

CERTIFIED REFERENCE MATERIAL Organic substance

Ref No: SB10610.100

Lot No: 814693

Certification Date: 14.04.2022

Barcode: 41452622

Description of the Reference Material (CRM): Dimethyl sulfate

CAS No: 77-78-1

Empirical formula: C₂H₆SO₄

MW: 126.132

Certified Purity/ Uncertainty: 98.3 +/- 0.2 %

Storage Conditions: Store in a refrigerator at temperatures between 2°C to 8°C

Expiry date: 14.05.2024

Method of certification: CRM's calibration procedure (WQP 5.15.1/22)

The following methods of analysis are used to determine purity: GC/MS

Analytical Data:

GC Conditions:

Column	Agilent CP9105 J&W VF-624ms 60m, 0.32mm, 1.80µm	Oven	Temperature	Hold
Flow rate	1.6 ml/min	Initial	70°C	0
Injector	220 °C	10°C/min	120°C	0
Injection volume	1µl split	5°C/min	160°C	0
Carrier gas	He, constant flow	30°C/min	220°C	3

MS Conditions:

Transfer line	230°C	Ionization mode	EI
MS Source	230°C	Mode	Scan
MS Quad	150°C		

Concept of Certification and traceability statement:

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA 4/02.

Metrological traceability is established through in-house validated method.



CPAchem Ltd. is accredited to
ISO 17034 (Cert No AR-1835) and ISO/IEC 17025 (Cert No AT-1836)

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The measurement results are traceable to SI.

Intended use:

For Laboratory Use Only

This CRM is intended for:

- Calibration of TLC, GC/FID, GC/TCD, GC/ECD, GC/MS, GC/MS/MS, LC/UV, LC/MS and LC/MS/MS
- Validation of analytical methods
- Preparation of "working reference samples"
- Detection limit and linearity studies

This statement is not intended to restrict the use for other purposes.

Instructions for the correct use of this reference material:

This CRM can be used directly or can be diluted in an appropriate solvent. Only a clean glassware should be used.

Stability and storage:

This CRM is with a guaranteed purity +/- 2% deviation prior to the expiration date. Stability is guaranteed, provided that the material is kept in its original packaging, tightly closed stored, as written in the section: Storage Conditions.

Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

Hazardous situation:

The normal laboratory safety precautions should be observed when working with this CRM. Further details for the handling of this chemical are available as safety data sheet.

Level of homogeneity

The material was tested for homogeneity by analyzing randomly selected samples according to an in-house procedure. The level of homogeneity proved satisfactory for a sample volume of min. 2 mg. The uncertainty incorporates the sample standard deviation combined with the uncertainty calculated from homogeneity and stability studies.

This certificate relates solely to the lot number given above.

All processes (including generating of this certificate) are completely controlled by the specialized Computer-Aided-Manufacturing (CAM) software.

This Certified Reference Material was produced under a quality management system that is:

- Registered to ISO 9001 Quality Management System (Lloyd's Register Quality Assurance Ltd Cert No 0039638)
- Accredited according to ISO/IEC 17025
- Accredited according to ISO 17034

This document is designed and the certified value and uncertainty are determined in accordance with ISO Guide 31, ISO Guide 35, and Eurachem / CITAC Guides

Names of certifying officers:

Laboratory:  Margarita Dimitrova

Manager:  Krassimira Taralova

End

Area Percent Report

Data Path : C:\DATA\2022\02.2022\
Data File : Dimethyl sulfate-41452622-s1.D
Acq On : 8 Feb 2022 12:58
Operator : MD
Sample : Dimethyl sulfate-41452622-s1
Misc :
ALS Vial : 85 Sample Multiplier: 1

Integration Parameters: autoint1.e
Integrator: ChemStation

Method : C:\DATA\2020\04.2020\Acetladehyde-41340639-s1.D\815263.M
Title :

Signal : TIC: Dimethyl sulfate-41452622-s1.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.103	358	374	399	M2	396527	13367981	0.39%	0.386%
2	9.940	1366	1385	1405	M3	717623	24518103	0.72%	0.707%
3	12.414	1950	2037	2062	M4	33237940	3413549174	100.00%	98.488%
4	12.621	2074	2092	2111	M2	84222	3515142	0.10%	0.101%
5	14.313	2522	2538	2551	M2	419780	11001658	0.32%	0.317%

Sum of corrected areas: 3465952057

815263.M Thu Apr 14 10:05:42 2022

