

## National Certified Reference Material (NCRM)



# Reference Material Certificate

Zearalenone in Acetonitrile



Certification Date:

Period of Validity:

Reference Material Producer: National Institute of Metrology

Address: No.18, Bei San Huan Dong Lu, Chaoyang Dist, Beijing

P.R.China, 100029

Telephone: +86(10)64524710



Version: 1.0

This Mycotoxins certified reference material is mainly used for instrument calibration, measurement method verification/validation, measurement quality control, or value assignment to secondary reference materials in analytical laboratory.



## 1. Sample Preparation

[www.ncrm.org.cn](http://www.ncrm.org.cn)

The material is zearalenone (E-). Formula:  $C_{18}H_{22}O_5$ , CAS number: 17924-92-4. The purity material with traceable purity value was gravimetrically prepared to a volumetric flask by adding acetonitrile under low temperature, and then was packaged into clean ampules filled with nitrogen.

## 2. Traceability and Characterization Methods

Mass balance method and Quantitative nuclear magnetic method were used to determine the main component of the purity material (GBW10157) . Water was determined by Karl-Fischer method. Total non-volatiles /inorganics were determined by TGA methods. Volatile solvents were determined by NMR method. The certified value of the CRM solution is using the prepared value by gravimetric-volumetric method, and verified by quality control samples. All the appliances were calibrated and the certified value could be traced to the SI unit.

## 3. Property Value and Uncertainty

The property value and expanded uncertainty are as follows:

Code	Title	Certified value ( $\mu\text{g/mL}$ )	Relative expanded uncertainty (%, $k=2$ )
GBW10161	Zearalenone in Acetonitrile	1.10	3

The coverage factors were chosen to obtain an approximate 95 % level of confidence. The uncertainty evaluation considered sources from characterization, between-unit homogeneity and stability.

## 4. Homogeneity and Stability Assessment

According to national technical specification of JJF1343 (equivalent to ISO Guide 35) , HPLC-DAD methods and randomized sampling rule were employed to evaluate the homogeneity of the material. The samples showed good homogeneity. Using same measurement methods, the samples also showed good stability during stability assessment.

The certification of this CRM is valid until March 2021, provided the CRM is handled and stored in accordance with the instructions given in this certificate. The producer will keep monitoring the stability of this CRM and make a notice to customers if any significant change happens within the period of validity.

## 5. Packaging, Storage and Use

Packaging: The lot of material is divided into clean brown glass bottles and screw cap. Each bottle contains 2mL of sample for GBW10160, Each bottle contains 4mL of sample for GBW10161.

Storage: The CRM should be kept in dark, low temperature (-20°C) . This certified reference material should

be used one time after being opened and CANNOT be used repeatedly. It should be prevented from contamination while using.



## Statement

1. The reference material is only for lab study and analytical testing. In case of any complaint due to the improper use or storage by the user, the institute will bear no responsibility.
2. After receiving it, please immediately check variety, quantity and packaging. Relevant compensation is only limited to the reference material itself.
3. The institute is only responsible for the complete certificate affixed with the “Dedicated Seal for Reference Material of National Institute of Metrology”. Please properly keep this certificate.
4. To obtain more application related information, please contact the Department of Technical Consultation.

National Institute of Metrology P.R. China

Tel.: +86(10)64524776, 64524793, 64524794, 64524795 (Technical Consultation)

Fax: +86(10) 64524716, 64524715

Website: [www.nim.ac.cn](http://www.nim.ac.cn), [www.ncrm.org.cn](http://www.ncrm.org.cn) (National Sharing Platform for Reference Materials)

