FEDERAL STATE UNITARY ENTERPRISE
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CERTIFICATE

CERTIFIED REFERENCE MATERIAL OF DIHYDRATE ETHYLENEDIAMINETETRAACETIC ACID DISODIUM SALT

GSO 2960-84

Batch number: 12

Intended use:
certified reference material is intended for transfer of the unit of the base substance mass fraction to certified reference materials of dihydrate ethylenediaminetetraacetic acid disodium salt (Na-EDTA), chemical reagents of Na-EDTA, used as titrant in measurement procedures, based on complexometry; for calibrating measurement equipment; for metrological certification of measurement procedures and accuracy control of measurement results.

Description of material: certified reference material is dihydrate ethylenediaminetetraacetic acid disodium salt white powder, packed in polyethylene containers per 25 g.

Метрологические характеристики:

Certified characteristic	Certified value	Expanded uncertainty, with k = 2, P = 95%
Mass fraction of Na-EDTA, %	**99,86**	**0,03**

Certified value and expanded uncertainty of the certified value of certified reference material are established in conformity with the requirements of ISO Guide 35:2006 "Reference materials – General and statistical principles for certification "and the principles of ISO/IEC Guide 98-3:2008 "Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)".

The certified characteristic was determined for pH 5-6.

Minimum representative sample: 0.3 g

Metrological traceability: metrological traceability of CRM certified value is ensured by the use of direct measurement method on State primary measurement standard of mass (molar) fraction and mass (molar) concentration of a component in liquid and solid substances and materials based on coulometry, GET 176-2013.

Measurement method: metrological characteristics of certified reference material are determined by coulometric titration according to the instruction MA 21-223-2013 "Certified reference material of dihydrate ethylenediaminetetraacetic acid disodium salt GSO 2960-84. The programme and procedure of the determination of metrological characteristics", approved by UNIIM.

Conditions of storage: certified reference material should be stored in its original container at the temperature of (20 ± 5) °C and relative air humidity not exceeding 80 % in the absence of contacts with aggressive media. After opening the container and using a part of the CRM, non-used material of CRM should be stored at the temperature of (20 ± 5) °C and relative air humidity not exceeding 80 % in the absence of contacts with aggressive media.

Conditions of transportation: Transportation of the certified reference material is allowed only in the container by any transport at the temperature from -15 to +35 °C.

Instruction for handling and use:
General guidelines
Before using CRM it is recommended to check by visual examination the completeness, integrity of package and availability of marking and label. The package should be not damaged.
CRMs with expired lifetime are not allowed for use.
Preparation for use
Take out CRM material from the container into a clean dry weighing beaker and close the container with a cover. To prevent possible contamination of the basic mass of the CRM, the test portions should be taken only out of the weighing beaker. The remainder of CRM should not be put into the container. The collected test portion is dried at the temperature of (80 ± 2) °C for stable mass and then cooled in a dessicator to an ambient temperature. The collected test portion is weighed on analytical balance with an error not exceeding ±0,0001 g.

Date of issue: September 2015.

Expiry date: 30 August 2020.

Version of certificate: 2

Health and safety requirements:
When working with the certified reference material the use of dust respirator is recommended.

Additional information: homogeneity study of certified reference material is conducted in conformity with requirements, established in *ISO Guide 35:2006 "Reference materials – General and statistical principles for certification"*. Standard uncertainty due to inhomogeneity, equal to 0,005 %, is taken into account in the calculation of expanded uncertainty of the certified value of certified reference material.

Information corresponding to the requirements of the legislation:
Quality Management System of UNIIM complies with the requirements of ISO ISO/IEC 17025 «General requirements for the competence of testing and calibration laboratories». Confirmation of Recognition of Quality Management System No. QSF-R47 is valid until 15 February, 2022 and issued by the Quality Forum of Euro-Asian Cooperation of Metrological Institutions (COOMET).
Quality Management System of UNIIM complies with the requirements of ISO Guide 34:2009 «General requirements for the competence of reference material producers». Confirmation of Recognition of Quality Management System No. QSF-R48 is valid until 15 February, 2022 and issued by the Quality Forum of Euro-Asian Cooperation of Metrological Institutions (COOMET).

Date of the certificate issue: 9 October 2017.

Signatures of issue officers:

Head:
Director _____ (*signature*) S.V. Medvedevskikh (*Initials, surname*)

Seal place

Expert (-s):
The Head of laboratory 223 _____ A.V. Sobina

The Senior Engineer of laboratory 223 _____ A.J. Shimolin