

CERTIFIED REFERENCE MATERIAL

RD0261061.5: KIT of 21 components - part 3 of 3;
7 components; 10ug/ml each of Diuron [CAS:330-54-1] ; Linuron [CAS:330-55-2] ; Isoproturon [CAS:34123-59-6] ; 2,6-Dichlorobenzamide [CAS:2008-58-4] ; Pentylenetetrazole [CAS:54-95-5] ; Bromacil [CAS:314-40-9] ; Quinclorac [CAS:84087-01-4] in Acetone

Lot N: 756553
Barcode: 92761445

Ref N: RD0264791.5

Certification Date: 14.06.2021

Component	Certified Value* and uncertainty [µg/ml]	CAS	Chemical Formula
Diuron	10.072 ± 0.161	330-54-1	C ₉ H ₁₀ Cl ₂ N ₂ O
Linuron	10.095 ± 0.134	330-55-2	C ₉ H ₁₀ Cl ₂ N ₂ O ₂
Isoproturon	10.028 ± 0.129	34123-59-6	C ₁₂ H ₁₈ N ₂ O
2,6-Dichlorobenzamide	9.996 ± 0.127	2008-58-4	C ₇ H ₅ Cl ₂ NO
Pentylenetetrazole	10.077 ± 0.116	54-95-5	C ₆ H ₁₀ N ₄
Bromacil	10.072 ± 0.138	314-40-9	C ₉ H ₁₃ BrN ₂ O ₂
Quinclorac	10.073 ± 0.172	84087-01-4	C ₁₀ H ₅ Cl ₂ NO ₂

* WQP 5.15.1/2 The certified value was obtained gravimetrically and confirmed experimentally by GC/MS or HPLC

Density 0.7891 g/cm³ at 20°C

Starting Material	Purity, Batch
Diuron	99.9% (41413579)
Linuron	98.7% (41412589)
Isoproturon	99.4% (41387290)
2,6-Dichlorobenzamide	97.9% (41397183)
Pentylenetetrazole	99.9% (41390733)
Bromacil	99.5% (41402672)
Quinclorac	99.8% (41361030)

Storage Conditions: Store in a refrigerator at temperatures between 2°C to 8°C

Expiry Date: 14.07.2022

Concept of Certification and traceability statement:

This certified reference material is produced by gravimetric measurement and dissolving the individual substances in Acetone .
The reported expanded uncertainty of measurement 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 EA 4/02 and incorporates the uncertainties of the raw-material purity, the mass and the volume.
The metrological traceability is defined as the "property of a measurement result whereby the result can be related to a reference through a documented unbroken chain of calibrations, each contributing to the measurement uncertainty".
The metrological traceability is ensured through gravimetric measurement and dissolving of certified reference material/s (traceable to SI) from laboratories/producers, accredited according to ISO 17034.
The measurement results are traceable to SI. All analytical balances used for the preparation of the solution are calibrated yearly under an in-house procedure with class E1 and class E2 analytical weights, traceable to SI (DKD), and are checked daily.
Class A laboratory glassware is used.
The results from temperature measurement are traceable to SI. The thermometers used for solution's calibration are calibrated from an ISO 17025 accredited laboratory. The ambient conditions are controlled with a hygrometer calibrated from an ISO 17025 accredited laboratory.
Both, purity of the starting materials and solvent, were checked using appropriate analytical instrument.

Intended use: For Laboratory Use Only
This CRM is intended for:



Calibration of TLC, GC/FID, GC/TCD, GC/ECD, GC/MS, GC/MS/MS, LC/UV, LC/MS and LC/MS/MS
 Validation of analytical methods
 Preparation of "working reference samples"
 Detection limit and linearity studies
 This statement is not intended to restrict the use for other purposes.

Instructions for the correct use of this certified reference material:

This CRM can be used directly or can be diluted in an appropriate solvent. Only a clean class A glassware should be used. Do not pipet from container. Obtained concentration (in mg/l) after dilution is a result from the multiplication of certified value of CRM concentration and the CRM's volume used for dilution and divided into the flask's volume used for dilution. For quantitative analysis, we recommend analyzing this mixture separately, without mixing it with other solutions, to ensure accurate results for every compound.

Stability and storage:

This CRM is with a guaranteed stability until $\pm 5\%$ of the certified concentration for a period of 12 months. Stability is guaranteed of an unopened original packaging stored, as written in the section: Storage Conditions. Even if the product is stable at normal laboratory conditions, in order to increase its stability, we highly recommend it to be stored in a refrigerator.

The product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to a product stored after opening.

Hazardous situation:

The normal laboratory safety precautions should be observed when working with this RM. Further details for the handling of this RM are available in a safety data sheet.

Level of homogeneity

This solution was mixed according to an in-house procedure (MQP 5.13.1) and is guaranteed to be homogeneous. To ensure sufficient homogeneity of the sample prior to use thoroughly mix by inversion or sonicate.

Names of certifying officers:

Laboratory:  Margarita Dimitrova

Manager:  Krassimira Taralova

This document QF 5.17.1/1 version 1 is designed and the certified value(s) and uncertainty(ies) are determined in accordance with ISO Guide 31, ISO Guide 35, and Eurachem / CITAC Guides

This certificate relates solely to the lot number given above.

All processes (including generating of this certificate) are completely controlled by the specialized Computer-Aided-Manufacturing (CAM) software.

This Certified Reference Material was produced under a quality management system that is:

- Registered to ISO 9001 Quality Management System (Lloyd's Register Quality Assurance Ltd Cert No 0039638)
- Accredited according to ISO/IEC 17025 – Testing (ANAB Cert No AT-1836)
- Accredited according to ISO 17034 - Reference Material Producer (ANAB Cert No AR-1835)

Additional Information

Gravimetric Data

Component	Purity %	Source Lot No	Weighed quantity, g	Final quantity, kg.10 ⁻³	Bulk/Standard Solution lot No	Concentration mg/kg	Chemist ID
Diuron	99.9	41413579	0.01393	3.3795	91738134	4117.8	AS
		91738134	0.3668	11.7817	92761988	128.199	ER
		92761988	1.5713	15.7811	92761445	12.7644	ER
Linuron	98.7	41412589	0.02264	2.9225	91732729	7646.1	AS
		91732729	0.198	11.7817	92761988	128.498	ER
		92761988	1.5713	15.7811	92761445	12.7942	ER
Isoproturon	99.4	41387290	0.02052	3.3339	91742704	6118.0	AS
		91742704	0.2458	11.7817	92761988	127.639	ER
		92761988	1.5713	15.7811	92761445	12.7087	ER
2,6-Dichlorobenzamide	97.9	41397183	0.021	2.2506	91738837	9134.9	AS
		91738837	0.1641	11.7817	92761988	127.234	ER
		92761988	1.5713	15.7811	92761445	12.6684	ER
Pentyletetrazole	99.9	41390733	0.0275	2.9777	91676856	9225.9	AS
		91676856	0.1638	11.7817	92761988	128.267	ER

		92761988	1.5713	15.7811	92761445	12.7711	ER
		41402672	0.02087	2.1818	91734815	9517.5	AS
Bromacil	99.5	91734815	0.1587	11.7817	92761988	128.200	ER
		92761988	1.5713	15.7811	92761445	12.7646	ER
		41361030	0.0134	3.1728	91731302	4215.0	AS
Quinclorac	99.8	91731302	0.3584	11.7817	92761988	128.218	ER
		92761988	1.5713	15.7811	92761445	12.7663	ER

