muva kempten

REFERENCE-MATERIALS

Catalogue
November 2022

www.muva.de

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Trust is good – control is better

In the context of quality assurance in applied food analysis, the question always arises of how close a test result is to the "true value". It is essential to clarify this question and to examine it continuously. This is the only way to evicence your skills and secure the trust of your customers.

Guaranteed correct results with our reference material

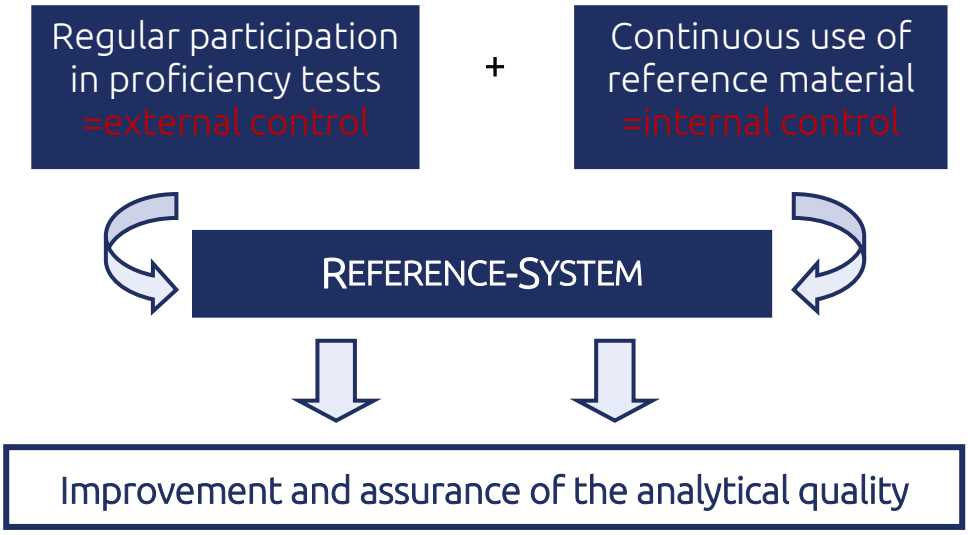
We at muva kempten GmbH have many years of experience in characterizing and dealing with reference material, work in numerous national and international working groups, and have long been familiar with quality management in the laboratory and analytical quality assurance. With over 170 employees, we have outstanding expertise in analytics and related issues. In addition, we are accredited by the German Accreditation Service (DAkkS) as a test laboratory according to DIN EN ISO / IEC 17025: 2018-03 and as a provider of international proficiency tests according to DIN EN ISO/IEC 17043:2010-05.

We can provide you with reference material according to your needs, therefore we differentiate between chemical-physical, microbiological, and sensory reference materials.

Integral quality assurance

In addition to the use of reference material, regular participation in proficiency tests is essential for any high-quality laboratory. With us, you get a complete service package consisting of reference materials, proficiency tests, seminars, in-house training courses, and additional competent support and advice from our in-house accredited laboratory.

Using these tools, it can be ensured that there is a high probability that analytical results are correct, that means they are close to the true value. In addition, complete and plausible documentation of the analysis accuracy is possible and thus provides the greatest possible security, which can also be presented to customers and certification bodies.



Our reference materials

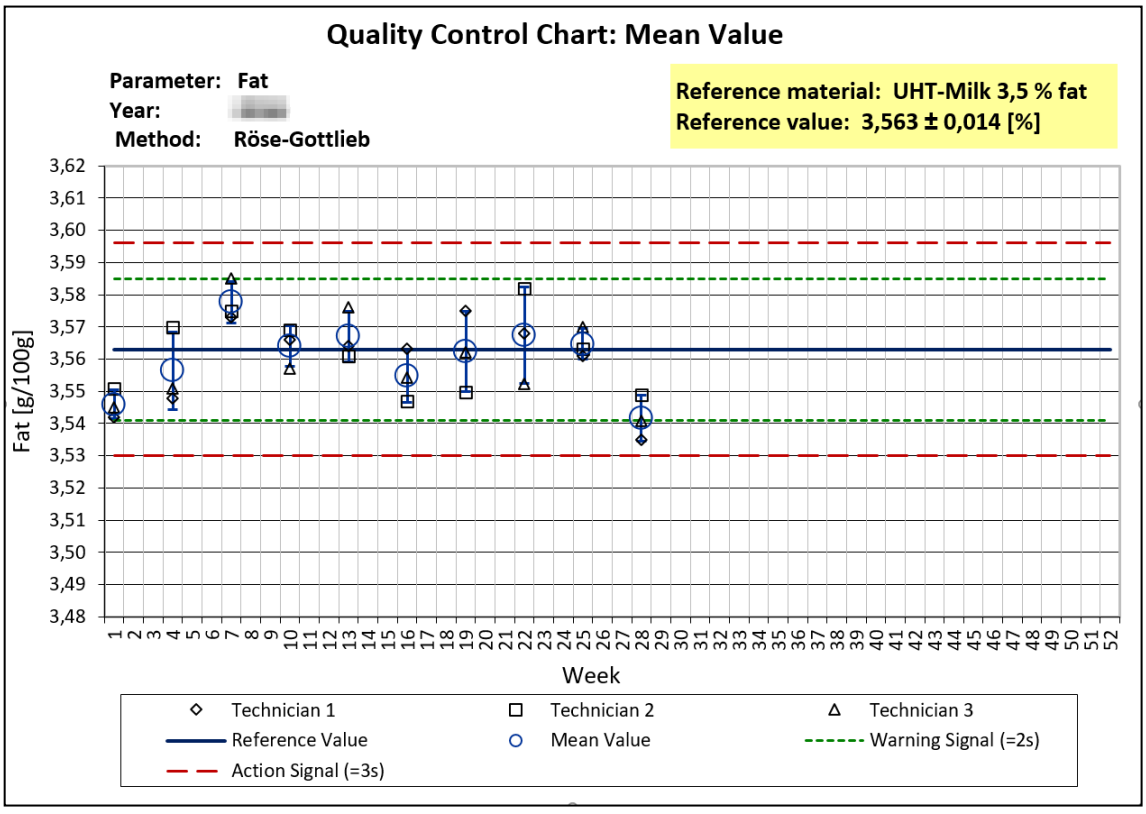
The reference materials from muva kempten GmbH are produced in accordance with the currently valid international guidelines (e.g. DIN EN ISO 17034) and stands out by their high quality.

