

PRODUCT INFORMATION SHEET

ALM Verification: Milk in Cereal-Pap-Matrix

5 Samples containing Milk Powder

(levels: 0,25 / 1,25 / 2,5 / 12,5 / 25 mg/kg)

PT originated REFERENCE MATERIAL (RM)

Description of the RM

Name / Material of related PT	DLA 17-2018 ALM-Verification: Milk in Cereal-Pap-Matrix, 5 Samples containing Milk Powder
Identifier / LOT	RM 2018-17 Set
Expiry date	April 2027
Matrix	Cereal Pap, see table
Physical description	Powder
Packaging / weight	Sealed foil pouche / 20 g
Storage conditions	2 - 10°C, long term < -18°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

PT-Sample series	Level 0 „blank“	Level 1 0,25 mg/kg	Level 2 1,25 mg/kg	Level 3 2,5 mg/kg	Level 4 12,5mg/kg	Level 5 25 mg/kg
Ingredients	g/100 g	g/100g	g/100g	g/100g	g/100g	g/100g
Organic-Cereal-Pap Ingredients: Millet whole flour (68%), brown rice flour (25%), corn whole flour (5,4%), buckwheat flour (1,6%), thiamine Nutrients per 100g: Fat 3,6 g, carbohydrates 77 g, protein 11 g	100	>99,9	>99,9	>99,9	>99,9	>99,9
<i>further Ingredients:</i> <i>Maltodextrin and Silicon dioxide</i>	-	<0,1	<0,1	<0,1	<0,1	<0,1
Allergen-Contents	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<i>there of milk:</i>	-					
– as skimmed milk powder*		0,261	1,24	2,56	12,3	25,5
– with 33,0% total protein**		0,086	0,41	0,84	4,07	8,42
– with 26,4% casein***		0,069	0,33	0,67	3,26	6,74
– with 3,3% β-lactoglobulin***		0,009	0,04	0,08	0,41	0,84
<i>Extended combined uncertainty (k=2) of skimmed milk powder-content (= ± 9,0 %)</i>		± 0,023	± 0,11	± 0,23	± 1,1	± 2,3

*Allergen contents as „total food“ as described in column ingredients according to gravimetric mixture

** Protein contents according to laboratory analysis of raw material: 33,0 ± 0,36 %, n=5 (total nitrogen according to Kjeldahl with F=6,38 for milk protein)

*** Protein contents according to literature values (approx. 80% casein and 10% β-lactoglobulin in total milk protein)

Minimum Sample Size

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

The homogeneity tests were performed with sample sizes of 5 g (Microtracer analysis).

The mixture homogeneity before bottling was examined 8-fold by microtracer analysis. Homogeneity was sufficient with a probability of $\geq 25\%$ (excellent mixture) and a HorRat value in the range of acceptance (0,3 to 1,3) (for more details see final report of PT).

Reference Values

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

Reference Values qualitative ELISA and LC/MS Methods

	Level 0 „blank“	Level 1 0,25 mg/kg	Level 2 1,25 mg/kg	Level 3 (Action Level) 2,5 mg/kg	Level 4 12,5 mg/kg	Level 5 25 mg/kg
Number positive	0	2	5	10	13	13
Number negative	13	9	7	3	0	0
Percent positive	0	18	42	77	100	100
Percent negative	100	82	58	23	0	0
Consensus value	negative	negative	none	positive	positive	positive
Spiking	negative	positive	positive	positive	positive	positive

Methods:

AQ-C = AgraQuant Casein, RomerLabs

AQ-M = AgraQuant Milchprotein, RomerLabs

IL = Immunolab

ML-C = Morinaga Institute ELISA Casein

ML-L = Morinaga Institute ELISA Lactoglobulin

RS-FC= Ridascreen® Fast Casein, R-Biopharm

RS-FM= Ridascreen® Fast Milchprotein, R-Biopharm

VT = Veratox, Neogen

Reference Values quantitative in mg/kg ELISA

Parameter	Casein / Milk protein (as skimmed milk powder)	
	Level 3 (2,5 mg/kg)	Level 5 (25 mg/kg)
	All methods*	All methods*
Numbers of results	6	8
Number of outliers	0	0
Assigned Value (X_{pt})	3,45	29,7
Robust standard deviation	1,16	12,8
Standard uncertainty	0,590	5,64
Target standard deviation σ_{pt}	0,864	7,43
Target range	1,73 – 5,18	14,9 – 44,6

