PRODUCT INFORMATION SHEET

Response PT Almond: 5 Processed Samples Almond (not roasted), Almond (roasted), Marzipan, Almond Spread and Almond Milk

PT originated REFERENCE MATERIAL (RM)

Description of the RM

Name / Material of related PT	*DLA 14-2019 Response PT Almond: 5 Processed Samples Almond (not roasted), Almond (roasted), Marzipan, Almond Spread and Almond Milk*
Identifier / LOT	*RM 2019-14 Set (1-6)*
Expiry date	*March 2027*
Matrix	*Potato Powder / Maltodextrin*
Physical description	*Powder*
Packaging / weight	*Sealed foil pouche / 6 x 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

Sample series	**Sample 1** **Almond, raw**	**Sample 2** **Almond milk**	**Sample 3** **Marzipan**	**Sample 4** **Almond roasted**	**Sample 5** **Almond cocoa spread**	**Sample 6** **„blank“**
Ingredients	**g/100 g**	**g/100g**	**g/100g**	**g/100g**	**g/100g**	**g/100g**
Potato powder Ingredients: potato, E471, E304, E223, E100 Nutrients per 100 g: Protein 8,3 g, carbohydrates 76 g, fat 0,6 g, salt 0,15 g	75	75	75	75	75	75
Maltodextrin	25	25	25	25	25	25
Allergen-Premixes Ingredients: maltodextrin (45% - 90%), titanium dioxide (<50%), silicon dioxide (<3%), processed allergen products (each 1,0% - 10% almond)	0,039	0,21	0,17	0,043	0,41	-
Allergen-Contents	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
*Almond, raw** Protein 20,5% ** (18 products, 5 countries, USA, Europe, Australia, Southwest Asia)	39,5	-	-	-	-	-
*Almond Milk** (3,0% Almonds and water, sugar, salt and other ingredients) Protein 0,626% ** *(5 products, Europe, Asia)*	-	103 (as dry mass)	-	-	-	-
*Marzipan** (62% Almonds and water, sugar, invert sugar syrup, glucose syrup, alcohol, invertase) Protein 13,1% ** *(5 products, Europe)*	-	-	65,6	-	-	-
*Almond, roasted** Protein 21,1 % ** *(19 products, 6 countries, USA, Europe, Australia, Southwest Asia)*	-	-	-	42,9	-	-
*Almond Cocoa Spread** (12% Almonds and other ingredients like skimmed milk powder, whey protein, cocoa, hazelnuts) Total protein 10,3 % *** *(5 products, Europe)*	-	-	-	-	400	-
– *as Almond*	39,5	29,7	40,7	42,9	48,1	-
Extended combined uncertainty (k=2) of almond-content (= ± 13 %)	± 5,14	± 3,86	± 5,90	± 5,29	± 6,25	-

*Allergen contents as „total food“ as described in column ingredients according to gravimetric mixture
** Protein contents according to laboratory analysis of raw material mixtures (total nitrogen according to Kjeldahl with F=5,18 for almond protein)
***Protein content calculated according to the declaration of the products (besides almond, other protein sources are included)

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 ≥ 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 PT round (for more details see final report).

Reference Values qualitative ELISA

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Number positive	11	3	11	11	11	0
Number negative	0	8	0	0	0	11
Percent positive	100	27	100	100	100	0
Percent negative	0	73	0	0	0	100
Consensus value	positive	none	positive	positive	positive	negative
Spiking	positive	positive	positive	positive	positive	negative

Methods:

AQ = AgraQuant, RomerLabs

AQ-P = AgraQuant Plus, RomerLabs

AS = AgraStrip (Lateral Flow), RomerLabs

BF = MonoTrace ELISA, BioFront Technologies

IL = Immunolab

RS-F= Ridascreen® Fast, R-Biopharm

VT = Veratox, Neogen

Reference Values qualitative PCR

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Number positive	6	6	7	3	7	0
Number negative	1	1	0	4	0	7
Percent positive	86	86	100	43	100	0
Percent negative	14	14	0	57	0	100
Consensus value	positive	positive	positive	none	positive	negative
Spiking	positive	positive	positive	positive	positive	negative

Methods:

