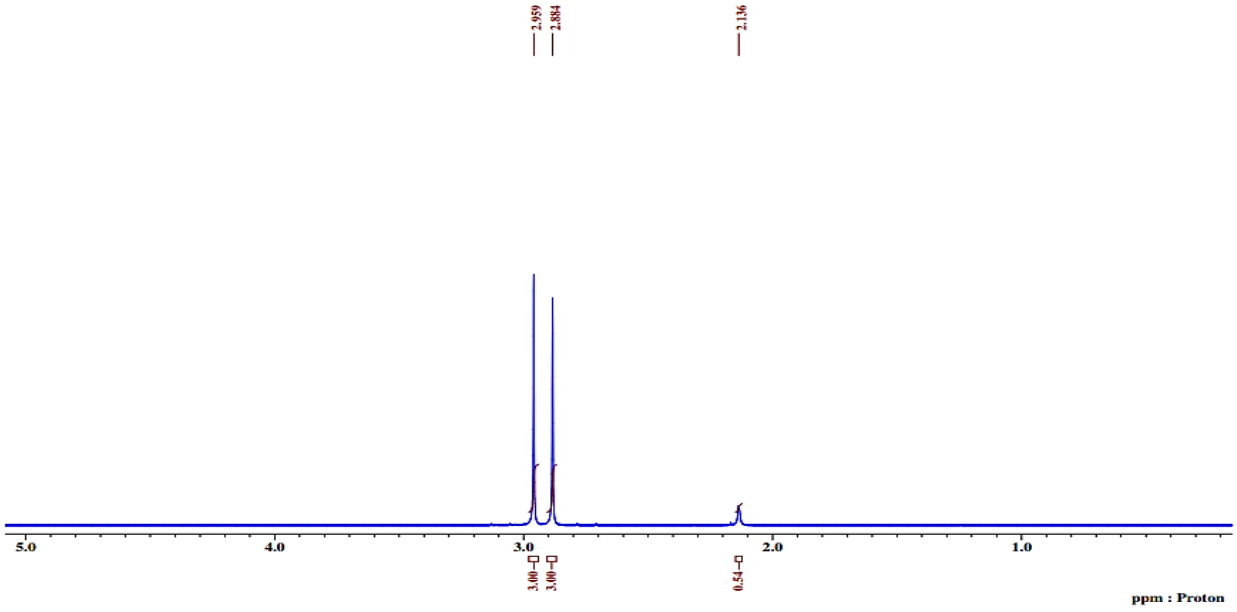
^{1}H NMR Spectrum:

Product Name: N,N-Dimethylformamide
Product Code: PSI030



Sample_Id	= N,N-Dimethyl formamide-	IKOOExperiment	= proton.jxp	Relaxation_Delay	= 5[s]
Author	= delta	X_Domain	= Proto	Exp_Total	= 205.0[s]
Creation_Time	= 15-APR-2022 03:40:31	Dim_Title	= Proton		
Revision_Time	= 15-APR-2022 08:50:49	Solvent	= CHLOROFORM-D		
Experiment Details		Scans	= 32		
Instrument	:JEOL[Delta V5.3.2]	Temp_Get	= 18.3[dC]		
Spectrometer	= JNM-ECZ400S/L1	X_Acq_Time	= 1.16916224[s]		

^{1}H NMR Spectrum: Expansion



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Identification by ^{1}H NMR: Conforms to structure

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Maximum limits of impurities

WATER DETERMINATION

Method: Karl Fisher titration

Water Content (PSI030) = **0.13 %**

Approved By

Head - Technical