

Reference- materials

Product- and
Price list



2026 – Version 3
Valid from September 2026



www.qse-gmbh.de



www.muva.de



News

Hot temperatures, frozen contents and a long journey? No problem!

Our muva proficiency tests, which range from aflatoxins to veterinary drugs, and our muva reference materials, which range from butter to plant-based drinks, are now not only temperature-stable but also environmentally friendly on their way to our customers.

From September onwards, we will phase out Styrofoam packaging for our VP1 products completely and start packing your orders in cardboard boxes with cellulose-based insulation made from recycled paper. We have extensively tested our new VP1 Eco, which has achieved comparable or even better results than our previous VP1 made of polystyrene.

True to our muva motto: 'Quality assured!'

The new VP1 Eco is 100% recyclable as paper waste.

Please feel free to contact us if you have any questions.

Best regards from Kempten

Your muva EP/RM Team

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Information

In our catalog, you will find our new designation Retest date instead of MHD. This is the abbreviation for retest date. This date marks the time when a reference material is re-evaluated. This ensures that quality and safety standards are maintained.

Identification of frozen samples



You will recognise frozen reference material by the following symbol. Your orders for these reference materials will be dispatched in an insulated box. These will be reimbursed on a pro-rata basis if the material will be returned. Refer to page 33 for more information.

Edition status

This catalog contains products and prices that are valid from 1st September 2026.

Our discount system

You will find our new discount scale on page 33:

from 8 units:	5 %
from 15 units:	10 %
from 35 units:	15 %
from 51 units:	subject to agreement

How to order

Our order forms are on pages 34 and 35. Order the entire range via muva kempton GmbH or via QSE GmbH. You can also order informally via our contact email addresses or by telephone.

Call us if you have any questions. We'll be happy to go over them with you. Please note that invoicing by muva and QSE will continue to be carried out separately.

Contacts muva / QSE

If you have any questions, contact us by email or telephone. We will respond promptly and provide the assistance you require.

muva kempton GmbH

rm@muva.de

tel.: + 49 (0) 831 5290-233

QSE GmbH

sales@qse-gmbh.com

tel.: +49 (0) 9826 6234-30

Trust is good – Control is better

In the context of quality assurance in analytical food testing, the question always arises as to how close the test result is to the "true value". This question needs to be addressed and continuously monitored. Only in this way can you demonstrate your expertise and gain the trust of your customers.

Ensure correct results with our reference material

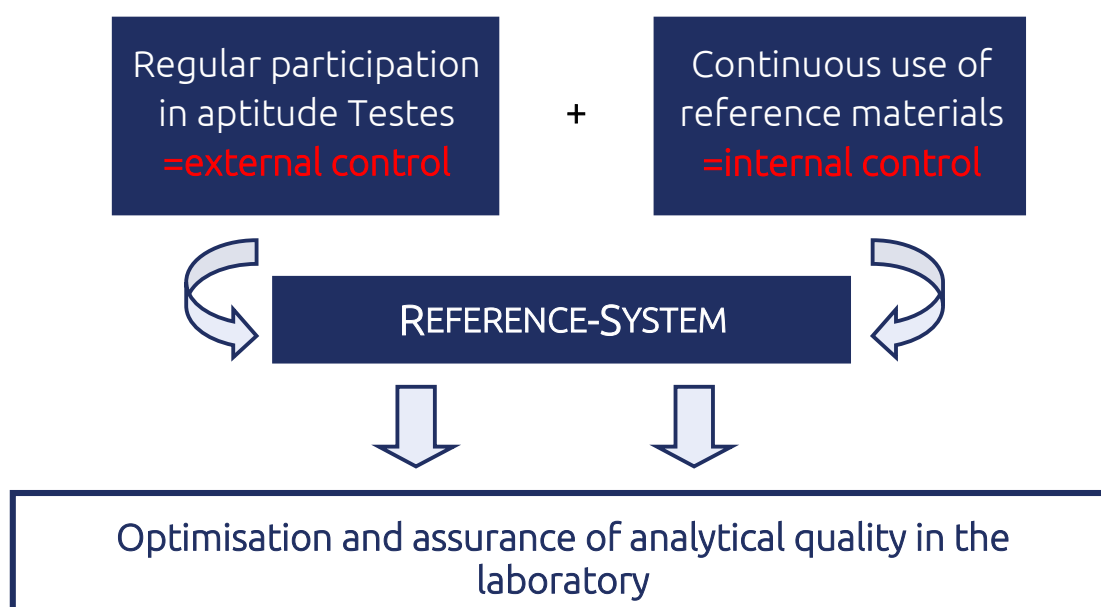
muva kempten GmbH has many years of experience in the characterisation and handling of reference materials, is involved in numerous national and international working groups, and has long been familiar with laboratory quality management and analytical quality assurance. With over 170 employees, we have outstanding expertise in analytics and related issues. Together with the QSE GmbH, an expert in long-term standards and calibration solutions, you get the best possible all-round package. Both companies are accredited by the German Accreditation Body (DAkkS) as providers of international proficiency testing according to DIN EN ISO/IEC 17043. While muva kempten GmbH is also an accredited testing laboratory according to DIN EN ISO/IEC 17025:2018-03, QSE GmbH is accredited for reference materials according to DIN EN ISO 17034 and therefore offers certified reference materials.