- The reference values for the various parameters are based on extensive data sets that have often been determined in several laboratory comparison tests. This ensures that the values are highly reliable.
- The homogeneity of the material with regard to all parameters are examined in our accredited laboratory.
- The reference materials are designed primarily for long-term stability. During the storage period, they are regularly monitored for stability by our accredited laboratory.
- You will receive a clear and informative data sheet for each reference material.

Applications of the reference materials

Through the continuous monitoring of the chem.-phys. and microbiological analysis, quality control charts can be created. In addition to the regular control of the analytical reproducibility, errors, trends and systematic deviations can be seen at a glance and can therefore be quickly and effectively rectified. Furthermore, reference material can be used for:

- Optimization of analytical processes
- Research into the causes of inconsistencies in the analysis
- Training und monitoring of the staff
- Estimation of the measurement uncertainty
- Calibration of analysis equipment
- Validation of methods



News

New layout of our website

As you may have noticed, we have modernised our website. If not, we invite you to explore it.

https://www.muva.de/

You can now easily find the proficiency tests and reference materials under “Lebensmittel”:

- Analytische Qualitätssicherung

  https://www.muva.de/analytische-qs

All documents, such as the current catalogue or the order form for the reference materials are linked on the reference materials site.

Or simply have a look at our Infothek. There you will also find all documents under "R" like “Referenzmaterialien”.

The English-language site is due to go online soon.

Limited quantity labelling

By popular request, you can now see at a glance which reference materials are still in stock in limited quantities. So that you still have the possibility to order the suitable material. The materials are labelled with the following icon:

Our discount system

You will find our new scale of discounts on page 23:

from 8 units: 5 %
from 15 units: 10 %
from 35 units: 15 %

New contact partner

We are pleased to welcome a new member of staff to our department. Luana Scarvaglieri will be available to answer all your questions about our reference material.

