PRODUCT INFORMATION SHEET

Almond, Buckwheat, Brazil Nut and Cashew in Veggie Burger Powder (positive)

PT originated REFERENCE MATERIAL (RM)

Description of the RM

Name / Material of related PT	*DLA ptAL08 (2025) – Allergens VIII:* ***Almond, Buckwheat, Brazil Nut and Cashew*** *in Veggie Burger Powder with "Spiking Level Sample" (3 different Samples) –* ***Sample B*** *(positive sample)*
Identifier / LOT	*RM 2025-AL08 B*
Expiry date	*March 2027*
Matrix	*Veggie Burger Powder*
Physical description	*Powder*
Packaging / weight	*Sealed foil pouche / 25 g*
Storage conditions	*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	Sample A	**Sample B** **present sample**	Sample SP
Veggie Burger Powder, organic Ingredients: Textured pea protein 48%, sunflower seeds (partially defatted), thickener: methylcellulose, corn grits, rapeseed oil, onions, caramel powder, flavourings, table salt, beetroot, spices and **positive sample:** allergenic ingredients as below Nutrients per 100 g: Fat 9,2 g, Carbohydrates 22 g, Protein 39 g, Fiber 17 g, Salt 4,6 g	100 g/100 g	99,7 g/100 g	-
Potato Powder Ingredients: Potatoes, E471, E304, E223, E100	-	-	99,9 g/100 g
Almond, **roasted, milled** mixture (23 products from USA, Europe, Australia, Western Asia) – as almond* – *thereof 21,1% total protein***	 -	 40,9 mg/kg 8,64 mg/kg	 39,6 mg/kg 8,37 mg/kg
Brazil nut, milled – as brazil nut* – *thereof 12,9% total protein***	 -	 27,2 mg/kg 3,50 mg/kg	 27,2 mg/kg 3,51 mg/kg
Buckwheat, milled mixture (6 products from Europe, Asia) – as buckwheat* – *thereof 12,2% total protein***	 -	 40,1 mg/kg 4,87 mg/kg	 39,7 mg/kg 4,83 mg/kg
Cashew, roasted, milled mixture (9 products from Asia and unknown origin) – as cashew* – *thereof 18,5% total protein***	 -	 30,9 mg/kg 5,71 mg/kg	 29,2 mg/kg 5,40 mg/kg
further Ingredients: *Maltodextrin, sodium sulfate and silicon dioxide*	-	<0,3 g/100 g	<0,3 g/100 g

* Allergen contents as "total food" as described in the column ingredients according to the gravimetric mixture
** Protein contents according to laboratory analysis of the raw material (total nitrogen according to Kjeldahl with F=5,18 for almond protein, F=5,46 for brazil nut protein, F=6,25 for buckwheat protein and and F=5,3 for cashew protein)
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 / Homogeneity
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) and 1 - 5 g (ELISA methods), respectively.
The mixture homogeneity was examined 10-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). The homogeneity tests of the parameters Buckwheat and Cashew were carried out by ELISA analyzing two subsets from 10 test items (according to ISO 13528:2015 Annex B). Homogeneity was sufficient with a standard deviation between the samples Ss of ≤ 15% („heterogeneity standard deviation“) using ELISA test kits from different manufacturers, e.g. AgraQuant Allergen ELISA Romer Labs, GSD Allergen ELISA Gold Standard Diagnostics Kassel, Morinaga Food Allergen ELISA Kits MIoBS, Veratox ELISA for Food Allergens Neogen (for more details see final report of PT).

Reference Values
All reference values were derived from the related ISO 17043 accredited PT round (for more details see final report).

Reference Values quantitative in mg/kg ELISA

Parameter	**Almond**		**Brazil Nut**
	Other Methods*	Method RS-F**	Other Methods***
Number of results	16	7	7
Number of outliers	-	-	-
Assigned Value (Xpt)	***17,1***	***27,9***	***23,9***
Robust standard deviation	3,73	11,4	2,13
Standard uncertainty	1,16	5,37	1,00
Target standard deviation σpt	4,28	6,97	5,97
Target range	***8,55 – 25,7***	***13,9 – 41,8***	***11,9 – 35,8***

* ELISA Method: other Methods = all applied methods except RS-F
** ELISA Method: RS-F = Ridascreen® Fast, R-Biopharm
*** ELISA Method: other Methods = all except BF (Mono Trace ELISA, BioFront Technologies)

Parameter	**Cashew**	
	All Results*	Method SP**
Number of results	9	5
Number of outliers	1	-
Assigned Value (Xpt)	***28,1***	***31,2***
Robust standard deviation	6,28	4,22
Standard uncertainty	2,62	2,36
Target standard deviation σpt	7,02	7,79
Target range	***14 – 42,1***	***15,6 – 46,7***

* ELISA Method: diverse Methods
** ELISA Method: SP = SensiSpec ELISA Kit, Gold Standard Diagnostics

Reference Values qualitative ELISA

Parameter	Almond*	Brazil Nut*	Buckwheat*	Cashew*
Number positive	23	12	4	11
Number negative	0	0	0	0
Percent positive	100	100	100	100
Percent negative	0	0	0	0
Consensus value	***positive***	***positive***	***positive***	***positive***

* Results of diverse ELISA Methods (LODs positive results Almond 0,05-2,5 mg/kg, Brazil Nut 0,13-4 mg/kg, Buckwheat 0,06-1,0 mg/kg, Cashew 0,12-5 mg/kg)

Reference Values qualitative PCR

Parameter	Almond*	Brazil Nut*	Buckwheat*	Cashew*
Number positive	3	4	1	7
Number negative	4	1	0	1
Percent positive	43	80	100	88
Percent negative	57	20	0	13
Consensus value	***none***	***positive***	***-****	***positive***

* Results of diverse PCR Methods (LODs positive results Almond 0,4-40 mg/kg, Brazil Nut 0,4-10 mg/kg, Buckwheat 0,4 mg/kg, Cashew 0,4-7,5 mg/kg)
** The results are in qualitative agreement with the spiking of sample B

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 23 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.

created	approved (PT-Coordinator)	updated
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signed A. Scharf	*signed M. Besler-Scharf*	-
13 April 2026	13 April 2026	-