Depending on your requirements, you can now obtain both QSE and muva reference materials from both companies.

Complete quality assurance

In addition to the use of reference materials, regular participation in proficiency tests is essential for every laboratory. We provide you with a complete service package consisting of reference materials, proficiency tests, seminars and in-house training courses, as well as competent support and advice from our accredited laboratory.

With the help of these tools, it is possible to ensure that analytical results are highly likely to be correct, i.e. close to the real value. In addition, complete and plausible documentation of the accuracy of the analyses is possible. This gives you the best possible security and allows you to prove the reliability of your results to business partners and certification bodies at any time.



Our reference materials

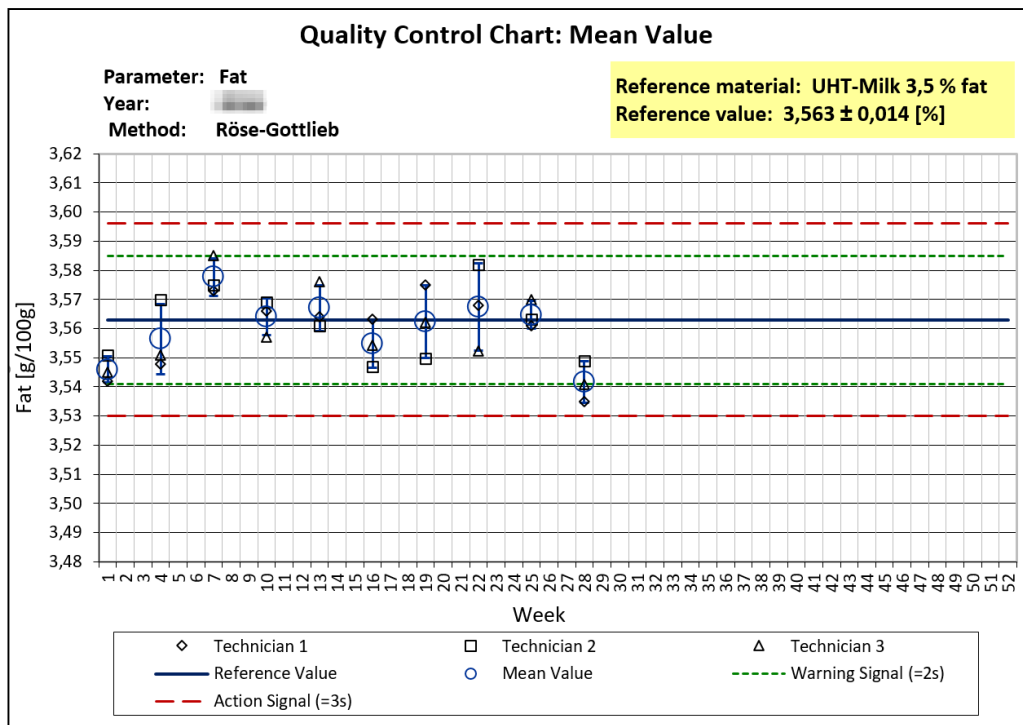
The reference materials of muva kempten GmbH and QSE GmbH are produced following the current international standards and guidelines (e.g. DIN EN ISO 17034) and are high-quality characterised.

