



REFERENCE- MATERIALS

Catalogue

September 2023



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Trust is good – control is better

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

Guaranteed correct results with our reference material

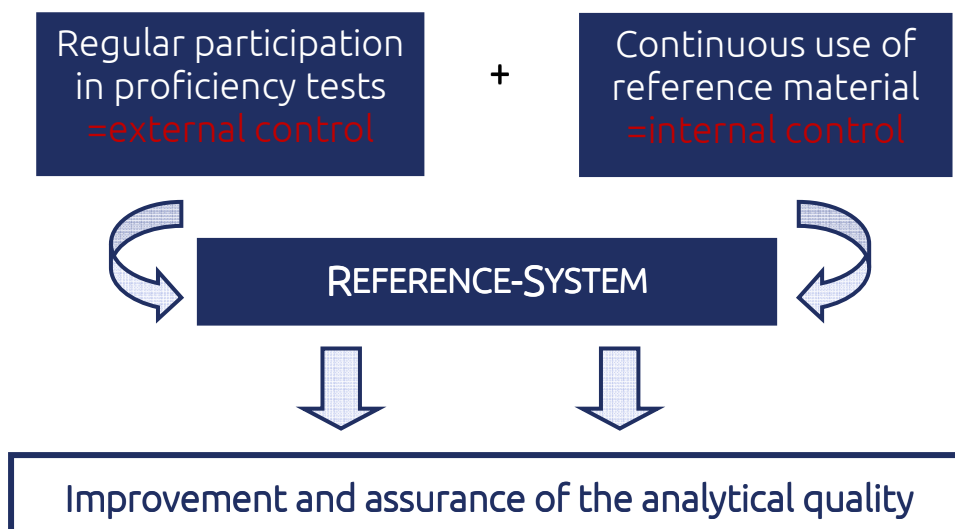
We at muva kempten GmbH have many years of experience in characterizing and dealing with reference material, work in numerous national and international working groups, and have long been familiar with quality management in the laboratory and analytical quality assurance. With over 170 employees, we 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

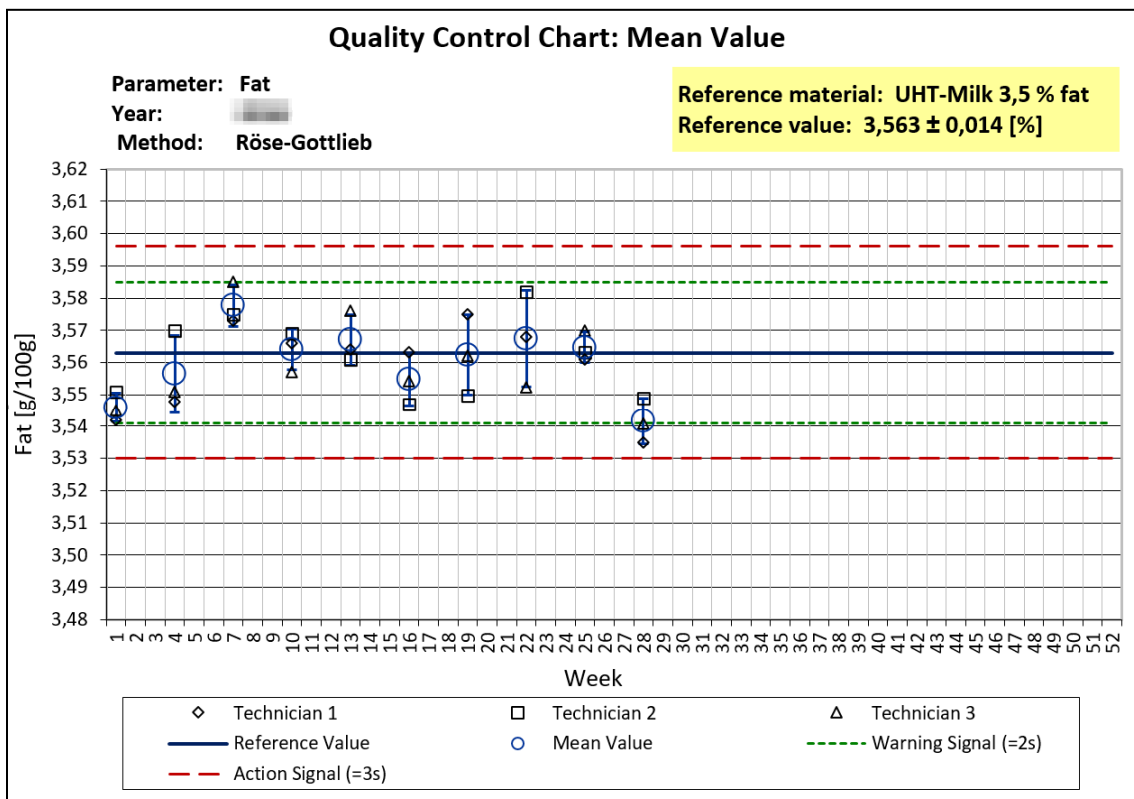
The reference materials from muva kempten GmbH are produced in accordance with the currently valid international guidelines (e.g. DIN EN ISO 17034) and stands out by their high quality.

