

PRODUCT INFORMATION SHEET

Vitamins B1, B2, B6, Biotin, Vitamin C, Folic Acid, Niacin and Pantothenic Acid in Capsule Powder

PT originated REFERENCE MATERIAL (RM)

Description of the RM

Name / Material of related PT	<i>DLA ptSU01 (2026) – Food Supplement I: Vitamins B1, B2, B6, B12, Biotin, Vitamin C, Folic Acid, Niacin and Pantothenic Acid in Capsule Powder</i>
Identifier / LOT	<i>RM 2026-SU01</i>
Expiry date	<i>July 2027</i>
Matrix	<i>Capsule Powder</i>
Physical description	<i>Powder</i>
Packaging / weight	<i>Sealed foil pouche / 50 g</i>
Storage conditions	<i>2 - 10°C (dry and dark)</i>
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

Multivitamin capsules, tablets and premixes

Micronutrient premix (1. food supplement)

Ingredients: Calcium carbonate, Ascorbic acid (vitamin C), Ferric pyrophosphate micronized, DL-alpha tocopheryl (vitamin E) acetate powder, Maltodextrin (carrier)
Retinyl (vitamin A) palmitate powder, Nicotinamide, Ergocalciferol (vitamin D2) powder, Calcium-D-pantothenate, Folic acid 10% on corn maltodextrin, Cyanocobalamin (vitamin B12) 0.1% on mannitol, Thiamine (vitamin B1) mononitrate, Pyridoxine (vitamin B6) hydrochloride, Riboflavin (vitamin B2)

Beta Carotene capsules (2. food supplement)

Ingredients: Beta-carotene, carrot extract, beetroot extract

Alpha Lipoic Acid powder (3. food supplement)

Ingredients: Alpha lipoic acid

Vitamin K1 tablets (4. food supplement)

Ingredients: Microcrystalline cellulose (plant fiber), stearic acid, croscarmellose sodium, magnesium stearate, silica, hypromellose, glycerol

Biotin (5. food supplement)

Ingredients: Myo-inositol, D-biotin

Coenzyme Q10 (6. food supplement)

Ingredients: Coenzyme Q10 (99% ubiquinone)

Further Ingredient: Maltodextrin

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 after bottling** was examined 10-fold by determination of the parameter Vitamin C, Vitamin B2 und Folic Acid by HPLC-DAD. The repeatability standard deviations were with 1,2 - 5,3 % in the range of repeatability standard deviations of the standardized methods (e.g. ASU-Methods). The results of homogeneity analysis are given in the documentation.

The calculation of the **repeatability standard deviations S_r of the participants** was also used as an indicator of homogeneity. For all parameters except Vitamin B12 the repeatability standard deviation was $\leq 6,9\%$. Thus, they were similar to corresponding repeatability standard deviations of precision data of the standardized methods (e.g. ASU methods / EN ISO methods).

Reference Values

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

Reference Values quantitative

Parameter	Vitamin B1 (as Thiamine-cation)	Vitamin B2 (as Riboflavin)	Vitamin B6 (as Pyridoxine)
	mg/100g	mg/100g	mg/100g
Number of results	9	11	9
Number of outliers	-	-	-
Assigned Value (X_{pt})	11,2	8,29	3,72
Robust standard deviation	1,93	1,44	0,496
Standard uncertainty	0,806	0,542	0,207
Target standard deviation σ_{pt}	1,31	0,957	0,345
Target range	8,55 – 13,8	6,38 – 10,2	3,03 – 4,41

° without outliers

Parameter	Vitamin B12 (as Cyanocobalamine)*	Biotin	Vitamin C (as Ascorbic Acid)
	µg/100g	µg/100g	mg/100g
Number of results	7	10	9
Number of outliers	-	-	-
Assigned Value (X_{pt})	21,3	7074	5083
Robust standard deviation	12,8	2176	549
Standard uncertainty	--	860	229
Target standard deviation σ_{pt}	--	1168	533
Target range	--	4739 – 9409	4016 – 6149

* no evaluation due to the heterogeneity of results, data for information only

° without outliers

Parameter	Folic Acid (as Pte- roylmonoglutaminic)	Niacin	Pantothenic Acid
	µg/100g	mg/100g	mg/100g
Number of results	10	10	6°
Number of outliers	-	-	1
Assigned Value (X_{pt})	1692	22,1	12,4
Robust standard deviation	118	1,43	1,49
Standard uncertainty	46,7	0,564	0,760
Target standard deviation σ_{pt}	177	1,57	0,961
Target range	1338 – 2045	19,0 – 25,3	10,5 – 14,3

° without outliers

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 poche/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 poche/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 15 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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<i>signed M. Besler-Scharf</i>	<i>signed M. Besler-Scharf</i>	-
5 August 2026	5 August 2026	-