- The reference values for the various parameters are based on extensive data sets, usually obtained from several interlaboratory comparisons. This ensures that the values are highly reliable.
- The certified reference materials (CRM) of QSE GmbH are tested by several independent accredited laboratories.
- The reference materials are examined for homogeneity of the material with regard to all parameters.
- The reference materials are primarily designed for long-term stability. They are subject to regular stability monitoring during the storage period.
- You will receive a clear data sheet or certificate for each reference material

Possible applications of the reference material

Continuous monitoring of chemical, physical and microbiological analysis allows quality control charts to be generated. In addition to the regular control of analytical reproducibility, errors, trends, and systematic deviations can be recognised at a glance and can be quickly and effectively rectified. Furthermore, reference material can be used to:

- Optimizations of analysis processes
- Researching the causes of inconsistencies in analyses
- Training and monitoring of personnel
- Estimation of the measurement uncertainty
- Calibration of analysers
- Validation of methods



Chemical-physical analyses

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
UHT MILK						
muva-M-0159	UHT Milk 1,5 % Fat Retest date: 10/2026	Fat	g/100g	1,642	500 ml	31,55
		Dry matter	g/100g	10,83		
		Protein	g/100g	3,569		
		Lactose (monohydrate)	g/100g	4,687		
		Freezing point	°C	-0,5182		
		Density	g/ml	1,0329		
		Calcium	mg/kg	1270		
muva-M-0165 <i>available from October</i>	UHT Milk 3,5 % Fat	Fat	g/100g	500 ml	31,55	
		Dry matter	g/100g			
		Protein	g/100g			
		Lactose (monohydrate)	g/100g			
		Freezing point	°C			
		pH value	/			
muva-M-0164 <i>available from October</i>	Skimmed UHT Milk	Fat	g/100g	500 ml	31,55	
		Dry matter	g/100g			
		Protein	g/100g			
		Lactose (monohydrate)	g/100g			
		Freezing point	°C			
		pH value	/			
UHT MILK (LACTOSE REDUCED, LACTOSE FREE)						
muva-ML-2325	UHT Milk (lactose free) Retest date: 05/2027	Lactose (monohydrate): via HPLC	g/100g	0,005	40 ml	33,80
		via Enzym. (Gal.)	g/100g	0,044		
		via Enzym. (Glc.)	g/100g	0,017		
		Galactose enzym.	g/100 g	2,42		
		Galactose (HPLC)	g/100 g	2,41		
		Glucose enyzm.	g/100 g	2,45		
		Glucose (HPLC)	g/100 g	2,39		
muva-ML-2326	UHT Milk (lactose reduced) Retest date: 05/2027	Lactose (monohydrate): via HPLC	g/100g	0,333	40 ml	33,80
		via Enzym. (Gal.)	g/100g	0,375		
		via Enzym. (Glc.)	g/100g	0,364		
		Galactose enzym.	g/100 g	2,26		
		Galactose (HPLC)	g/100 g	2,27		
		Glucose enyzm.	g/100 g	2,29		
		Glucose (HPLC)	g/100 g	2,24		
ALKALINE PHOSPHATASE ACTIVITY IN MILK						
muva-MAP-2516 <i>NEW</i>	UHT milk+ raw milk Retest date: 05/2027	Alkaline phosphatase activity	mU/l	13027	ca. 15 ml	29,40