- ▶ 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. We invite you to explore it.



<https://www.muva.de/>

You can now easily find the proficiency tests and reference materials under "Food":

- ▶ Analytical quality assurance

<https://www.muva.de/analytische-qz>

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 Info desk. There you will also find all documents under "R" like "reference materials".



From now on, our proficiency tests, reports, confirmations of participation and certificates are also available online in our customer portal.

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.

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Luana Scarvaglieri

Chemical-physical analyses

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
UHT MILK						
muva-M-0153	UHT Milk 3,5 % Fat Best before: 01/2024	Fat	g/100g	3,543	500 ml	31,55
		Dry matter	g/100g	12,42		
		Protein	g/100g	3,347		
		Lactose (monohydrate)	g/100g	4,675		
		Freezing point	°C	-0,5219		
		pH-value	/	6,60		
muva-M-0154 Available from 12/2023	UHT Milk 1,5 % Fat Best before: 07/2024	Fat	g/100g		200 ml	31,55
		Dry matter	g/100g			
		Protein	g/100g			
		Lactose (monohydrate)	g/100g			
		Freezing point	°C			
		pH-value	/			
		Density	g/ml			
muva-M-0155 Available from 12/2023	UHT Milk 3,5 % Fat Best before: 07/2024	Fat	g/100g		200 ml	31,55
		Dry matter	g/100g			
		Protein	g/100g			
		Lactose (monohydrate)	g/100g			
		Freezing point	°C			
		pH-value	/			
		Density	g/ml			
UHT MILK (LOW IN LACTOSE, LACTOSE FREE)						
muva-ML-2317	 UHT Milk (free of lactose) Best before: 12/2023	Lactose (monohydrate):			40 ml	33,80
		HPLC	g/100g	0,003		
		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		
muva-ML-2320	 UHT Milk (lactose-reduced) Best before: 06/2024	Lactose (monohydrate):			40 ml	33,80
		HPLC	g/100g	0,231		
		Enzym. (Gal.)	g/100g	0,335		
		Enzym. (Glc.)	g/100g	0,300		
		Galactose enzym.	g/100 g	2,21		
		Glucose enzym.	g/100 g	2,26		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
RAW MILK						
<i>NEW</i> muva-RO-0767	❄️ Raw milk (shock frozen) Best before: 01/2025	Fat	g/100g	4,301		
		Dry matter	g/100g	13,64		
		Protein	g/100g	3,888		
		Lactose monohydrate	g/100g	4,737	40ml	28,40
		Freezing point	°C	-0,5247		
		pH-value	/	6,71		
		Casein	g/100g	3,072		
<i>NEW</i> muva-RO-0768	❄️ Raw milk (shock frozen) Best before: 01/2025	Fat	g/100g	3,619		
		Dry matter	g/100g	13,02		
		Protein	g/100g	3,893		
		Lactose monohydrate	g/100g	4,832	40ml	28,40
		Freezing point	°C	-0,5244		
		pH-value	/	6,72		
		Casein	g/100g	3,065		
FATTY ACID COMPOSITION IN RAW MILK						
muva-FM-2109 Available from 04/2024	❄️ Fatty acid composition in raw milk (shock frozen) Best before:	Butyric acid (C4:0)	g/100 g			
		Caproic acid (C6:0)	g/100 g			
		Caprylic acid (C8:0)	g/100 g			
		Capric acid (C10:0)	g/100 g			
		Lauric acid (C12:0)	g/100 g			
		Myristic acid (C14:0)	g/100 g			
		Myristoleic acid (C14:1)	g/100 g			
		Palmitic acid (C16:0)	g/100 g			
		Palmetoleic acid (C16:1 cis)	g/100g		40 ml	63,05
		Stearic acid (C18:0)	g/100 g			
		Oleic acid (C18:1 cis-9)	g/100 g			
		Elaidic acid (C18:1 total trans)	g/100 g			
		Linoleic acid (C18:2 all-cis-9,12)	g/100 g			
		C18:2 total trans	g/100g			
		Linolenic acid (C18:3 all-cis-9,12,15)	g/100 g			
		Arachidic acid (C20:0)	g/100 g			
		AFLATOXIN M1 IN RAW MILK				
muva-MA-2411 Available from 01/2024	❄️ Aflatoxin M1 in Milk (shock frozen) Best before:	Aflatoxin M1	µg/kg		40 ml	31,00
muva-MA-2410	❄️ Aflatoxin M1 in milk (shock frozen) Best before: 12/2023	Aflatoxin M1	µg/kg	0,010	40 ml	31,00
VETERINARY DRUGS						








Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
muva-TAZ-2701 ❄️	Veterinary drugs in raw milk (shock frozen) Best before: 10/2023	Ampicillin		4,10		40 ml 74,50
		Cefalexin		101,12		
		Cefoperazon	µg/kg	44,82		
		Sulfadimidin		110,72		
		Tetracyclin		110,46		
		Enrofloxacin		100,66		
muva-TAZ-2702 ❄️	Veterinary drugs in raw milk (shock frozen) Best before: 10/2023	Ampicillin		--		40 ml 74,50
		Cefalexin		22,76		
		Cefoperazon	µg/kg	7,84		
		Sulfadimidin		20,98		
		Tetracyclin		21,28		
		Enrofloxacin		22,61		
muva-TAM-2804 (qualitative) ❄️	Veterinary drugs in raw milk (shock frozen) Best before: 04/2024	Cefalonium		Content ca. 10% above MRL	40 ml	34,40
muva-TAM-2805 (qualitative) ❄️	Veterinary drugs in raw milk (shock frozen) Best before: 04/2024	Penicillin G		Content ca. 10% above MRL	40 ml	34,40
muva-TAM-2806 (blind sample) ❄️	Veterinary drugs in raw milk (shock frozen) Best before: 07/2024	Antibiotics free		negative	40 ml	34,40
MILK FOR POWDER PRODUCTION						
muva-PM-2901 ❄️	Base milk for powder production (shock frozen) Best before: 03/2024	Fat	g/100g	3,508		40ml 33,30 -10%
		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: 11/2023	Fat	g/100g	8,12		170 g 31,00 -10%
		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: 11/2023	Fat	g/100g	10,18		250 ml 31,00
		Dry matter	g/100g	18,36		
		Protein	g/100g	3,15		
		Ash	g/100g	0,66		
		Phosphorus	mg/kg	868		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
muva-KM-0519	Evaporated milk 4 % Fat Best before: 04/2025	Fat	g/100g	4,09	170 g	31,00
		Dry matter	g/100g	24,31		
		Protein	g/100g	7,09		
		Ash	g/100g	1,49		
		Phosphorus	mg/kg	2050		
muva-KM-0520	Evaporated milk 8 % Fat Best before: 04/2025	Fat	g/100g	8,14	170 g	31,00
		Dry matter	g/100g	25,71		
		Protein	g/100g	6,16		
		Ash	g/100g	1,32		
		Phosphorus	mg/kg	1696		
YOGHURT						
muva-JO-1427	Yoghurt 1,8% Fat Best before: 12/2023	Fat	g/100g	1,81	500 g	31,00
		Dry matter	g/100g	11,81		
		Protein	g/100g	4,72		
		Lactic acid	mg/100g	1130		
		pH-value	/	/		
muva-JO-1429	Yoghurt 1,8% Fat Best before: 12/2023	Fat	g/100g	1,82	500 g	31,00
		Dry matter	g/100g	12,79		
		Protein	g/100g	4,7		
		Lactic acid	mg/100g	978		
		pH-value	/	/		
muva-JO-1431	Yoghurt 1,8% Fat Best before: 05/2024	Fat	g/100g	1,79	500 g	31,00
		Dry matter	g/100g	12,00		
		Protein	g/100g	4,86		
		Lactic acid	mg/100g	964		
		pH-value	/	4,27		
muva-JO-1432	Yoghurt 3,8% Fat Best before: 05/2024	Fat	g/100g	3,96	500 g	31,00
		Dry matter	g/100g	15,61		
		Protein	g/100g	4,52		
		Lactic acid	mg/100g	1147		
		pH-value	/	4,10		
UHT CREAM						
muva-R-0444	UHT Cream 15 % Fat Best before: 12/2023	Fat	g/100g	14,95	ca. 100 ml	28,15
		Dry matter	g/100g	22,80		
		Protein	g/100g	3,03		
muva-R-0445	❄️ UHT Cream 30 % Fat Best before: 02/2025	Fat	g/100g	30,24	ca. 140 ml	28,15
		Dry matter	g/100g	36,54		
		Protein	g/100g	2,38		
muva-R-0446	❄️ UHT Cream 36 % Fat Best before: 02/2025	Fat	g/100g	35,26	ca. 140 ml	28,15
		Dry matter	g/100g	41,01		
		Protein	g/100g	2,23		



