# PRODUCT INFORMATION SHEET

## *Gluten (Rye, Secale cereale), Lupin and Sesame in Tortilla Chips (baked) (positive)*

*PT originated REFERENCE MATERIAL (RM)*

**Description of the RM**

| | |
|---|---|
| Name / Material of related PT | *DLA ptAL02 (2026) – Allergens II: Gluten (Rye, Secale cereale), Lupin and Sesame in Tortilla Chips (baked) [Samples A + B] and "Spiking Level Sample" [SP] (3 different Samples) – **Sample B** (positive sample)* |
| Identifier / LOT | *RM 2026-AL02 B* |
| Expiry date | *May 2027* |
| Matrix | *Tortilla Chips (baked)* |
| 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***<br>*Hauptstr. 80, 23845 Oering, Germany*<br>*Tel. ++49-(0)4532-9183358, Fax. ++49(0)4102-9944976*<br>*eMail. pt@dla-lvu.de, website. www.dla-lvu.de* |

**Composition of Material**

| **Ingredients** | Sample A | **Sample B**<br>**present sample** | Sample SP |
|---|---|---|---|
| **Tortilla Chips, organic, gluten-free**<br>Ingredients: maize flour, sunflower oil, salt<br>Nutrients per 100 g:<br>Fat 22 g, Carbohydrates 63 g, Protein 6,7 g, Salt 0,8 g | 100 g/100 g | 90,0 g/100 g | - |
| **Tortilla Chips, organic, spiked (baked 190°C, 30 min)**<br>Ingredients: maize flour, sunflower oil, salt and<br>**positive sample:** incurred allergenic ingredients and further ingredients as below | | 10,0 g/100 g | - |
| **Potato Powder**<br>Ingredients: Potatoes, E471, E304, E223, E100 | - | - | 99,9 g/100 g |
| ***Rye (Secale cereale),* flour** (1 product from Europe)<br>– as rye flour*<br>– *thereof 7,42% total protein***<br>– *calculated as gluten**** | <br><br><br>- | <br>54,2 mg/kg<br>4,02 mg/kg<br>2,09 mg/kg | <br>52,2 mg/kg<br>3,90 mg/kg<br>2,03 mg/kg |
| ***Sweet Lupin* flour**, mixture (4 products from Europe)<br>– as lupin flour*<br>– *thereof 38,6% total protein*** | <br><br>- | <br>27,6 mg/kg<br>10,7 mg/kg | <br>25,3 mg/kg<br>9,75 mg/kg |
| ***Sesame, black (Sesamum indicum)***<br>**Seeds, ground, mixture** (6 products from Asia and unknown)<br>– as sesame*<br>– thereof 21,1% total protein** | <br><br><br>- | <br><br>21,0 mg/kg<br>4,39 mg/kg | <br><br>22,3 mg/kg<br>4,70 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=5,83 for rye protein, F=6,25 for lupin protein and F=6,25 for sesame protein)

*** Gluten content in rye protein 52% according to: AOAC guidelines for validation of quantitative gluten methods, Annex B

***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 parameter Sesame were carried out by ELISA analyzing two subsets from 10 test items (according to ISO 13528:2022 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 Morinaga BioScience, Inc. (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** | **Gluten** | | **Sesame** | |
|---|---|---|---|---|
| | All Results* | Method RS** | “Group 1” *** | Method RS-F**** |
| Number of results | 37 | 29 | 12° | 7 |
| Number of outliers | - | - | 1 | - |
| ***Assigned Value (Xpt)*** | ***9,26*** | ***9,52*** | ***8,34*** | ***22,5*** |
| Robust standard deviation | 2,34 | 2,25 | 3,40 | 5,75 |
| Standard uncertainty | 0,481 | 0,523 | 1,23 | 2,72 |
| Target standard deviation σpt | 2,32 | 2,38 | 2,08 | 5,63 |
| ***Target range*** | ***4,63 – 13,9*** | ***4,76 – 14,3*** | ***4,17 – 12,5*** | ***11,3 – 33,8*** |

* ELISA Method: divers Methods
** ELISA Method: RS = Ridascreen®, R-Biopharm
*** ELISA Method: “Group 1” = AQ = AgraQuant, RomerLabs, AQ-P = AgraQuant Plus, RomerLabs,BC = BioCheck ELISA, ES = ELISA-Systems, GSD = ELISA, Gold Standard Diagnostics, Kassel, MI-II = Morinaga Institute ELISA Kit II, SP = SensiSpec ELISA Kit, Gold Standard Diagnostics,
**** ELISA Method: RS-F = R-Biopharm, Ridascreen Fast
° without outlier

**Reference Values qualitative ELISA**

| **Parameter** | **Gluten*** | **Lupin*** | **Sesame*** |
|---|---|---|---|
| Number positive | 37 | 4 | 21 |
| Number negative | 0 | 11 | 0 |
| Percent positive | 100 | 27 | 100 |
| Percent negative | 0 | 73 | 0 |
| ***Consensus value*** | ***positive*** | *none* ** | ***positive*** |

* Results of diverse ELISA Methods (LODs are in the common range of the applied ELISA Testkits, for specific values see final report)
** For sample B, no consensus value of at least 75% concordant (positive or negative) results was obtained for the different ELISA methods. The few positive results were close to or below the LOD or LOQ of the respective methods.

**Reference Values qualitative PCR**

| Parameter | Gluten-containing Cereals* | Lupin* | Sesame* |
|---|---|---|---|
| Number positive | 3 | 11 | 8 |
| Number negative | 0 | 1 | 2 |
| Percent positive | 100 | 92 | 80 |
| Percent negative | 0 | 8 | 20 |
| ***Consensus value*** | ***positive*** | ***positive*** | ***positive*** |

* Results of diverse PCR Methods (LODs are in the common range of the applied PCR Methods, for specific values see final report

**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, 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 36 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 | - |
| *signed U. Vorreiter* | *signed M. Besler-Scharf* | - |
| 18 June 2026 | 19 June 2026 | - |