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
RAW MILK						
muva-RO-0772	Raw milk	Fat	g/100g	4,563	40ml	 28,40 -15% discount
		Dry matter	g/100g	13,79		
	nat. fat content	Protein	g/100g	3,815		
		Lactose Monohydrat	g/100g	4,624		
	Retest date: 01/2027	Freezing point	°C	-0,5214		
		pH value	/	6,71		
		Casein	g/100g	3,003		
muva-RO-0774	Raw milk	Fat	g/100g	4,327	40ml	 28,40 -15% discount
		Dry matter	g/100g	13,29		
	nat. fat content	Protein	g/100g	3,386		
		Lactose Monohydrat	g/100g	4,807		
	Retest date: 01/2027	Freezing point	°C	-0,5198		
		pH value	/	6,67		
muva-RO-0775	Raw milk	Fat	g/100g	3,719	40ml	 28,40
		Dry matter	g/100g	12,87		
	3,7 % fat content	Protein	g/100g	3,585		
		Lactose Monohydrat	g/100g	4,836		
	Retest date: 07/2027	Freezing point	°C	-0,5223		
		pH value	/	6,67		
		Urea	mg/l	203,6		
muva-RO-0776	Raw milk	Fat	g/100g	4,358	40ml	 28,40
		Dry matter	g/100g	13,42		
	nat. fat content	Protein	g/100g	3,543		
		Lactose Monohydrat	g/100g	4,760		
	Retest date: 12/2027	Freezing point	°C	-0,5212		
		pH value	/	6,67		
		Casein	g/100g	2,812		
muva-RO-0777	Raw milk	Fat	g/100g	3,486	40ml	 28,40
		Dry matter	g/100g	12,74		
	3,5 % fat content	Protein	g/100g	3,717		
		Lactose Monohydrat	g/100g	4,809		
	Retest date: 12/2027	Freezing point	°C	-0,5244		
		pH value	/	6,67		
		Casein	g/100g	2,895		
muva-RO-0778 <i>NEW</i>	Raw milk	Fat	g/100g	4,374	0ml	 28,40
		Dry matter	g/100g	13,49		
	nat. fat content	Protein	g/100g	3,587		
		Lactose Monohydrat	g/100g	4,806		
	Retest date: 11/2028	Freezing point	°C	-0,5255		
		pH value	/	6,67		
		Casein	g/100g	2,803		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
muva-RO-0779 <i>NEW</i>	Raw milk	Fat	g/100g	3,253	40ml	
		Dry matter	g/100g	12,58		
		Protein	g/100g	3,780		
		Lactose Monohydrat	g/100g	4,792		
	3,5 % fat content	Freezing point	°C	-0,5214		28,40
		pH value	/	6,69		
		Casein	g/100g	2,948		
FATTY ACID COMPOSITION IN RAW MILK						
muva-FM-2109	Fatty acid composition in raw milk	Butyric acid (C4:0)	g/100 g	3,38	40 ml	
		Caproic acid (C6:0)	g/100 g	2,09		
		Caprylic acid (C8:0)	g/100 g	1,23		
		Capric acid (C10:0)	g/100 g	2,78		
		Lauric acid (C12:0)	g/100 g	3,44		
		Myristic acid (C14:0)	g/100 g	11,89		
		Myristoleic acid (C14:1)	g/100 g	1,28		
		Palwithic acid (C16:0)	g/100 g	34,11		
		Retest date:	g/100g	1,93		
		01/2027	g/100 g	6,93		
	Stearic acid (C18:0)	g/100 g	6,93			
		Oleic acid (C18:1 cis-9)	g/100 g	17,69		
		C18:1 total trans	g/100 g	2,07		
		Vaccen acide (C18:1 trans)	g/100 g	1,53		
		Linoleic acid (C18:2 all-cis-9,12)	g/100 g	1,07		
		C18:2 total trans	g/100g	0,98		
		Linolenic acid (C18:3 all-cis-9,12,15)	g/100 g	0,45		
		Arachidic acid (C20:0)	g/100 g	0,14		
		muva-FM-2110	Fatty acid composition in cream powder	Butyric acid (C4:0)		g/100 g
Caproic acid (C6:0)	g/100 g			2,22		
Caprylic acid (C8:0)	g/100 g			1,28		
Capric acid (C10:0)	g/100 g			2,95		
Lauric acid (C12:0)	g/100 g			3,52		
Myristic acid (C14:0)	g/100 g			11,41		
Myristoleic acid (C14:1)	g/100 g			0,94		
Retest date:	g/100 g			30,62		
06/2031	g/100g			1,65		
Palmetoleic acid (C16:1 cis)	g/100 g			8,78		
Stearic acid (C18:0)	g/100 g		8,78			
	Vaccenic acid (C 18:1 trans)		g/100 g	0,83		
	Oleic acid (C18:1 cis-9)		g/100 g	19,61		
	C18:1 total trans		g/100 g	1,77		
	Linoleic acid (C18:2 all-cis-9,12)		g/100 g	1,76		
	C18:2 total trans		g/100g	0,83		
	Linolenic acid (C18:3 all-cis-9,12,15)		g/100 g	1,76		
	Fat		g/100g	0,54		
	Arachidic acid (C20:0)		g/100 g	0,13		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
AFLATOXIN M1 IN MILK						
muva-MA-2413	Aflatoxin M1 in milk	Aflatoxin M1 (HPLC)	µg/kg	0,015	40 ml	31,00 ❄️
	Retest date: 01/2027	Aflatoxin M1 (ELISA)		0,025		
VETERINARY DRUGS (quantitative)						
muva-TAZ-2701	Veterinary drugs in milk	Enrofloxacin	µg/kg	103,73	40 ml	74,50 ❄️
	Retest date: 01/2027	Sulfadimidin Tetracyclin		101,50 118,88		
muva-TAZ-2706	Veterinary drugs in milk	Penicillin G	µg/kg	4,06	40 ml	74,50 ❄️
	Retest date: 01/2027	Oxacillin Cloxacillin Amoxicillin Ampicillin Cefalexin Cefapirin Cefoperazone		31,20 31,14 4,09 4,30 106,1 71,07 52,60		
muva-TAZ-2707	Veterinary drugs in milk	Gentamicin	µg/kg	102,0	40 ml	34,50 ❄️
	Retest date: 01/2027					
muva-TAZ-2708	Veterinary drugs in milk	Erythromycin	µg/kg	42,99	40 ml	34,50 ❄️
	Retest date: 01/2027					
VETERINARY DRUGS in Milk (qualitative) for inhibitor test system						
muva-TAM-2804	Inhibitor positiv	Cefalonium	Content ca. 10% above MRL	40 ml	34,40 ❄️	
	Retest date: 10/2026					
muva-TAM-2805	Inhibitor positiv	Penicillin G	Content ca. 10% above MRL	40 ml	34,40 ❄️	
	Retest date: 10/2026					