NEW

NEW

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
BUTTER						
 muva- BU-1311	 Mildly soured butter Best before: 12/2023	Solids non-fat	g/100g	1,59	250 g	33,30
		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: 12/2023	Solids non-fat	g/100g	2,73	250 g	33,30
		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	1,55	250 g	33,30
		Water	g/100g	15,63		
		pH-value	/	6,75		
		Cholesterol	mg/kg	2267		
		Butyric acid methyl ester	g/100g	3,86		
muva- BU-1316	 Sweet cream butter salted Best before: 11/2025	Solids non-fat	g/100g	2,43	250 g	33,30
		Water	g/100g	15,91		
		pH-value	/	6,52		
		Cholesterol	mg/kg	2299		
		Sodium	mg/100g	463		
		Chloride	mg/100g	708		
		Sodium Chloride:				
		- via chloride	g/100g	1,17		
		- via sodium	g/100g	1,18		
Butyric acid methyl ester	g/100g	3,69				
muva- BU-1317	 Mild acid butter Best before: 12/2025	Solids non-fat	g/100g	1,33	250 g	33,30
		Water	g/100g	15,53		
		pH-value	/	6,21		
		Cholesterol	mg/kg	2280		
		Butyric acid methyl ester	g/100g	3,78		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
PROCESSED CHEESE						
muva-SK-0321	Processed cheese 40 % f.i.d.m. Best before: 4 weeks after shipment	Fat	g/100 g	13,26		
		Dry matter	g/100 g	35,26		
		Protein N x 6,38	g/100 g	16,31		
		Lactose (monohydrate)	g/100 g	0,47		
		Ash	g/100g	3,92		
		pH-value	/	5,62		
		Citronic acid	mg/100g	70,4	250 g	41,30
		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		
		muva-SK-0322	Processed cheese 45 % f.i.d.m. Best before: 4 weeks after shipment	Fat	g/100 g	19,12
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	250 g	41,30
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		
muva-SK-0324	Processed cheese 50 % f.i.d.m. Best before: 4 weeks after shipment			Fat	g/100 g	26,01
		Dry matter	g/100 g	48,86		
		Protein N x 6,38	g/100 g	8,31		
		Lactose (monohydrate)	g/100 g	7,53		
		Ash	g/100g	3,08		
		pH-value	/	5,74		
		Citronic acid	mg/100g	231,7	250 g	41,30
		Chloride	mg/100g	337		
		Sodium chloride via Chloride	g/100g	0,56		
		Sodium	mg/100g	902		
		Sodium chloride (via Sodium)	g/100g			
		Total phosphorus	g/100g	0,86		



