Approved by General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China

GBW09202

Certificate of Certified Reference Material

Purity of Uric Acid

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

As chemical composition reference with known purity, this certified reference material (CRM) is mainly intended for calibration and standardization of measurement methods and analytical instruments for uric acid in clinical testing. It is also served as a working standard in daily analysis.

2. Preparation

The candidate of this reference material was obtained from the commercial products which were dealt with the procedure of recrystallization according to their physical and chemical properties. The qualificatory candidate of the CRM passed through the qualitative and quantitative analysis was dried and subdivided.

3. Traceability and certification

The certified value of this CRM was determined with the measurement by a network of six laboratories using high performance liquid chromatography (HPLC) method.

The content of the volatile in this material was reached by measuring the loss of weight after it has been dried for 10 hours at (110±2)℃.

Put the sample of known weight into a ceramic crucible. After melting, burning, acidifying residues with concentrated sulphuric acid and burning till smoke-free, it was transferred to a high temperature stove. And then the content of sulphated ash is determined from the constant weight of residues burned in the stove at 800℃.

The conditions of the method HPLC used in the characterization process are as follows:

Analytical Method	Conditions
HPLC	column: ODS C18; mobile phase: Iso-Propanol+ glacial acetic acid+ n-pentylamine+water (0.1+0.02+0.02+100, V+V); detect wavelength: 292nm

The traceability of the certified value is ensured by using measurement methods and measuring instruments that meet the requirements of metrology.

4. Certified value and uncertainty

The certified value and the relative expanded uncertainty of the CRM are as follows:

Code	Certified value / %	Relative expanded uncertainty / %, k=2
GBW09202	99.8	0.3

Contributions from measurement error, homogeneity and stability were considered in uncertainty evaluation of the reference material.

5. Homogeneity and Stability Testing

According to the requirement of national criterion for primary certified reference materials, the homogeneity and stability testing for this reference material were carried out through random sampling by using HPLC. The *F*-test method was used for homogeneity testing and no statistically significant difference among bottles was observed. The reference material is in good homogeneity and stability.

The valid period of this RM is three years from the date of certification. The stability of this RM is regularly monitored by NIM. Any change of the certified value during this period will be informed to the customers in time.

6. Instructions for use

- This certified reference material is packaged in glass vials and each vial contains about 0.4g of uric acid.
- This certified reference material should be kept in desiccator at room temperature.

STATEMENT

1. The CRM is limited to the use of scientific research and analytical measurement. NIM is not responsible for any loss caused by improper use and storage of the CRM by the customer. Any compensate can only cover CRM itself.
2. Please check the status of reference materials as soon as the sample arriving. The certificate is only valid with the whole file and special stamp for NIM RM distribution. Please keep the integrality of the certificate.
3. If more information related to the use of the CRM is needed, please contact the technical enquiries section.