

Approved by General Administration of Quality Supervision,

Inspection and Quarantine of the People's Republic of China

GBW(E) 081050

Certificate of Reference Material

2,4-Dinitrotoluene in Methanol

Sample Number:

Date of Certification:

National Institute of Metrology (NIM)

No.18, Bei San Huan Dong Lu, Chaoyang Dist., Beijing, 100013, P.R.China

Tel: +86(10) 64271639, 64278838, 64204432

Fax: +86(10) 64271639, 64213149

Website: www.nim.ac.cn; www.ncrm.org.cn

1. Description of Material & Intended Use

This certified reference material (CRM) is mainly used in areas such as epidemic prevention and environmental monitoring and water quality monitoring, and for assessment of measurement methods, calibration of instruments and quality control in Nitrobenzene (Nitrotoluene, p-Nitrotoluene, Nitrochlorobenzene, 2,4-Dinitrotoluene, 2,4-Dinitrochlorobenzene, 2,4,6-Trinitrotoluene) analysis in water.

2. Sample Preparation

This CRM is formulated with purity reference material as the starting material and methanol as the solvent based on gravimetric-volumetric method at constant temperature.

3. Traceability and Certification

GC and LC are carried out to determine and certify the purity of CRM. The formulated value is taken as certified value of the concentration of this CRM, the certified value of this RM and quality control are checked by GC (FID detector). The traceability linkage is established using formulation protocols, measuring protocols and instruments which meet the needs of the metrological community to be served.

4. Property Value and Uncertainty

Number	Name	Certified Value (mg/mL)	Relative Expanded Uncertainty (mg/mL) ($k=2$)
GBW(E)081050	2,4-Dinitrotoluene	1.00	0.02

Uncertainty of certified value is a sum of those arising from the purity of RM starting material, and formulation process including weighing and volume filling.

5. Consistency Check and Stability Test

According to the requirement of national technique criterion on primary CRM, the CRM aliquots are randomly sampled, and consistency check and stability test in terms of the concentration are performed via GC (FID). The results demonstrated good consistency (by F test) and stability.

The period of validity of this CRM is set for 18 months from the Date of Certification. The stability of this CRM will be monitored by NIM in the future. The user will be promptly informed, if the value is found to vary during the period of validity.

6. Instructions for Package, Storage and Usage

1. Package: This CRM is packaged in a glass ampoule, and each ampoule contains 2 mL.

2. Storage and Usage: This CRM should be stored in cool ($< 10\text{ }^{\circ}\text{C}$) and dark condition. Prior to use, the RM should be equilibrated to room temperature ($20 \pm 3\text{ }^{\circ}\text{C}$) and mixed well.

by shaking. The CRM should be used immediately once the ampoule is open. Reusing of this CRM is prohibited.


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STATEMENT

1. This CRM has a limited use in scientific research and analytical measurement. NIM is not responsible for any loss caused by improper use and storage of this CRM by the customer.
2. Please check the status of reference materials as soon as the sample arrives. The incurred maximum compensation will be exclusively restricted to the CRM itself, and no others should be claimed.
3. The certificate is only valid with the complete file stamped by NIM RM. Please keep the integrity of the certificate.
4. If more information about the CRM is required, please contact the technical service section.


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National Institute of Metrology Address: No.18, Bei San Huan Dong Lu, Chaoyang Dist, Beijing, P.R.China, 100013
Tel: +86-10-64278838、84254143、64204432
Fax: +86-10-64221811、64213149
website: www.nim.ac.cn; www.ncrm.org.cn


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