NEW

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
CREAM CHEESE						
muva-FK-1232	Cream cheese 50 % f.i.d.m. Best before: 12/2023	Fat	g/100g	13,75	200 g	33,30
		Dry matter	g/100g	25,95		
		Protein	g/100g	6,87		
		Lactose	g/100g	2,90		
		Lactic acid	mg/100g	519,4		
		pH-Wert	/	4,56		
		Chloride	mg/100g	451		
		Sodium chloride (via Chloride)	g/100g	211		
muva-FK-1234	Cream cheese 30 % f.i.d.m. Best before: 02/2025	Fat	g/100g	4,02	300 g	33,30
		Dry matter	g/100g	19,94		
		Protein	g/100g	10,29		
		Lactose	g/100g	2,86		
		Lactic acid	mg/100g	579,4		
		pH-Wert	/	4,57		
		Chloride	mg/100g	345		
		Sodium chloride (via Chloride)	g/100g	161		
HARD CHEESE						
muva-HA-1515	❄️ Hard cheese Type Emmentaler Best before: 4 weeks after shipment	Fat	g/100g	28,35	100 g	35,00
		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		
SEMI HARD CHEESE						
muva-K-1803	❄️ Semi hard cheese Type Gouda Best before: 4 weeks after shipment	Fat	g/100g	26,73	100 g	35,00
		Dry matter	g/100g	58,10		
		Protein	g/100g	23,04		
		pH-value	/	5,21		
		Chloride	mg/100g	1364		
muva-K-1804	❄️ Semi hard cheese Type Gouda Best before: 4 weeks after shipment	Fat	g/100g	27,58	100 g	35,00
		Dry matter	g/100g	58,35		
		Protein	g/100g	23,50		
		pH-value	/	5,30		
		Sodium	mg/100g	683		
Sodium chloride (via Chloride)	g/100g	1,71				

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
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	29,40
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	36,15
muva-MP-0220	Skimmed milk powder spray dried (Lactose free) Best before 06/2026	Fat Dry matter Free Fat Protein Lactose (monohydrate) Ash pH-value Nitrate	g/100g g/100g g/100g g/100g g/100g g/100g / mg/kg	1,29 96,61 0,51 35,79 0,050 7,63 6,57 6,40	80 g	36,15
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	36,15
muva-MP-0222	Fat reduced milk powder spray dried Best before: 10/2027	Fat Freies Fat Dry matter Protein Lactose (monohydrate) Ash	g/100g g/100g g/100g g/100g g/100g g/100g	13,36 3,83 96,27 30,97 45,12 6,77	80 g	36,15
muva-MP-0223	Whole milk powder spray dried Best before 10/2027	Fat Free Fat Dry matter Protein Lactose (monohydrate) Ash pH-value Nitrate	g/100g g/100g g/100g g/100g g/100g g/100g / mg/kg	26,37 7,45 96,63 27,09 37,62 5,66 6,66 3,65	80 g	36,15
muva-MP-0224	Cream powder roller dried Best before 10/2027	Fat Dry matter Protein Lactose (monohydrate) Ash pH-value	g/100g g/100g g/100g g/100g g/100g /	42,25 98,10 19,26 30,92 4,43 6,69	80 g	36,15

