TÜBİTAK
ULUSAL METROLOJİ ENSTİTÜSÜ

Certificate of the Reference Material

Name of the Material	:	Chloramphenicol
Material Code	:	UME CRM 1301
Issue Date	:	22.03.2023
Revision Date	:	07.12.2023 (Revision history can be found on the last page)
Validity Period of the Certificate	:	5 years from the sales date
Certified Values	:	

Parameter	Mass Fraction [1] (g/100g)	Uncertainty [2] (g/100g)
Purity	99.58	0.15

[1] The certified value is the average of the results of qNMR technique and mass balance approach. The certified values and the uncertainties are traceable to the International System of Units (SI).

[2] The expanded uncertainty of certified value includes characterization and is stated as the standard uncertainty of measurement multiplied by the coverage factor *k*=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with GUM “Guide to the Expression of Uncertainty in Measurement”.

TÜBİTAK UME, as a reference material producer, has been accredited by TÜRKAK according to TS EN ISO 17034 with the accreditation number AB-0001-RM.

Sales Date

Assoc. Prof. Mustafa ÇETİNTAŞ
Acting Director

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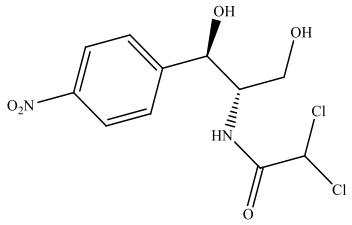
Description

The Certified Reference Material (CRM) is in an amber glass bottle with aluminium crimp cap containing about 100 mg of high purity chloramphenicol. Additional information is given in the certification report.

Structure :



Chemical Formula : $C_{11}H_{12}Cl_2N_2O_5$

Synonym : 2,2-dichloro-N-[1,3-dihydroxy-1-(4-nitrophenyl)propan-2-yl]acetamide

CAS No : 56-75-7

Intended Use

This material is intended to be used as a calibration standard for chloramphenicol analysis. In addition, it can be used for method validation, verification and quality control applications.

Instructions for Use

The CRM is produced for laboratory use only. All precautions must be taken in order to prevent degradation or contamination with air intact and must be kept closed. Minimum sample intake is 10 mg. The material can be safely dispatched at ambient temperature where the temperature does not exceed 45 °C for up to 4 weeks.

Storage Conditions

The material should be stored at (21 ± 3) °C temperature in dark. Please regard SDS for the storage. After opening, care should be taken not to contaminate the sample. The sample should be kept away from exposure to light, alcohols and water vapours, which are the main reasons of degradation of chloramphenicol. The sample vial should be closed immediately, after opening. TÜBİTAK UME cannot be held responsible for changes that might happen to the material at customer's premises due to noncompliance with the instructions for use, and the storage conditions given in the certificate.

Safety Information

Usual laboratory precautions apply. As Chloramphenicol and its degradation products are potential carcinogens, care should be taken not to be exposed to the dust of the material. It is strongly recommended that the material must be handled and disposed according to the safety guidelines where applicable. Please refer to the Safety Datasheet before any use of the material.

Participants

Information about the laboratories participated in the characterization study is presented in the table.

Laboratory	Address
TÜBİTAK UME	TÜBİTAK Gebze Yerleşkesi, Barış Mahallesi, Dr. Zeki Acar Caddesi No.1, 41470 Gebze - Kocaeli / Türkiye

Methods and/or Techniques Used for the Determination of the Certified Values

Techniques used in the characterisation studies are given in the table.

Method/Technique	Parameter
High Performance Liquid Chromatography-Diode Array (HPLC-PDA) Coulometric Karl Fisher (cKFT) Inductively Coupled Plasma Mass Spectrometry (ICP-MS) Quantitative Nuclear Magnetic Resonance (qNMR)	Purity

Revision History

Date	Remarks
22.03.2013	First issue.
30.07.2013	Adoption of the changes in certification format.
05.12.2014	CRM uncertainty value was revised.
12.02.2018	New certificate format was adopted due to accreditation. Minimum sample intake amount was added.
22.10.2018	Certificate is updated due to format change of the document.
07.12.2023	The certificate is updated according to the current format. Information about transport and storage conditions is added.