* Results of diverse ELISA Methods

Median of recovery rates: levels 2 – 4

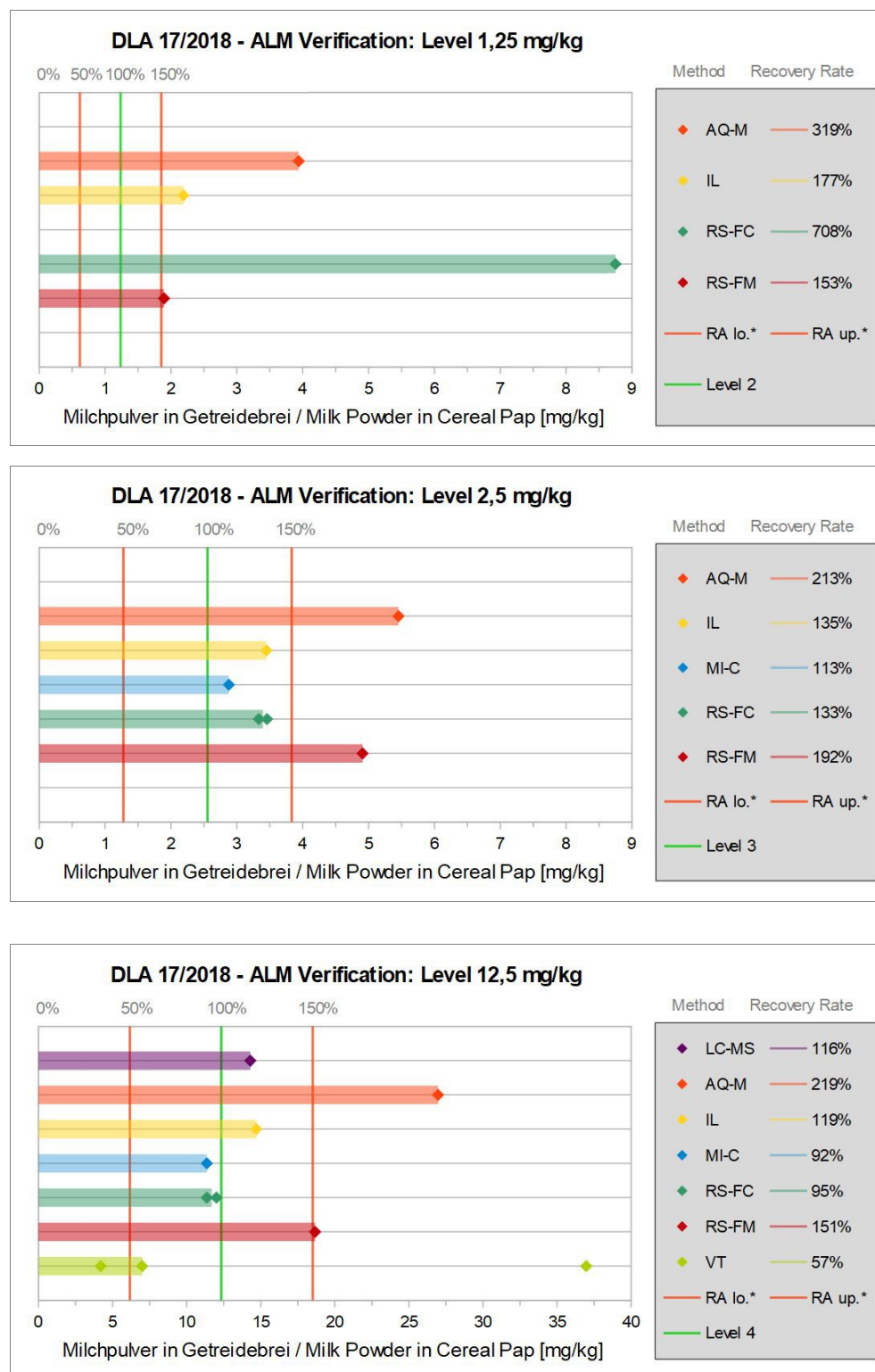


Abb./Fig. 1: Graphs of single results (Level 2-4) separated by methods with corresponding mean recovery rates, lower scale skimmed milk powder content in mg/kg, upper scale recovery rate in % with * range of acceptance from 50% - 150% (* range of acceptance: RA lower limit to RA upper limit)

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 9 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
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17 March 2025	4 May 2026