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **			
FATTY ACID COMPOSITION IN MILK POWDER									
muva-FM-2107	Fatty acid composition In milk powder	Butyric acid (C4:0)	g/100 g	3,66					
		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					
	Best before: 10/2027		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	80 g	63,05		
			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				
WHEY POWDER									
muva-MO-0616		Whey powder Best before: 05/2024	Fat	g/100g	2,58				
	Dry matter (87 °C)		g/100g	96,01					
		Dry matter (102 °C)	g/100g	95,75					
		Protein	g/100g	35,56					
		Lactose (monohydrate)	g/100g	49,44	80 g	38,85			
		Ash	g/100g	6,34					
		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					
muva-MO-0617	Whey powder Best before: 02/2027	Fat	g/100g	0,78					
		Dry matter (87 °C)	g/100g	98,55					
		Dry matter (102 °C)	g/100g	98,23					
		Protein	g/100g	12,67					
		Lactose (monohydrate)	g/100g	72,45	80 g	38,85			
		Ash	g/100g	7,64					
		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						

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
WHEY PROTEIN CONCENTRATE						
muva- MPK-0905	Whey protein concentrate Best before: 10/2025	Fat	g/100g	4,87	80 g	34,40
		Water	g/100g	3,56		
		Protein	g/100g	65,74		
		Lactose (monohydrate)	g/100g	18,95		
		Ash	g/100g	4,07		
muva- MPK-0907	Whey protein concentrate Best before: 05/2026	Fat	g/100g	5,92	80 g	34,40
		Water	g/100g	4,42		
		Protein	g/100g	77,53		
		Lactose (monohydrate)	g/100g	6,4		
		Ash	g/100g	3,19		
SODIUM-CASEINATE						
muva- CA-0908	Sodium-caseinate Best before: 01/2028	Fat	g/100g	0,77	60 g	34,40
		Water	g/100g	5,46		
		Protein	g/100g	91,11		
		Lactose (monohydrate)	g/100g	0,06		
		Ash	g/100g	3,48		
CARBOHYDRATES / VITAMINS						
muva- KI-1108	Carbohydrates / vitamins Infant food (powder) Best before: 04/2025	Glucose	g/100g	1,17	80 g	43,60
		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		
muva- KI-1109	Carbohydrates / vitamins Infant food (powder) Best before: 04/2025	Glucose	g/100g	1,24	80 g	43,60
		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	47,00
		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		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
muva-NEM-1609	Minerals / trace elements Infant food (powder) Best before: 04/2025	Sodium	mg/kg	1441	80 g	47,00
		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		
MILK POWDER WITH DEFINED CONTENT OF RENNET WHEY POWDER						
muva-GMP-2601	Milk powder with defined content of rennet whey powder Best before: 04/2024	Content of rennet whey powder	g/100g	5,63	ca. 25 g	48,85
muva-GMP-2602	Milk powder with defined content of rennet whey powder Best before: 04/2024	Content of rennet whey powder	g/100g	1,07	ca. 25 g	48,85
PLANT DRINK (Oats/Soja)						
muva-VM-3101	Plant drink (Oats) Best before: 07/2025	Fat		0,98	40 ml	48,85
		Dry matter (102 °C)		10,83		
		Protein		1,29		
muva-VM-3102	Plant drink (Soja) Best before: 07/2025	Fat		3,39	40 ml	48,85
		Dry matter (102 °C)		2,05		
		Protein		7,54		
VEGAN SPREAD CREAM						
muva-VS-3001	Chickpea base Best before: 12/2023	Fat	g/l	18,82	100 g	59,70
		Dry matter (102 °C)	g/l	30,56		
		Protein	g/l	1,35		
		Ash	g/l	0,81		
muva-VS-3001	Chickpea base Best before: 04/2024	Fat	g/l	22,60	100 g	59,70
		Dry matter (102 °C)	g/l	34,87		
		Protein	g/l	4,30		
		Ash	g/l	1,17		
FRUIT JUICE						
muva-FS-1918	Grape juice Best before: 10/2023	Glucose	g/l	77,56	200 ml	35,55
		Fructose	g/l	82,75		
		Titratable acid	mmol H ⁺ /l	85,48		
		pH-value	/	3,45		
		Soluble solids	°Brix	17,05		

