National Certified Reference Material (NCRM)

Code: GBW 06204

Reference Material Certificate

CRMs of dibenzothiophene for elemental content

Batch Number:

Certification Date:

Period of Validity:

Reference Material Producer: National Institute of Metrology of China

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Version: 1.0

Certified reference materials (CRMs) of dibenzothiophene for elemental content can be used to calibrate the organic elemental analyzer, and to prepare the CRM of organic solution for sulfur content.

1. Description of Material & Preparation

The commercial raw material of dibenzothiophene of Analytical Grade (AG) was purified by the zone melting method and then packaged in the glass bottles.

2. Traceability and certification

The certified elemental content of CRM was calculated based on the content of components and the elemental content of corresponding molecules. The content of organic impurity was determined by the combination of gas chromatography – mass spectrometry and differential scanning calorimetry. The water content was determined by the Karl Fischer coulometric titration. The inorganic impurity content was determined by weighing the residue on ignition. The certified value was traceable to the SI units of mass of pure substance, temperature, and atomic weight.

3. Certified values and uncertainties

No.	Elemental mass fraction ($\times 10^{-2}$)		Uncertainty ($\times 10^{-2}$)
GBW06204	Carbon	78.217	0.005
	Hydrogen	4.377	0.001
	Sulfur	17.403	0.005

The uncertainty of certified value contains the uncertainty from certification, that from homogeneity and stability.

4. Homogeneity and Stability Testing

According to the requirement of national technique criterion and statistic theory on primary CRM (JJF 1343-2012), these certified reference materials were random selected.And then the organic impurity content, water content, and inorganic impurity content was measured by the gas chromatography – mass spectrometry, Karl Fischer coulometric titration, and weighing the residue on ignition, respectively. The elemental content of sample was calculated based on the content of components and the elemental content of corresponding molecules. The results of homogeneity and stability tests showed that the homogeneity and stability are qualified. The period of validity of this CRM is 12 months since the date of certification. The stability of this CRM is regularly monitored by the CRM producer.

5. Instructions for package, storage and use

1. Package: This CRM is packaged in the glassbottles, and each bottle contains no less than 2g.

2. Storage: This CRM should be stored at room temperature.

3. Use: After sampling, screw the top of bottle to make the bottle sealed.

STATEMENT

1. The CRM is only limited in use of scientific research and analytical measurement. Any loss caused by improper use and storage by customer will not be respond by maker.
2. Please check the kind, number and package as soon as the sample arriving. The compensate do not relate to any loss except for the CRM.
3. The maker only answer for the intact certificate with CRM cachet of NIM. Please keep the certificate appropriately.
4. Please contact with technical consultant section, if more information related to the use of the CRM is needed.

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