

# Certificate of Analysis

## CERTIFIED REFERENCE MATERIAL

NCC Standard Solution - 11 components (EPA 619)

100ug/ml each of Ametryn [CAS:834-12-8] ; Atraton [CAS:1610-17-9] ; Atrazine [CAS:1912-24-9] ; Prometon [CAS:1610-18-0] ; Prometryn [CAS:7287-19-6] ; Propazine [CAS:139-40-2] ; Secbumeton [CAS:26259-45-0] ; Simetryn [CAS:1014-70-6] ; Simazine [CAS:122-34-9] ; Terbutylazine [CAS:5915-41-3] ; Terbutryn [CAS:886-50-0] in Acetone

Lot N: XXXXXX  
Barcode: XXXXXXXX

Ref N: F115751

Certification Date: XXXXXX

Component	Certified Value* and uncertainty [µg/ml]	CAS	Chemical Formula
Ametryn	100.35 ± 1.71	834-12-8	C <sub>9</sub> H <sub>17</sub> N <sub>5</sub> S
Atraton	100.90 ± 1.55	1610-17-9	C <sub>9</sub> H <sub>17</sub> N <sub>5</sub> O
Atrazine	100.59 ± 1.30	1912-24-9	C <sub>8</sub> H <sub>14</sub> ClN <sub>5</sub>
Prometon	102.05 ± 1.43	1610-18-0	C <sub>10</sub> H <sub>19</sub> N <sub>5</sub> O
Prometryn	101.37 ± 2.12	7287-19-6	C <sub>10</sub> H <sub>19</sub> N <sub>5</sub> S
Propazine	99.86 ± 1.52	139-40-2	C <sub>9</sub> H <sub>16</sub> ClN <sub>5</sub>
Secbumeton	101.19 ± 1.19	26259-45-0	C <sub>10</sub> H <sub>19</sub> N <sub>5</sub> O
Simetryn	101.51 ± 1.16	1014-70-6	C <sub>8</sub> H <sub>15</sub> N <sub>5</sub> S
Simazine	100.30 ± 1.58	122-34-9	C <sub>7</sub> H <sub>12</sub> ClN <sub>5</sub>
Terbutylazine	100.46 ± 1.46	5915-41-3	C <sub>9</sub> H <sub>16</sub> ClN <sub>5</sub>
Terbutryn	101.28 ± 1.87	886-50-0	C <sub>10</sub> H <sub>19</sub> N <sub>5</sub> S

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

Density 0.7939 g/cm<sup>3</sup> at 20°C

Starting Material	Purity, Batch
Ametryn	99.5% (41326060)
Atraton	97.16% (41325384)
Atrazine	99.3% (41318706)
Prometon	98.3% (41298398)
Prometryn	99.9% (41294642)
Propazine	99.33% (41300374)
Secbumeton	98.2% (41282724)
Simetryn	99.2% (41317815)
Simazine	99.5% (41350683)
Terbutylazine	99.28% (41347225)
Terbutryn	98.0% (41351277)

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

Expiry Date: XXXXXXXXXX

### 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.

Property of the result of a measurement whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties (ISO VIM)



The metrological traceability is assured through gravimetric measurement and dissolving the certified reference material from accredited, according to ISO 17034, laboratories/producers and traceable to SI.

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 24 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 <sup>-3</sup>	Bulk/ Standard Solution lot No	Concentration mg/kg	Chemist ID
Ametryn	99.5	41326060	0.01272	3.1683	91599506	3994.7	AS
		91599506	0.2512	7.9392	XXXXXXXXXX	126.394	KR
Atraton	97.16	41325384	0.0177	3.2332	91525680	5319.0	AS
		91525680	0.1897	7.9392	XXXXXXXXXX	127.092	KR
Atrazine	99.3	41318706	0.02069	3.9829	91601476	5158.3	AS
		91601476	0.195	7.9392	XXXXXXXXXX	126.697	KR
Prometon	98.3	41298398	0.02028	3.2371	91599391	6158.4	AS
		91599391	0.1657	7.9392	XXXXXXXXXX	128.533	KR
Prometryn	99.9	41294642	0.00976	2.5123	91599421	3881.0	AS

		91599421	0.2612	7.9392	XXXXXXXXXX	127.685	KR
Propazine	99.33	41300374	0.01561	3.2560	91599353	4762.1	AS
		91599353	0.2097	7.9392	XXXXXXXXXX	125.782	KR
Secbumeton	98.2	41282724	0.0276	3.1605	91596727	8575.6	AS
		91596727	0.118	7.9392	XXXXXXXXXX	127.459	KR
Simetryn	99.2	41317815	0.029	3.3657	91583734	8530.1	AS
		91583734	0.119	7.9392	XXXXXXXXXX	127.857	KR
Simazine	99.5	41350683	0.01479	2.9169	91603937	5045.1	AS
		91603937	0.1988	7.9392	XXXXXXXXXX	126.331	KR
Terbuthylazine	99.28	41347225	0.01696	3.2213	91599469	5227.0	AS
		91599469	0.1922	7.9392	XXXXXXXXXX	126.540	KR
Terbutryn	98.0	41351277	0.01201	3.0436	91599568	3867.1	AS
		91599568	0.2619	7.9392	XXXXXXXXXX	127.570	KR