Code	Material*	Parameter	Unit	Reference value	Packaging unit	Price € **
muva-FS-1919	Apple juice Best before: 10/2023	Glucose	g/l	22,11	150 ml	35,55
		Fructose	g/l	64,23		
		Titratable acid	mmol H ⁺ /l	70,20		
		pH-value	/	3,66		
		Ethanol	mg/l	431,1		
		Soluble solids	°Brix	12,20		
CHOCOLATE						
muva-S-0819	Nougat Best before: 03/2024	Fat	g/100g	35,26	100 g	52,75
		Dry matter	g/100g	99,71		
		Protein	g/100g	7,64		
		Lactose (monohydrate)	g/100g	0,208		
		Saccharose	g/100g	49,57		
		Theobromine	mg/kg	778		
muva-S-0820	Whole milk chocolate Best before: 11/2025	Fat	g/100g	40,53	100 g	52,75
		Dry matter	g/100g	99,18		
		Protein	g/100g	7,72		
		Lactose (monohydrate)	g/100g	8,24		
		Saccharose	g/100g	35,11		
		Theobromine	mg/kg	1926		
muva-S-0821	Nougat Best before: 02/2027	Fat	g/100g	30,35	100 g	52,75
		Dry matter	g/100g	99,38		
		Protein	g/100g	7,19		
		Lactose (monohydrate)	g/100g	4,76		
		Saccharose	g/100g	164		
		Theobromine	mg/kg	1640		
CANNED SAUSAGE						
muva-BR-1007	Canned sausage (calf liver sausage) Best before: 04/2025	Fat	g/100 g	35,12	125 g	44,75
		Water	g/100 g	46,97		
		Protein (N x 6,25)	g/100 g	13,98		
		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) Best before: 04/2025	Fat	g/100 g	23,82	125 g	44,75
		Water	g/100 g	60,79		
		Protein (N x 6,25)	g/100 g	12,78		
		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		

NEW

* 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-1721	Hard Cheese (Freeze-dried) Best before: 12/2023	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/g	5,97	40 g	26,40
muva-MBK-1722	Curd powder Best before: 05/2025	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/g	2,71	40 g	26,40
muva-GKZ-1721	Milk Best before: 11/2023	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/ml	5,03	30 ml	34,40
muva-GKZ-1722	Milk Best before: 11/2023	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/ml	5,97	30 ml	34,40
muva-GKZ-1723	Milk available from 12/2023	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/ml		30 ml	34,40
muva-GKZ-1724	Milk available from 12/2023	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/ml		30 ml	34,40
E. COLI / ENTEROBACTERIACEAE / COLIFORME						
muva-ECE-1721	Milk Best before: 11/2023	E. Coli Enterobacteriaceae Coliforms	log ₁₀ cfu/ml	3,84 4,18 4,14	30 ml	42,45
muva-ECE-1722	Milk Best before: 11/2023	E. Coli Enterobacteriaceae Coliforms	log ₁₀ cfu/ml	4,85 5,15 5,12	30 ml	42,45
muva-ECE-1723	Milk available from 12/2023	E. Coli Enterobacteriaceae Coliforms	log ₁₀ cfu/ml		30 ml	42,45
muva-ECE-1724	Milk available from 12/2023	E. Coli Enterobacteriaceae Coliforms	log ₁₀ cfu/ml		30 ml	42,45
YEAST / GEOTRICHUM						
muva-HS-1725	Milk Best before: 12/2023	Yeasts Geotrichum	log ₁₀ cfu/ml	4,32 3,24	30 ml	37,90
muva-HS-1726	Milk Best before: 12/2023	Yeasts Geotrichum	log ₁₀ cfu/ml	5,30 4,25	30 ml	37,90
muva-HS-1727	Milk available from Dec of 2023	Yeasts Geotrichum	log ₁₀ cfu/ml		30 ml	37,90
muva-HS-1728	Milk available from Dec of 2023	Yeasts Geotrichum	log ₁₀ cfu/ml		30 ml	37,90
STAPHYLOCOCCUS						
muva-ST-1715	Milk Best before: 12/2023	Staphylococcus	log ₁₀ cfu/ml	5,11	30 ml	37,90