Luana Scarvaglieri
Tel.: +49 (0) 831/5290-233
E-Mail: ring-ref@muva.de

Luana Scarvaglieri

Chemical-physical analyses

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
UHT MILK						
muva-M- available from December!	**UHT Milk** Skimmed Milk (sterilized) Best before:	Fat	g/100g			29,05
		Dry matter	g/100g			
		Protein	g/100g			
		Lactose (monohydrate)	g/100g			
		Freezing point	°C			
		pH-value	/			
		Density	g/ml			
muva-M-0150	**UHT Milk** 3,5 % Fat Best before: 02/2023	Fat	g/100g	3,563	500 ml	29,05
		Dry matter	g/100g	12,54		
		Protein	g/100g	3,427		
		Lactose (monohydrate)	g/100g	4,729		
		Freezing point	°C	-0,5227		
		Density	g/ml	1,0313		
muva-M-0151	**UHT Milk** 1,5 % Fat Best before: 05/2023	Fat	g/100g	1,470	250 ml	29,05
		Dry matter	g/100g	10,52		
		Protein	g/100g	3,575		
		Lactose (monohydrate)	g/100g	4,632		
		Freezing point	°C	-0,5068		
		Density	g/ml	1,0321		
UHT MILK (LOW IN LACTOSE, LACTOSE FREE)						
muva-ML-2314	**UHT Milk** (low in lactose) Best before: 01/2023	Lactose (monohydrate):				
		HPLC	g/100g	0,199	100 ml	31,15
		Enzym. (Gal.)	g/100g	0,452		
		Enzym. (Glc.)	g/100g	0,313		
		Galactose enzym.	g/100 g	2,14		
		Glucose enzym.	g/100 g	2,20		
muva-ML-2316 ❄	**UHT Milk** (low in lactose) Best before: 03/2023	Lactose (monohydrate):				
		HPLC	g/100g	0,206	300 ml	31,15
		Enzym. (Gal.)	g/100g	0,371		
		Enzym. (Glc.)	g/100g	0,293		
		Galactose enzym.	g/100 g	2,10		
		Glucose enzym.	g/100 g	2,19		
muva-ML-2317 ❄	**UHT Milk** (free of lactose) Best before: 12/2022	Lactose (monohydrate):				
		HPLC	g/100g	0,003	40 ml	31,15
		Enzym. (Gal.)	g/100g	0,052		
		Enzym. (Glc.)	g/100g	0,032		
		Galactose enzym.	g/100 g	2,36		
		Glucose enzym.	g/100 g	2,40		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
NEW muva-ML-2318 ❄	**UHT Milk** (low lactose) Best before: 08/2023	Lactose (monohydrate): HPLC	g/100g	0,204	40 ml	31,15
		Enzym. (Gal.)	g/100g	0,397		
		Enzym. (Glc.)	g/100g	0,316		
		Galactose enzym.	g/100 g	2,09		
		Glucose enzym.	g/100 g	2,23		
NEW muva-ML-2319 ❄	**UHT Milk** (free of lactose) Best before: 08/2023	Lactose (monohydrate): HPLC	g/100g	0,003	40 ml	31,15
		Enzym. (Gal.)	g/100g	0,028		
		Enzym. (Glc.)	g/100g	0,029		
		Galactose enzym.	g/100 g	2,34		
		Glucose enzym.	g/100 g	2,40		
ALKALINE PHOSPHATASE ACTIVITY IN MILK						
muva-MAP- ❄	**Pasteurised milk** + raw milk (frozen) available from March of 2023	Alkaline Phosphatase Activity	mU/l		5 ml	27,50
RAW MILK						
muva-RO-0763 ❄	**Raw milk** (shock frozen) Best before: 01/2024	Fat	g/100g	4,522	40ml	26,15
		Dry matter	g/100g	13,80		
		Protein	g/100g	3,759		
		Lactose monohydrate	g/100g	4,798		
		Freezing point	°C	-0,5223		
		pH-value	/	6,72		
		Casein	g/100g	2,992		
muva-RO-0764 ❄	**Raw milk** (shock frozen) Best before: 01/2024	Fat	g/100g	1,95	40ml	26,15
		Dry matter	g/100g	11,25		
		Protein	g/100g	3,703		
		Lactose monohydrate	g/100g	4,863		
		Freezing point	°C	-0,5186		
		pH-value	/	6,70		
		Casein	g/100g	2,942		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
FATTY ACID COMPOSITION IN RAW MILK						
muva-FM-2106	**Fatty acid composition** in raw milk (shock frozen) Best before: 09/2023	Butyric acid (C4:0)	g/100 g	3,36	40 ml	58,10
		Caproic acid (C6:0)	g/100 g	2,06		
		Caprylic acid (C8:0)	g/100 g	1,19		
		Capric acid (C10:0)	g/100 g	2,59		
		Lauric acid (C12:0)	g/100 g	3,05		
		Myristic acid (C14:0)	g/100 g	10,66		
		Myristoleic acid (C14:1)	g/100 g	0,93		
		Palmitic acid (C16:0)	g/100 g	28,65		
		Palmetoleic acid (C16:1 cis)	g/100g	1,79		
		Stearic acid (C18:0)	g/100 g	10,34		
		Oleic acid (C18:1 cis-9)	g/100 g	22,61		
		Elaidic acid (C18:1 total trans)	g/100 g	2,55		
		Linoleic acid (C18:2 all-cis-9,12)	g/100 g	1,32		
		C18:2 total trans	g/100g	0,80		
		Linolenic acid (C18:3 all-cis-9,12,15)	g/100 g	0,50		
		Arachidic acid (C20:0)	g/100 g	0,15		
AFLATOXIN M1 IN RAW MILK						
muva-MA-2409	**Aflatoxin M1** in raw milk (shock frozen) Best before: 08/2023	Aflatoxin M1	µg/kg	0,036	40 ml	28,55
muva-MA-2410	**Aflatoxin M1** in raw milk (shock frozen) Best before: 08/2023	Aflatoxin M1	µg/kg	0,010	40 ml	28,55
VETERINARY DRUGS						
muva-TAZ-2701	**Veterinary drugs** in raw milk (shock frozen) Best before: 12/2022	Penicillin G	µg/kg	2,75	40 ml	68,65
		Cloxacillin		28,70		
		Ampicillin		4,10		
		Cefalexin		101,12		
		Cefoperazon		44,82		
		Sulfadimidin		110,72		
		Tetracyclin		110,46		
		Enrofloxcin		100,66		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
muva-TAZ-2702 ❄	**Veterinary drugs** in raw milk (shock frozen) Best before: 12/2022	Penicillin G	µg/kg	--	40 ml	68,65
		Cloxacillin		6,49		
		Ampicillin		--		
		Cefalexin		22,76		
		Cefoperazon		7,84		
		Sulfadimidin		20,98		
		Tetracyclin		21,28		
		Enrofloxcin		22,61		
muva-TAM-2804 (qualitative) ❄	**Veterinary drugs** in raw milk (shock frozen) Best before: 10/2023	Cefalonium	Content ca. 10% above MRL		40 ml	31,70
muva-TAM-2805 (qualitative) ❄	**Veterinary drugs** in raw milk (shock frozen) Best before: 10/2023	Penicillin G	Content ca. 10% above MRL		40 ml	31,70
MILK FOR POWDER PRODUCTION						
muva-PM-2901 ❄	**Base milk for powder production** (shock frozen) Best before: 03/2023	Fat	g/100g	3,508	40ml	30,65
		Dry matter	g/100g	13,00		
		Protein	g/100g	3,341		
		Lactose monohydrate	g/100g	5,361		
		pH-value	/	6,68		
EVAPORATED MILK / COFFEE CREAM						
muva-KM-0517	**Evaporated milk** 8 % Fat Best before: 12/2022	Fat	g/100g	8,12	170 g	28,55
		Dry matter	g/100g	25,88		
		Protein	g/100g	6,12		
		Ash	g/100g	1,30		
		Phosphorus	mg/kg	1644		
muva-KM-0518	**Coffee cream** 10 % Fat Best before: 04/2023	Fat	g/100g	10,18	250 ml	28,55
		Dry matter	g/100g	18,36		
		Protein	g/100g	3,15		
		Ash	g/100g	0,66		
		Phosphorus	mg/kg	868		
muva-KM-0519	**Evaporated milk** 4 % Fat Best before: 04/2025	Fat	g/100g	4,09	170 g	28,55
		Dry matter	g/100g	24,31		
		Protein	g/100g	7,09		
		Ash	g/100g	1,49		
		Phosphorus	mg/kg	2050		
NEW muva-KM-0520	**Evaporated milk** 8 % Fat Best before: 04/2025	Fat	g/100g	8,14	170 g	28,55
		Dry matter	g/100g	25,71		
		Protein	g/100g	6,16		
		Ash	g/100g	1,32		
		Phosphorus	mg/kg	1696		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