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
EVAPORATED MILK / COFFEE CREAM						
muva-KM-0520	Evaporated milk 8 % Fat	Fat	g/100g	8,14	170 g	31,00 -15% discount
		Dry matter	g/100g	25,71		
	Protein	g/100g	6,16			
	Retest date: 05/2027	Ash	g/100g	1,32		
	Phosphorus	mg/kg	1696			
muva-KM-0521	Coffee cream 10 % Fat	Fat	g/100g	10,14	250 g	31,00
		Dry matter	g/100g	18,49		
	Protein	g/100g	3,22			
	Retest date: 11/2026	Ash	g/100g	0,65		
	Phosphorus	mg/kg	896,2			
muva-KM-0522	Evaporated milk 4 % Fat	Fat	g/100g	4,02	170 g	31,00
		Dry matter	g/100g	24,32		
	Protein	g/100g	7,06			
	Retest date: 11/2026	Ash	g/100g	1,51		
	Phosphorus	mg/kg	2046,0			
muva-KM-0523	Evaporated milk 8 % Fat	Fat	g/100g	8,14	170 g	31,00
		Dry matter	g/100g	25,81		
	Protein	g/100g	6,11			
	Retest date: 05/2027	Ash	g/100g	1,29		
	Phosphorus	mg/kg	1707,0			
YOGHURT						
muva-JO-1437	Yoghurt 1,8% Fat	Fat	g/100g	1,86	500 g	32,00
		Dry matter	g/100g	11,93		
	Protein	g/100g	4,81			
	Retest date: 02/2027	L-lactic acid	mg/100g	918		
	Lactic acid	mg/100g	1010			
pH value	/	4,18				
muva-JO-1438	Yoghurt 3,8% Fat	Fat	g/100g	3,76	500 g	32,00
		Dry matter	g/100g	13,43		
	Protein	g/100g	4,69			
	Retest date: 02/2027	L-lactic acid	mg/100g	951		
	Lactic acid	mg/100g	1028			
pH value	/	4,15				