* 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: 12/2023	sweet	4 samples	4 x 200 g	58,50
muva- SeRF-44	Canned sausage Lyoner Best before: 06/2024	salty	4 samples	4 x 100 g	58,50
SENSORY TRIANGLE TEST					
muva- SeD-12	Canned sausage Lyoner Best before: 12/2023	garlic	3 samples	3x 200 g	44,75
muva- SeD-18	Canned sausage Best before: 06/2024	pepper	3 samples	3x 100 g	44,75
SENSORY FATS & OILS					
muva- SeO-17	Rapeseed oil MHD 06/2024 available from 10/2023	deficient	1 sample	30 ml	28,15
muva- SeO-18	Rapeseed oil MHD 06/2024 available from 10/2023	deficient	1 sample	30 ml	28,15
SENSORY ISO 22935					
muva- SeDLG-55	UHT milk 3,5 % MHD 06/2024 available from 10/2023	deficient	1 sample	200 ml	28,15
muva- SeDLG-56	UHT milk 3,5 % MHD 06/2024 available from 10/2023	deficient	1 sample	200 ml	28,15

* 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



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 all the training materials and the price details at www.muva.de or in our info desk.

If you have any questions, we will be pleased to advise you!

Your contact person

Rebekka Wucher
 Tel: +49 (0) 831/5290-236
 E-Mail: rebekka.wucher(at)muva.de

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 visuals.

For this purpose, we are constantly developing new sniffing sticks for identifying and describing odours,

Material	Parameter	Samples
Sniffing Sticks ¹⁾	Within the aroma-sets you can choose ten different flavours freely.	10 sticks incl. storage case or as refill-set
Basic tastes	sweet, sour, bitter, salty und umami	For the training of 5-10 persons
Threshold test	basic taste of your choice	For the training of 10-20 persons
Colour sequences ¹⁾	wet medium: red, yellow, green colour gradient: red - violet - blue, yellow - green - blue dry medium: graphite	10 th ranking
haptic test ¹⁾	haptic test (10 th ranking) based on silicone with different levels of firmness Long lasting durability!	10 th ranking
Large training case	Contains: basic tastes, threshold test, triangular odour / taste test, taste ranking, further taste exercises, colour ranking, haptic test and sniffing sticks.	Complete set

¹⁾ Material not suitable for human consumption.

Sensory Test Kit “Drinking Water”

For drinking water sampling according 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 sticks 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
Test kit drinking water case	5 different odours 5 different visual attributes	10 Test samples
Refill package sniffing sticks	5 different odours	5 Test samples
Refill package visual test	5 different visual attributes	5 Test samples
Single stick / Single test tube	1 odour or 1 visual attribute each	1 Test samples

* None of the reference materials are suitable for consumption!

More information about all the training materials and the price details at www.muva.de or in our info desk.

Your contact person

Rebekka Wucher

Fon.: +49 (0) 831/5290-236

E-Mail: rebekka.wucher(at)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 to 12 bottles	Styrofoambox + 7 TP ¹⁾	20,00 €	20,00 €
VP2	Up to 30 bottles	Styrofoambox + 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:		
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

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

Signature

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

Order Form for drinking Water Test kit

Order-No.:

Customer-No.:

Please send me the following materials in the following quantities:

Desired quantity	Material	Set	Remarks
	Test kit drinking water case	5 different odours 5 different visual attributes	
	Refill package sniffing sticks	5 different odours	
	Refill package visual Test	5 different visual attributes	
	Single stick / Single test tube	1 odour or 1 visual attribute each	

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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