YOGHURT						
muva-JO-1429	**Yoghurt** 1,8% Fat Best before: 02/2023	Fat	g/100g	1,82	500 g	28,55
		Dry matter	g/100g	12,79		
		Protein	g/100g	4,7		
		Lactic acid	mg/100g	978		
		pH-value	/	4,24		
muva-JO-1430	**Yoghurt** 3,8% Fat Best before: 02/2023	Fat	g/100g	3,76	500 g	28,55
		Dry matter	g/100g	14,22		
		Protein	g/100g	4,52		
		Lactic acid	mg/100g	1068		
		pH-value	/	4,10		
UHT CREAM						
muva-R-0441	**UHT Cream** 30 % Fat Best before: 01/2023	Fat	g/100g	30,38	ca. 100 ml	25,90
		Dry matter	g/100g	37,08		
		Protein	g/100g	2,45		
muva-R- Currently not available	**UHT Cream** 35 % Fat	Fat	g/100g			25,90
		Dry matter	g/100g			
		Protein	g/100g			
muva-R-0443	**UHT Cream** 30 % Fat Best before: 03/2023	Fat	g/100g	30,14	ca. 100 ml	25,90
		Dry matter	g/100g	36,49		
		Protein	g/100g	2,41		
muva-R-0444	**UHT Cream** 15 % Fat Best before: 03/2023	Fat	g/100g	14,95	ca. 100 ml	25,90
		Dry matter	g/100g	22,80		
		Protein	g/100g	3,03		
BUTTER						
muva-BU-1311 ❄	**Mildly soured butter** Best before: 12/2022	Solids non-fat	g/100g	1,59	250 g	30,65
		Water	g/100g	15,43		
		Cholesterol	mg/kg	2295		
		Butyric acid methyl ester	g/100g	3,85		
		Milk fat	g/100g	82,22		
muva-BU-1314 ❄	**Sweet cream butter** salted Best before: 06/2023	Solids non-fat	g/100g	2,73	250 g	30,65
		Water	g/100g	16,25		
		pH-value	/	6,48		
		Cholesterol	mg/kg	2203		
		Chloride	mg/100g	828		
		Sodium chloride (via Chloride)	g/100g	1,36		
		Butyric acid methyl ester	g/100g	3,83		
muva-BU-1315 ❄	**Sweet cream butter** Best before: 12/2024	Solids non-fat	g/100g	1,58	250 g	30,65
		Water	g/100g	15,64		
		pH-value	/	6,75		
		Cholesterol	mg/kg	2160		
		Butyric acid methyl ester	g/100g	3,83		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
muva-BU-1316 ❄	Sweet cream butter salted	Solids non-fat	g/100g	2,43		
		Water	g/100g	15,88		
		pH-value	/	6,51		
	Best before: 11/2025	Cholesterol	mg/kg	2204		
		Sodium	mg/100g	463	250 g	30,65
		Chloride	mg/100g	711		
		Sodium Chloride:				
		- via chloride	g/100g	1,17		
		- via sodium	g/100g	1,18		
		Butyric acid methyl ester	g/100g	3,66		
muva-BU-1317 ❄	Mild acid butter	Solids non-fat	g/100g	1,33		
		Water	g/100g	15,53		
	Best before: 12/2025	pH-value	/	6,21	250 g	30,65
		Cholesterol	mg/kg	2280		
		Butyric acid methyl ester	g/100g	3,78		
PROCESSED CHEESE						
muva-SK-0320	Processed cheese 55 % f.i.d.m.	Fat	g/100 g	24,75		
		Dry matter	g/100 g	44,24		
		Protein N x 6,38	g/100 g	12,29		
	Best before: 4 weeks after shipment	Lactose (monohydrate)	g/100 g	2,66		
		Ash	g/100g	3,54		
		pH-value	/	5,85		
		Citronic acid	mg/100g	112,7	250 g	38,05
		Chloride	mg/100g	315		
		Sodium chloride via Chloride	g/100g	0,52		
		Sodium	mg/100g	810		
		Sodium chloride (via Sodium)	g/100g	2,06		
		Total phosphorus	g/100g	0,78		
muva-SK-0321	Processed cheese 40 % f.i.d.m.	Fat	g/100 g	13,26		
		Dry matter	g/100 g	35260		
		Protein N x 6,38	g/100 g	16,31		
	Best before: 4 weeks after shipment	Lactose (monohydrate)	g/100 g	0,47		
		Ash	g/100g	3,92		
		pH-value	/	5,62		
		Citronic acid	mg/100g	70,4	250 g	38,05
		Chloride	mg/100g	509		
		Sodium chloride via Chloride	g/100g	0,84		
		Sodium	mg/100g	892		
		Sodium chloride (via Sodium)	g/100g	2,27		
		Total phosphorus	g/100g	0,85		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
muva-SK-0322	**Processed cheese** 45 % f.i.d.m. Best before: 4 weeks after shipment	Fat	g/100 g	19,12	250 g	38,05
		Dry matter	g/100 g	41,87		
		Protein N x 6,38	g/100 g	16,69		
		Lactose (monohydrate)	g/100 g	0,78		
		Ash	g/100g	3,98		
		pH-value	/	5,68		
		Citronic acid	mg/100g	120,5		
		Chloride	mg/100g	477		
		Sodium chloride via Chloride	g/100g	0,79		
		Sodium	mg/100g	900		
		Sodium chloride (via Sodium)	g/100g	2,29		
		Total phosphorus	g/100g	0,86		
CREAM CHEESE						
muva-FK-1232	**Frischkäse** 50 % Fett i. Tr. MHD: 02/2023	Fett	g/100g	13,75	200 g	30,65
		Trockenmasse	g/100g	25,95		
		Protein	g/100g	6,87		
		Lactose	g/100g	2,90		
		Milchsäure	mg/100g	519,4		
		pH-Wert	/	4,56		
		Chlorid	mg/100g	451		
		Kochsalz (aus Chlorid)	g/100g	211		
muva-FK-1233	**Cream cheese** 60 % f.i.d.m. Best before: 02/2023	Fat	g/100g	21,90	200 g	30,65
		Dry matter	g/100g	32,72		
		Protein	g/100g	5,78		
		Lactose	g/100g	3,19		
		Milk acid	mg/100g	375,9		
		pH-value	/	4,87		
		Chloride	mg/100g	478		
		Sodium chloride (via Chloride)	g/100g	261		
HARD CHEESE						
muva-HA-1515 ❄	**Hard cheese** Type Emmentaler Best before: 4 weeks after shipment	Fat	g/100g	28,35	100 g	32,25
		Dry matter	g/100g	63,68		
		Protein	g/100g	28,93		
		pH-value	/	5,51		
		Chloride	mg/100g	383		
		Sodium chloride (via Chloride)	g/100g	0,63		
		Sodium	mg/100g	230		
		Sodium chloride (via Sodium)	g/100g	0,59		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
SEMI HARD CHEESE						
muva-K-1803 ❄	**Semi hard cheese** Type Gouda Best before: 4 weeks after shipment	Fat Dry matter Protein pH-value Chloride Sodium chloride (via Chloride)	g/100g g/100g g/100g / mg/100g g/100g	26,73 58,10 23,04 5,21 1364 2,25	100 g	32,25
muva-K-1803 ❄	**Semi hard cheese** Type Gouda Best before: 4 weeks after shipment	Fat Dry matter Protein pH-value Chloride Sodium chloride (via Chloride)	g/100g g/100g g/100g / mg/100g g/100g	27,55 58,39 23,50 5,29 660 1,68	100 g	32,25
ALKALINE PHOSPHATASE - CHEESE						
muva-HAP-2505	**Hard Cheese** Type Emmentaler (freeze-dried) Best before: 10/2024	Alkaline Phosphatase Activity	mU/g	763	ca. 5 g	27,50
MILK POWDER						
muva-MP-0219	**Skimmed milk powder spray dried** Best before 12/2025	Fat Dry matter Protein Lactose (monohydrate) Ash pH-value	g/100g g/100g g/100g g/100g g/100g /	0,74 96,51 35,12 52,39 7,86 6,54	80 g	33,30
muva-MP-0220	**Skimmed milk powder spray dried** (Lactose free) Best before 06/2026	Fat Free Fat Protein Lactose (monohydrate) Ash pH-value Nitrate	g/100g g/100g g/100g g/100g g/100g / mg/kg	1,27 0,50 35,81 0,050 7,64 6,57 6,53	80 g	33,30
muva-MP-0221	**Whole milk powder roller dried** Best before: 10/2027	Fat Free Fat Dry matter Protein Lactose (monohydrate) Ash	g/100g g/100g g/100g g/100g g/100g g/100g	25,75 20,07 97,22 24,22 40,55 5,92	80 g	33,30