ASU = ASU §64 Methode/method

GI = GEN-IAL First Allergen

GI-3= GEN-IAL First Allergen Triplex Nut

SFA = Sure Food Allergen, R-Biopharm / Congen

Reference Values qualitative *LC-MS/MS*

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Number positive	1	1	1	1	1	0
Number negative	0	0	0	0	0	1
Spiking	positive	positive	positive	positive	positive	negative

n = 1 (one set of results)

Methods:

LC-MS/MS = liquid chromatography

-Mass spectrometry

Median of Recovery Rates: Samples 1-3

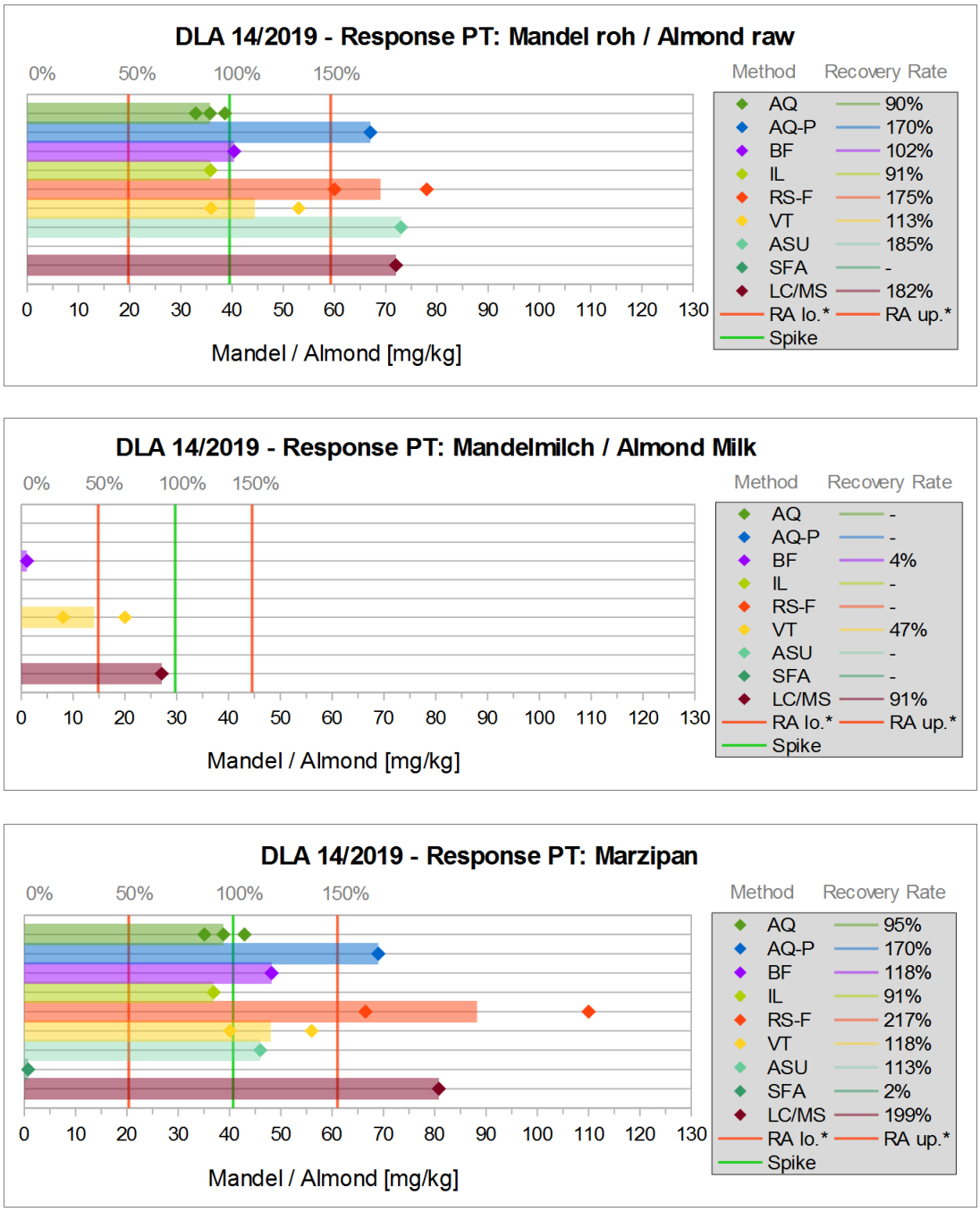
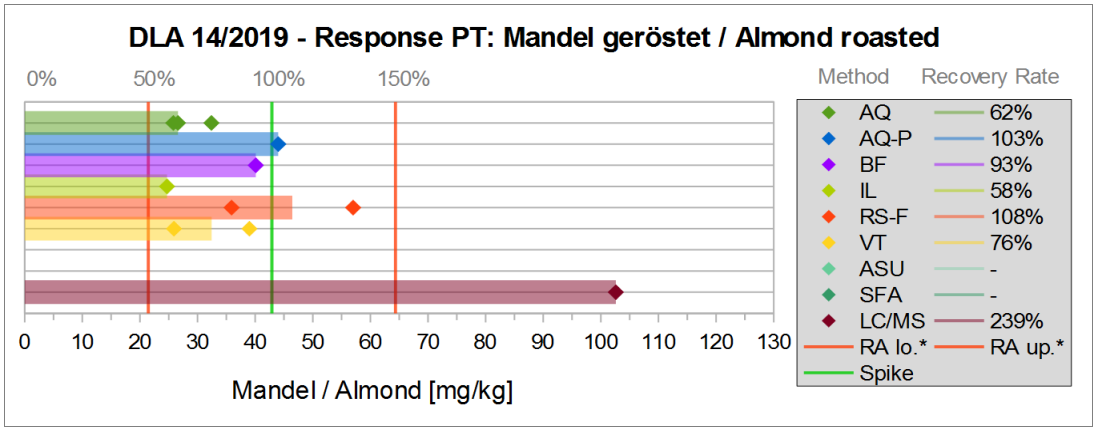