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
UHT CREAM						
muva-R-0445	UHT Cream	Fat	g/100g	30,28	ca. 140 ml	 29,00 -15% discount
	30% Fat	Dry matter	g/100g	36,54		
	Retest date: 01/2027	Protein	g/100g	2,38		
muva-R-0446	UHT Cream	Fat	g/100g	35,26	ca. 140 ml	 29,00
	36% Fat	Dry matter	g/100g	41,01		
	Retest date: 02/2027	Protein	g/100g	2,23		
muva-R-0449	UHT Cream	Fat	g/100g	12,49	200 ml	29,00
	12% Fat	Dry matter	g/100g	20,83		
	Retest date: 02/2027	Protein	g/100g	3,14		
		Lactose monohydrate (enzym.)	g/100g	4,11		
muva-R-0450	UHT Cream	Fat	g/100g	29,71	200 ml	29,00
	30% Fat	Dry matter	g/100g	35,99		
	Retest date: 02/2027	Protein	g/100g	2,45		
		Lactose monohydrate (enzym.)	g/100g	< 0,10		
muva-R-0451	UHT Cream	Fat	g/100g	15,37	200 ml	29,00
	15% Fat	Dry matter	g/100g	23,32		
	Retest date: 05/2027	Protein	g/100g	3,14		
		Lacse monohydrate (enzym.)	g/100g	4,14		
muva-R-0452	UHT Cream	Fat	g/100g	30,30	200 ml	29,00
	30% Fat	Dry matter	g/100g	36,69		
	Retest date: 05/2027	Protein	g/100g	2,44		
		Lactose monohydrate (enzym.)	g/100g	3,34		
BUTTER						
muva-BU-1315	Sweet cream butter	Solids non-fat	g/100g	1,54	250 g	 33,30 -15% discount
		Water	g/100g	15,63		
		pH value	/	6,75		
	Retest date: 08/2027	Cholesterol	mg/kg	2262		
		Butyric acid methyl ester	g/100g	3,86		
muva-BU-1317	Mild acid butter	Solids non-fat	g/100g	1,35	250 g	 33,30
		Water	g/100g	15,51		
	Retest date: 08/2027	pH value	/	6,19		
		Cholesterol	mg/kg	2304		
		Butyric acid methyl ester	g/100g	3,81		
muva-BU-1318	Sweet cream Butter	Solids non-fat	g/100g	1,44	250 g	 33,30
		Water	g/100g	15,72		
		pH value	/	6,82		
	Retest date: 10/2028	Cholesterol	mg/kg	2329		
		Butyric acid methyl ester	g/100g	3,83		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
muva-BU-1319	Mild acid Butter	Solids non-fat	g/100g	2,75	250 g	33,30 ❄️
		Water	g/100g	16,21		
		pH value	/	6,47		
		Cholesterol	mg/kg	2237		
	Retest date: 10/2028	Sodium	mg/100g	559		
		Chloride	mg/100g	873		
		Sodium Chloride via Chloride	g/100g	1,44		
		Sodium Chloride via Sodium	g/100g	1,42		
		Butyric acid methyl ester	g/100g	3,81		
PROCESSED CHEESE						
muva-SK-0324	Processed cheese 55 % f.i.d.m.	Fat	g/100 g	26,16	250 g	41,30
		Dry matter	g/100 g	45,86		
		Protein N x 6,38	g/100 g	8,31		
		Lactose (monohydrate)	g/100 g	7,53		
	Retest date: 4 weeks after shipment	Ash	g/100g	3,07		
		pH value	/	5,74		
	Frozen shipping possible on request	Citronic acid	mg/100g	256,4		
		Chloride	mg/100g	338		
	Retest date: 04/2027	Sodium Chloride: aus Chloride	g/100g	0,56		
		Sodium	mg/100g	657		
		Sodium Chloride: aus Sodium	g/100g	1,67		
		Gesamtphosphorus	g/100g	0,76		
muva-SK-0325	Processed cheese 40 % f.i.d.m.	Fat	g/100 g	13,85	250 g	41,30
		Dry matter	g/100 g	36,39		
		Protein N x 6,38	g/100 g	10,89		
		Lactose (monohydrate)	g/100 g	7,84		
	Retest date: 4 weeks after shipment	Ash	g/100g	3,26		
		pH value	/	5,66		
	Frozen shipping possible on request	Citronic acid	mg/100g	327,0		
		Chloride	mg/100g	236		
	Retest date: 02/2028	Sodium Chloride: aus Chloride	g/100g	0,39		
		Sodium	mg/100g	589		
		Sodium Chloride: aus Sodium	g/100g	1,50		
muva-SK-0326	Processed cheese 50 % f.i.d.m.	Fat	g/100 g	17,97	250 g	41,30
		Dry matter	g/100 g	36,05		
		Protein N x 6,38	g/100 g	11,21		
		Ash	g/100g	3,12		
	Retest date: 4 weeks after shipment	pH value	/	5,75		
		Chloride	mg/100g	149		
	Frozen shipping possible on request	Sodium Chloride: aus Chloride	g/100g	0,25		
		Sodium	mg/100g	585		
	Retest date: 07/2028	Phosphorus	g/100g	0,752		
Sodium		g/100g	1,49			

