PRODUCT INFORMATION SHEET

Children's Product I: As, Ba, Cd, Cr, Hg, Pb, Sb, Se in Make-Up

PT originated REFERENCE MATERIAL (RM)

Description of the RM

Name / Material of related PT	*DLA ptCM05 (2023) Children's Product I: As, Ba, Cd, Cr, Hg, Pb, Sb, Se in Make-Up*
Identifier / LOT	*RM 2023-CM05*
Expiry date	*August 2027*
Matrix	*Make-Up*
Physical description	*Pasty*
Packaging / weight	*PE pots / 10 g*
Storage conditions	*2 - 10°C, long term 2 - 10°C (dry and dark)*
Name and address manufacturer	***DLA - Proficiency Tests GmbH*** *Hauptstr. 80, 23845 Oering, Germany* *Tel. ++49-(0)4532-9183358, Fax. ++49(0)4102-9944976* *eMail. pt@dla-lvu.de, website. www.dla-lvu.de*

Composition of Material

Ingredients	**Content***
Children's make-up (yellow) Ingredients: aqua, gelling agent, colouring, preservatives and bitter substance	100 g/100 g
As - Arsenic (standard solution)	1,2 mg/kg
Ba - Barium (standard solution)	3,4 mg/kg
Cd - Cadmium (standard solution)	0,30 mg/kg
Cr - Chromium (standard solution)	0,99 mg/kg
Hg - Mercury (standard solution)	0,20 mg/kg
Pb - Lead (standard solution)	4,9 mg/kg
Sb - Antimony (standard solution)	1,3 mg/kg
Se - Selenium (standard solution)	1,6 mg/kg

* Contents according to gravimetric mixture, additional amounts of the elements can be present in the basic matrix

Note: *The metrological traceability of temperature, mass and volume during production of the PT samples is ensured by DAkkS-compliant calibrated reference materials.*

Minimum Sample Size

A minimum sample size of 5 g is recommended for sample preparation.

The calculation of the **repeatability standard deviations S_r of the participants** was used as an indicator of homogeneity. The c**oefficient of variation (CV_r)** for all analytes ranges < 3,3%. Thus they were similar to the repeatability standard deviations of the corresponding official methods (e.g. ASU §64 K 84.00-31, L 00.00-168).

Reference Values

All reference values were derived from the related proficiency test (PT) round (for more details see final report).

Reference Values quantitative in mg/kg

Parameter	As – Arsenic	Ba – Barium	Cd – Cadmium
Numbers of results	8	7	8
Number of outliers	0	0	0
Assigned Value (Xpt)	***1,37***	***24,8***	***0,302***
Robust standard deviation	0,105	2,92	0,0205
Standard uncertainty	0,046	1,38	0,00904
Target standard deviation σpt	0,209	2,44	0,0579
Target range	***0,951 – 1,79***	***19,9 – 29,6***	***0,186 – 0,418***

Parameter	Cr – Chromium	Hg – Mercury	Pb – Lead
Numbers of results	7	8	8
Number of outliers	0	0	0
Assigned Value (Xpt)	***1,81***	***0,202***	***4,70***
Robust standard deviation	0,175	0,00934	0,615
Standard uncertainty	0,0828	0,00413	0,272
Target standard deviation σpt	0,265	0,0411	0,596
Target range	***1,28 – 2,34***	***0,120 – 0,284***	***3,51 – 5,90***

Parameter	Sb – Antimony	Se – Selenium
Numbers of results	8	6
Number of outliers	0	0
Assigned Value (Xpt)	***0,853***	***1,53***
Robust standard deviation	0,695	0,311
Standard uncertainty	0,307	0,159
Target standard deviation σpt	0,315	0,230
Target range	***0,224 – 1,48***	***1,07 – 1,99***

Intended Use

- for laboratory use only, no food!
- validation of analytical methods
- control sample for quality control charts
- test material for inter-laboratory comparisons

Storage Instructions and Handling Information

The material should be stored as stated on page 1. Before use of the material should be warmed up to room temperature. The content should be mixed thoroughly prior to subsampling (see minimum sample size above). The material should be weighed immediately after opening of the foil pouche/bottle and closed again afterwards in order to avoid uptake of moisture. Frequent freezing and thawing should be avoided as this can lead to changes in the properties of the material. The expiry date of this RM is based on the current knowledge and applies only for proper storage conditions in the originally closed foil pouche/bottle.

Safety Precautions

The usual laboratory safety precautions should be applied when working with the RM considering the type of ingredients, parameters and its concentration.

Data Source

The material was analyzed by 8 laboratories within the related proficiency test (PT). Different analytical methods have been used.

Various

The user must determine the suitability of this RM for its particular purpose. DLA makes no warranty of any kind, expressed or implied, other than its products meet all quality control standards set by DLA. We do not guarantee this product can be used for a special application.

approved (PT-Coordinator)	updated
Alexandra Scharf, PhD	Ulrike Vorreiter
signed A. Scharf	*signed U. Vorreiter*
3 November 2023	1 September 2026