Abb./Fig. 1: Graphs of single results (Samples 1-3) separated by methods with corresponding mean recovery rates, lower scale almond content in mg/kg, upper scale recovery rate in % with * range of acceptance from 50% - 150% (* range of acceptance: RA lower limit to RA upper limit)

Median of Recovery Rates: Samples 4-5



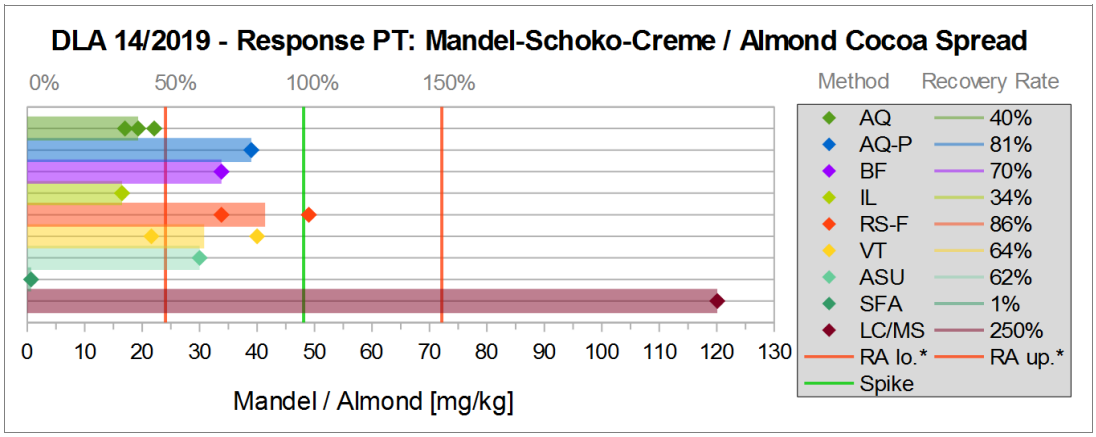


Abb./Fig. 2: Graphs of single results (Samples 4-5) separated by methods with corresponding mean recovery rates, lower scale almond content in mg/kg, upper scale recovery rate in % with * range of acceptance from 50% - 150% (* range of acceptance: RA lower limit to RA upper limit)

Intended Use

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

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 12 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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signed M. Besler-Scharf	*signed U. Vorreiter*
16 March 2023	2 April 2026