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
muva-MP-0222	Fat reduced milk powder spray dried Best before: 10/2027	Fat	g/100g	13,36	80 g	33,30
		Freies Fat	g/100g	3,83		
		Dry matter	g/100g	96,27		
		Protein	g/100g	30,97		
		Lactose (monohydrate)	g/100g	45,12		
		Ash	g/100g	6,77		
muva-MP-0223	Whole milk powder spray dried Best before 10/2027	Fat	g/100g	26,35	80 g	33,30
		Free Fat	g/100g	7,37		
		Dry matter	g/100g	96,66		
		Protein	g/100g	27,11		
		Lactose (monohydrate)	g/100g	37,58		
		Ash	g/100g	5,67		
		pH-value	/	6,66		
		Nitrate	mg/kg	3,88		
muva-MP-0224	Cream powder roller dried Best before 10/2027	Fat	g/100g	42,25	80 g	33,30
		Dry matter	g/100g	98,10		
		Protein	g/100g	19,26		
		Lactose (monohydrate)	g/100g	30,92		
		Ash	g/100g	4,43		
		pH-value	/	6,69		
FATTY ACID COMPOSITION IN MILK POWDER						
muva-FM-2107	Fatty acid composition In milk powder Best before: 10/2027	Butyric acid (C4:0)	g/100 g	3,66	80 g	58,10
		Caproic acid (C6:0)	g/100 g	2,25		
		Caprylic acid (C8:0)	g/100 g	1,32		
		Capric acid (C10:0)	g/100 g	3,05		
		Lauric acid (C12:0)	g/100 g	3,39		
		Myristic acid (C14:0)	g/100 g	11,57		
		Myristoleic acid (C14:1)	g/100 g	1,00		
		Palmitic acid (C16:0)	g/100 g	29,49		
		Palmetoleic acid (C16:1 cis)	g/100g	1,57		
		Stearic acid (C18:0)	g/100 g	9,73		
		Oleic acid (C18:1 cis-9)	g/100 g	20,33		
		Linoleic acid (C18:2 all-cis-9,12)	g/100 g	1,55		
		C18:2 total trans	g/100g	1,00		
		Linolenic acid (C18:3 all-cis-9,12,15)	g/100 g	0,62		
		Arachidic acid (C20:0)	g/100 g	0,14		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
WHEY POWDER						
muva-MO-0616	Whey powder	Fat	g/100g	2,58		
		Dry matter (87 °C)	g/100g	96,01		
	Best before: 05/2024	Dry matter (102 °C)	g/100g	95,75		
		Protein	g/100g	35,56		
		Lactose (monohydrate)	g/100g	49,44		
		Ash	g/100g	6,34	80 g	35,80
		Calcium	mg/kg	4996		
		Magnesium	mg/kg	966		
		Nitrate	mg/kg	19,8		
		NPN	g/100g	3,04		
		Total lactic acid	mg/100g	317,1		
NEW muva-MO-0617	Whey powder	Fat	g/100g	0,78		
		Dry matter (87 °C)	g/100g	98,55		
	Best before: 02/2027	Dry matter (102 °C)	g/100g	98,23		
		Protein	g/100g	12,67		
		Lactose (monohydrate)	g/100g	72,45		
		Ash	g/100g	7,64	80 g	35,80
		Calcium	mg/kg	5122		
		Magnesium	mg/kg	1176		
		Nitrate	mg/kg	35,5		
		NPN	g/100g	2,97		
		Total lactic acid	mg/100g	392,5		
WHEY PROTEIN CONCENTRATE						
muva-MPK-0905	Whey protein concentrate	Fat	g/100g	4,87		
		Water	g/100g	3,56		
		Protein	g/100g	65,74	80 g	31,70
	Best before: 10/2025	Lactose (monohydrate)	g/100g	18,95		
		Ash	g/100g	4,07		
muva-MPK-0907	Whey protein concentrate	Fat	g/100g	5,92		
		Water	g/100g	4,42		
		Protein	g/100g	77,53	80 g	31,70
	Best before: 05/2026	Lactose (monohydrate)	g/100g	6,4		
		Ash	g/100g	3,19		
SODIUM-CASEINATE						
muva-CA-0908	Sodium-caseinate	Fat	g/100g	0,77		
		Water	g/100g	5,46		
	Best before: 01/2028	Protein	g/100g	91,11	60 g	31,70
		Lactose (monohydrate)	g/100g	0,06		
		Ash	g/100g	3,48		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
CARBOHYDRATES / VITAMINS						
NEW muva-KI-1108	**Carbohydrates / vitamins** Infant food (powder)	Glucose	g/100g	1,17	80 g	40,15
		Fructose	g/100g	2,02		
		Lactose (monohydrate)	g/100g	22,75		
		Saccharose	g/100g	0,65		
		Vitamin A	µg/100g	540		
		Vitamin C	mg/100g	40,4		
		Vitamin E	mg/100g	5,42		
NEW muva-KI-1109	**Carbohydrates / vitamins** Infant food (powder)	Glucose	g/100g	1,24	80 g	40,15
		Fructose	g/100g	1,52		
		Lactose (monohydrate)	g/100g	23,46		
		Saccharose	g/100g	0,99		
		Vitamin A	µg/100g	568		
		Vitamin C	mg/100g	42,1		
		Vitamin E	mg/100g	5,56		
MINERALS / TRACE ELEMENTS						
muva-NEM-1608	**Minerals / trace elements** Infant food (powder) Best before: 04/2025	Sodium	mg/kg	1439	80 g	43,30
		Kalium	mg/kg	6891		
		Calcium	mg/kg	5123		
		Magnesium	mg/kg	908,4		
		Iron	mg/kg	28,2		
		Zinc	mg/kg	21,2		
		Phosphorus	mg/kg	4434		
		Copper	mg/kg	2,49		
		Manganese	mg/kg	11,99		
		Chloride	mg/kg	2797		
muva-NEM-1609	**Minerals / trace elements** Infant food (powder) Best before: 04/2025	Sodium	mg/kg	1441	80 g	43,30
		Kalium	mg/kg	6214		
		Calcium	mg/kg	4993		
		Magnesium	mg/kg	545,1		
		Iron	mg/kg	18,5		
		Zinc	mg/kg	12,4		
		Phosphorus	mg/kg	3198		
		Copper	mg/kg	1,37		
		Manganese	mg/kg	2,40		
		Chloride	mg/kg	2892		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
MILK POWDER WITH DEFINED CONTENT OF RENNET WHEY POWDER						
muva-GMP-2601	Milk powder with defined content of rennet whey powder Best before: 04/2023	Content of rennet whey powder	g/100g	5,63	ca. 25 g	42,25
muva-GMP-2602	Milk powder with defined content of rennet whey powder Best before: 04/2023	Content of rennet whey powder	g/100g	1,07	ca. 25 g	42,25
PLANT DRINK (Oats/Soja)						
muva-VM-3101	Plant drink (Oats) available from November!	Fat Dry matter (102 °C) Protein			40 ml	45,00
muva-VM-3102	Plant drink (Soja) available from November!	Fat Dry matter (102 °C) Protein			40 ml	45,00
VEGAN SPREAD CREAM						
muva-VS-3001	Chickpea base Best before: 04/2023	Fat Dry matter (102 °C) Protein Ash	g/l g/l g/l g/l	18,82 30,56 1,35 0,81	100 g	55,00
FRUIT JUICE						
muva-FS-1918	Grape juice Best before: 03/2023	Glucose Fructose Titratable acid pH-value Soluble solids	g/l g/l mmol H^+/l / °Brix	77,56 82,75 85,48 3,45 17,05	200 ml	32,75
muva-FS-1919	Apple juice Best before: 03/2023	Glucose Fructose Titratable acid pH-value Ethanol Soluble solids	g/l g/l mmol H^+/l / mg/l °Brix	22,11 64,23 70,20 3,66 431,1 12,20	150 ml	32,75
CHOCOLATE						
muva-S-0819	Nougat Best before: 03/2024	Fat Dry matter Protein Lactose (monohydrate) Saccharose Theobromine	g/100g g/100g g/100g g/100g g/100g mg/kg	35,26 99,71 7,64 0,208 49,57 778	100 g	48,60

