



Certificate of Certified Reference Material

Certified Reference Material of Purity of Caffeine



Sample Number:
Date of Certification:

National Institute of Metrology P.R of China
Beijing China



The certified reference material is mainly used for the component detection of relevant alkaloid in the field of medicine, foodstuff etc. It is also used for the calibration of analytical instrument, the validation of analytical method, the measuring quality control etc.

一、Preparation

The certified reference material was prepared from the relevant Caffeine pure substance.

According its physical and chemical properties, the certified reference material was gained by extraction, recrystallization, sublimation method and then purified. The certified reference material was dried and disposed after the qualitative and primary analysis which meets the demand.

二、Traceability and certification

The CRM purity is certified by freezing points depressing methods. This method has the properties of norm method. The traceability is ensured by using measuring method and measuring apparatus for metrology speciality.

三、Certified values and uncertainties

Sample number	Name	Certified value (%)	Relative expanded uncertainty (%) ($k=2$)
GBW (E) 100063	Certified Reference Material of Purity of Caffeine	99.8	0.2

The uncertainty inducted by the certified result of principle purity is in consideration in evaluation of uncertainty of this CRM.

四、Test of homogeneity and stability

According to the requirement of national criterion for primary certified reference materials, tests for this certified reference material were carried out through random sampling by HPLC-DAD method. The minimum sampling amount is 5 mg. F-test method was used for homogeneities test, No statistically significant differences among bottles were observed at this sample size.

Random sampling at regular intervals was made to test the stability of the certified reference material. The effective duration for use of the certified reference material is 1 year. The stability of the CRM are kept on motoring by maker during this period of this time, any change of the value will be informed to the customer in time.

一、Instructions for packing, storage and use

1. packing: the certified reference material is packed in brown screw-capped amber glass bottles each containing less than 200mg.

2. Storage and use: The certified reference material should be stored in cooling temperature, lightproof, drying conditions. It should be dried in P_2O_5 airtight over 48 hours to eliminate moisture before use. The sampling of the certified reference material should be used as soon as possible after unsealing, and should be stored in stated conditions.



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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