PRODUCT INFORMATION SHEET

Crustaceae, Fish, Molluscs and Peanut in Instant Noodle Soup (positive)

PT originated REFERENCE MATERIAL (RM)

Description of the RM

Name / Material of related PT	*DLA ptAL07 (2024) – Allergens VII: Crustaceae, Fish, Molluscs and Peanut in Instant Noodle Soup with "Spiking Level Sample" (3 different Samples) –* ***Sample A*** *(positive sample)*
Identifier / LOT	*RM 2024-AL07 A*
Expiry date	*February 2029*
Matrix	*Instant Noodle Soup*
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** **present sample**	Sample B	Sample SP
Instant Asian Noodle Soup (Powder) Ingredients: Noodles 77%, carrots, peas, shiitake mushrooms 1,9%, onions, salt, sodium glutamate 0,8% and **positive sample:** allergenic ingredients as below	99,7 g/100 g	100 g/100 g	-
Potato Powder Ingredients: Potatoes, E471, E304, E223, E100	-	-	99,7 g/100 g
Crustaceae: **King prawns, freeze-dried, milled** – as crustaceae, dried* – thereof 87,0% total protein** – calculated as tropomyosin***	 42,8 mg/kg 37,3 mg/kg 7,46 mg/kg	-	 45,7 mg/kg 39,7 mg/kg 7,94 mg/kg
Codfish *(Gadus morhua)*, frozen, freeze-dried, milled, mixture (2 products, Northeast Atlantic) – as fish, dried* – thereof 78,4% total protein** – calculated as fresh fish***	 47,8 mg/kg 37,5 mg/kg 239 mg/kg	-	 45,0 mg/kg 35,3 mg/kg 225 mg/kg
Molluscs: **Pacific Oyster *(Crassostrea gigas),* boiled (5 min), freeze dried, milled** – as molluscs, dried* – thereof 45,5% total protein** – calculated as boiled oyster, wet weight***	 76,7 mg/kg 34,9 mg/kg 307 mg/kg	-	 74,6 mg/kg 33,9 mg/kg 298 mg/kg
Peanut, roasted, milled, mixture (18 products from USA, Asia, Africa, South America) – as peanut* – thereof 23,2% total protein**	 15,3 mg/kg 3,54 mg/kg	-	 15,8 mg/kg 3,67 mg/kg
further Ingredients: *Maltodextrin 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=6,25 for crustaceae

protein, F=5,60 for fish protein, F=6,25 for mussel protein and F=5,46 for peanut protein)
*** Crustaceae: calculation with approx. 20% tropomyosin in crustaceae protein; Fish: calculation of fresh codfish with a water content of 80%; Molluscs: calculation of pacific oyster weight weight with 25% dry matter (determined gravimetrically after freeze-drying by DLA)

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 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 PT round (for more details see final report).

Reference Values quantitative in mg/kg ELISA

Parameter	**Crustaceae Protein**	
	Results Goup 1	Results Goup 2 (**Info**)*
Number of results	11	5°
Number of outliers	-	3
Assigned Value (Xpt)	***4,62***	***33,6***
Robust standard deviation	2,10	15,6
Standard uncertainty	0,791	8,69
Target standard deviation σpt	1,15	8,40
Target range	***2,31 – 6,93***	***16,8 – 50,4***

Group 1: AQ = AgraQuant, RomerLabs, BC = BioCheck, ES = ELISA-Systems, GSD = Gold Standard Diagnostics, Kassel, NL-E = NutriLinia, SP = SensiSpec, Gold Standard Diagnostics
Group 2: MI-II = Morinaga Institute ELISA Kit II, RS-E = Ridascreen Easy, R-Biopharm, RS-F= Ridascreen® Fast, R-Biopharm
° without outliers / (Info): for information only

Parameter	**Fish**	
	All Results*	Method AQ**
Number of results	9°	6
Number of outliers	3	-
Assigned Value (Xpt)	***158***	***162***
Robust standard deviation	56,1	53,9
Standard uncertainty	23,4	27,5
Target standard deviation σpt	39,6	40,6
Target range	***79,2 – 238***	***81,1 – 243***

° without outliers
* ELISA Method: divers Methods
** ELISA Method: AQ = AgraQuant, RomerLabs

Parameter	**Molluscs as Tropomyosin**	
	All Results*	Method AQ**
Number of results	11°	6°
Number of outliers	1	1
Assigned Value (Xpt)	***0,0652***	***0,0645***
Robust standard deviation	0,0206	0,0182
Standard uncertainty	0,00776	0,00929
Target standard deviation σpt	0,0163	0,0161
Target range	***0,0326 – 0,0979***	***0,0322 – 0,0967***

° without outlier
* ELISA Method: divers Methods
** ELISA Method: AQ = AgraQuant, RomerLabs

Parameter	**Peanut**	
	All Results*	Method RS**
Number of results	18	8
Number of outliers	-	-
Assigned Value (Xpt)	***28,7***	***26,7***
Robust standard deviation	11,0	8,45
Standard uncertainty	3,23	3,73
Target standard deviation σpt	7,17	6,68
Target range	***14,3 – 43,0***	***13,4 – 40,1***

* ELISA Method: divers Methods
** ELISA Method: RS = Ridascreen®, R-Biopharm

Reference Values qualitative ELISA

Parameter	**Crustaceae Protein***	**Fish***	**Molluscs (as Tropomyosin)***	**Peanut***
Number positive	23	12	12	21
Number negative	0	1	0	0
Percent positive	100	92	100	100
Percent negative	0	8	0	0
Consensus value	***positive***	***positive***	***positive***	***positive***

* Results of diverse ELISA Methods (LODs positive results Crustaceae Protein 0,1-0,31 mg/kg, Fish 1,0-5 mg/kg, Molluscs (Tropomyosin) 0,0017-0,01 mg/kg, Peanut 0,1-15 mg/kg)

Reference Values qualitative PCR

Parameter	**Crustaceae***	**Fish***	**Molluscs***	**Peanut***
Number positive	14	15	10	14
Number negative	0	1	2	0
Percent positive	100	94	83	100
Percent negative	0	6	17	0
Consensus value	***positive***	***positive***	***positive***	***positive***

* Results of diverse PCR Methods (LODs positive results Crustaceae 0,4-10 mg/kg, Fish 1,0-17 mg/kg, Molluscs 0,4-10 mg/kg, Peanut 0,4-10 mg/kg)

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 31 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
Ulrike Vorreiter	Matthias Besler-Scharf, PhD	Ulrike Vorreiter
signed U. Vorreiter	*signed M. Besler-Scharf*	*signed U. Vorreiter*
14 April 2025	14 April 2025	17 February 2026