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
muva-S-0820	Whole milk chocolate	Fat	g/100g	40,53	100 g	48,60
		Dry matter	g/100g	99,18		
	Best before: 11/2025	Protein	g/100g	7,72		
		Lactose (monohydrate)	g/100g	8,24		
		Saccharose	g/100g	35,11		
		Theobromine	mg/kg	1926		
CANNED SAUSAGE						
muva-BR-1007	Canned sausage (calf liver sausage)	Fat	g/100 g	35,12	125 g	41,20
		Water	g/100 g	46,97		
		Protein (N x 6,25)	g/100 g	13,98		
	Best before: 04/2025	Chloride	mg/100 g	1093		
		Sodium chloride (via Chloride)	g/100 g	1,80		
		Ash	g/100 g	2,30		
		Hydroxyproline	g/100 g	0,24		
muva-BR-1008	Canned sausage (Lyoner)	Fat	g/100 g	23,82	125 g	41,20
		Water	g/100 g	60,79		
		Protein (N x 6,25)	g/100 g	12,78		
	Best before: 04/2025	Chloride	mg/100 g	1119		
		Sodium chloride (via Chloride)	g/100 g	1,84		
		Ash	g/100 g	2,59		
		Hydroxyproline	g/100 g	0,22		

* None of the reference materials are suitable for consumption!

** Prices do not include VAT

Microbiological analysis

All microorganisms belong to risk group S1

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
BACTERIAL COUNT						
muva-MBK-1720	**Hard Cheese** (freeze-dried Best before: 02/2023	Mesophilic, aerobic Bacterial Count	log_{10} cfu/g	7,32	40 g	24,30
muva-MBK-1721	**Hard Cheese** (freeze-dried) Best before: 12/2022	Mesophilic, aerobic Bacterial Count	log_{10} cfu/g	5,97	40 g	24,30
NEW muva-MBK-1722	**Curd powder** Best before: 05/2025	Mesophilic, aerobic Bacterial Count	log_{10} cfu/g	2,71	40 g	24,30
muva-GKZ-1717 ❄	**Milk** Best before: 11/2022	Mesophilic, aerobic Bacterial Count	log_{10} cfu/ml	4,05	30 ml	31,70
muva-GKZ-1718 ❄	**Milk** Best before: 11/2022	Mesophilic, aerobic Bacterial Count	log_{10} cfu/ml	5,00	30 ml	31,70
muva-GKZ-1719 ❄	**Milk** available from January of 2023	Mesophilic, aerobic Bacterial Count	log_{10} cfu/ml		30 ml	31,70
muva-GKZ-1720 ❄	**Milk** available from January of 2023	Mesophilic, aerobic Bacterial Count	log_{10} cfu/ml		30 ml	31,70
E. COLI / ENTEROBACTERIACEAE / COLIFORME						
muva-ECE-1717 ❄	**Milk** Best before: 11/2022	E. Coli Enterobacteriaceae Coliforms	log_{10} cfu/ml	3,90 4,19 4,21	30 ml	39,10
muva-ECE-1718 ❄	**Milk** Best before: 11/2022	E. Coli Enterobacteriaceae Coliforms	log_{10} cfu/ml	4,86 5,15 5,22	30 ml	39,10
muva-ECE-1719 ❄	**Milk** available from January of 2023	E. Coli Enterobacteriaceae Coliforms	log_{10} cfu/ml		30 ml	39,10
muva-ECE-1720 ❄	**Milk** available from January of 2023	E. Coli Enterobacteriaceae Coliforms	log_{10} cfu/ml		30 ml	39,10

YEAST / GEOTRICHUM							
muva-HS-1721	Milk Best before: 12/2022	Yeasts Geotrichum	log_{10} cfu/ml	3,83 3,39		30 ml	34,90
muva-HS-1722	Milk Best before: 12/2022	Yeasts Geotrichum	log_{10} cfu/ml	4,83 4,28		30 ml	34,90
muva-HS-1723	Milk available from January of 2023	Yeasts Geotrichum	log_{10} cfu/ml			30 ml	34,90
muva-HS-1724	Milk available from January of 2023	Yeasts Geotrichum	log_{10} cfu/ml			30 ml	34,90
STAPHYLOCOCCUS							
muva-ST-	Milk available From December of 2022	Staphylococcus	log_{10} cfu/ml			30 ml	34,90

NEW

* None of the reference materials are suitable for consumption!

** Prices do not include VAT.

Sensory Analyses

Code	Material*	Parameter	Number of Packs	Packungseinheit	Preis € **
SENSORY RANK ORDER					
muva-SeRF-24	Canned sausage Lyoner Best before: 06/2023	sweet	4 samples	4 x 200 g	53,90
SENSORY TRIANGLE TEST					
muva-SeD-12	Canned sausage Lyoner Best before: 06/2023	garlic	3 samples	3x 200 g	41,20
muva-SeD-15	Canned sausage Lyoner Best before: 06/2023	lemon	3 samples	3x 200 g	41,20
SENSORY FATS & OILS					
muva-SeO-04	rapeseed oil MHD 06/2023	deficient	1 sample	100 ml	25,90
muva-SeO-15	deep frying fat MHD 12/2022	deficient	1 sample	30 ml	25,90

* We offer other materials (milk, milk powder, etc.) on request.

** Prices do not include VAT.

Sensory Training Material

- Individual
- Multiple-use
- Conforms to standards
- Convenient storage
- Minimal preparation work

Sensory testing focuses on the human being as a "measuring instrument" with his or her sensory abilities. In compliance with DIN EN ISO 8586 / DIN ISO 22935-1, these must be maintained and retrained in order to achieve continuously comparable and repeatable results - especially within a group of assessors.

Our sensory training kit contains all working materials and utensils including exercises for the Internal training of your staff. You can start immediately in compliance with the standards and carry out exercises to train the senses of taste, smell, touch, and sight.

For this purpose, we are constantly developing new sniffing sticks for identifying and describing odours, haptic tests with different degrees of firmness, and colour tubes with different intensities and shades. Our training materials help you in the selection of suitable test persons, within your internal trainings and as an aid in daily quality control.

You can order the complete training set or choose from different training materials depending on your training needs.

More information about the training and flavour selection at www.muva.de (order from sensory training material)

Material	Parameter	Samples	Price* €
Sniffing Stiks[1) 2)]	Within the aroma-sets you can choose **ten different flavours** freely.	10 sticks incl. storage case	89,00
Sniffing Stiks[1) 2)]	refill-set	10 sticks without storage case	69,00
Basic tastes	**sweet, sour, bitter, salty und umami**	For the training of **5** persons **10** persons	 55,00 100,00
Threshold test	**basic taste of your choice**	For the training of **10** persons **20** persons	 55,00 100,00
Colour sequences[2)]	wet medium: **red, yellow, green** colour gradient: red - violet - blue, yellow - green - blue dry medium: **graphite**	10th ranking for → wet medium → dry medium	 69,00 79,00
haptic test[2)]	haptic test (10th ranking) based on siliocone with **different levels of firmness** **Long lasting durability!**		120,00
Large training case	Contains: basic tastes, threshold test, triangular odour / taste test, taste ranking, further taste exercises, colour ranking and sniffing sticks.	Complete set	789,00

* Prices do not include VAT

[1)] When ordering individual sticks outside of the set of 10, a stick will be charged € 8.50

[2)] The listed prices for the threshold test include one basic flavour

Sensory Test Kit “Drinking Water”

For personnel sampling drinking water acc. to DIN EN 1622

The Sensory Test kit „Drinking Water“ is suitable for proofing, assuring, and training the sensory skills of the panelists as well as for documentation of the performance.

Two sets of each 5 testing samples are packed in a functional and stable case:

- Set for **visual testing** consisting of 5 tubes with different attributes. (turbidity, particles, discolorations, etc.)
- Set for **odour testing** consisting of 5 aroma sticks with different flavours from the drinking water sector.

Of course as head of the panel, you will obtain a data sheet including the relevant decoding. So you are able to evaluate and document the results in course of your quality assurance.

The sniffing stick shall remain sealed for approximately 10 minutes after testing and the test can be repeated as often as desired. If the material is stored refrigerated at 6 °C, it is stable for at least 5 months.

Material*	Parameter	Set	Price €**
Test kit drinking water case	5 different odours5 different visual attributes	5 Prüfproben 5 Prüfproben	79,00
Refill package odour pens	5 different odours	5 Prüfproben	37,00
Refill package visual test	5 different visual attributes	5 Prüfproben	37,00
Single stick / Single test tube	1 odour or 1 visual attribute each	1 Prüfprobe	8,50

* None of the reference materials are suitable for consumption!
** Prices do not include VAT.

Your contact
Rebekka Wucher
Fon.: +49 (0) 831/5290-236
E-Mail: rebekka.wucher@muva.de

Terms of Payment and Transport

The delivery of the reference materials shall be ex-works [Incoterms®2010]

Our list prices are net prices plus the current VAT and delivery costs (charged according to time and effort). For deliveries abroad, higher delivery costs are to be expected.

Companies based in other EU countries that have provided us with their **EU VAT identification number** are not charged German VAT.

Please transfer the invoice amount **within 10 days** to the bank details mentioned on the bottom of the invoice.

The international bank transaction costs are 20.00 €. To decrease these bank transfer costs we recommend using our **international bank account (IBAN and BIC-Code)**. In this case, please deduct the 20.00 € for international money transfer that we might have claimed in our invoice.

Discount:

from 8 units: 5 %
from 15 units: 10 %
from 35 units: 15 %

The delivery condition for frozen material:

Frozen reference materials are delivered in frozen condition and separately from non-frozen products (express delivery). The data sheet contains precise instructions on how to thaw the material. There will be an additional charge for packaging costs (see table below). However, you have the option of returning the packaging to us. In this case, the packaging costs will be credited.

The shipment of frozen reference materials abroad may only be possible to a limited extent, as the material may thaw if delivery times are too long or outside temperatures are too high. **In this case, MUVA KEMPTEN GMBH assumes no liability.**

Packaging Costs:

Package size	Number of bottles	Packaging materials	Packaging costs	Credit note for return delivery of packaging materials [2)]
VP 1	Up to12 bottles	Styroporbox + 7 TP[1)]	20,00 €	20,00 €
VP2	Up to 30 bottles	Styroporbox +11 TP[1)]	35,00 €	35,00 €

[1)] TP = Thermal packs (cool packs)

[2)] The credit note is reduced for 2.00 € for every not returned thermal pack

The last valid version of the general trading conditions of muva kempten GmbH apply in each case (www.muva.de).

Order Form for Reference Materials

Order-No.: Customer-No.:

Please send me the following materials in the following quantities (packaging units):

Desired quantity	Material	Remarks (e.g. frequency of regular delivery)*

*Delivery is possible at any time. We also offer weekly and monthly delivery

Company:		
Company:		
Street:		
Post(Zip) Code / City:		
Person to contact:		
Phone:		
Fax:		
E-mail:		
EU-VAT-Identification-No. (delivery into EU countries).:		

The general terms of business drawn up by muva kempten GmbH apply at all times (www.muva.de)

(For EU countries outside germany: Benefits of muva kempten are accessed by using the EU-VAT-Identification-No. since 01.01.2010)

Date

Signature

muva kempten GmbH
Registered Office: Kempten / Local Court Kempten: HRB 13347
Managing Director: Dr. Monika Knödlseder
Ignaz-Kiechle-Straße 20-22 ·
D-87437 Kempten (Allgäu) / Postfach 3254

Your contact person:
Luana Scarvaglieri
E-Mail: ringref@muva.de
Web: www.muva.de
Phone: +49 (0) 831/5290-233

Order Form for drinking Water Testkit

Order-No.: Customer-No.:

Please send me the following materials in the following quantities:

Desired quantity	Material	Set	Price	Remarks
	Test kit drinking watercase	5 different odours 5 different visual attributes	79,00 €	
	Refill package odour pens	5 different odours	37,00 €	
	Refill package visual Test	5 different visual attributes	37,00 €	
	Single stick / Single test tube	1 odour or 1 visual attribute each	8,50 €	

Company:		
Company:		
Street:		
Post(Zip) Code / City:		
Person to contact:		
Phone:		
Fax:		
E-mail:		
EU-VAT-Identification-No. (delivery into EU countries).:		

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