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
CREAM CHEESE						
muva-FK-1235	Cream cheese 66 % F.i.d.m.	Fat	g/100g	21,38	300 g	33,30
		Dry matter	g/100g	32,18		
		Protein	g/100g	5,77		
		Lactic acid	mg/100g	367,0		
		Lactose	g/100g	3,03		
		pH value	/	4,82		
		Retest date:	mg/100g	479		
		10/2026	Sodium chloride	0,79		
			Sodium (Na)	0,76		
			Sodium	298		
muva-FK-1236	Cream cheese 45 % F.i.d.m.	Fat	g/100g	10,82	300 g	33,30
		Dry matter	g/100g	23,77		
		Protein	g/100g	7,26		
		Lactic acid	mg/100 g	556,6		
		Lactose	g/100g	2,79		
		pH value	/	4,57		
		Retest date:	mg/100g	434		
		02/2027	Sodium chloride	0,72		
			Sodium (Na)	0,68		
			Sodium	266		
muva-FK-1237	Cream cheese 18 % F.i.d.m.	Fat	g/100g	3,69	300 g	33,30
		Dry matter	g/100g	19,58		
		Protein	g/100g	10,30		
		Lactic acid	mg/100 g	600,8		
		Lactose	g/100g	2,75		
		pH value	/	4,52		
		Retest date:	mg/100g	352		
		11/2026	Sodium chloride	0,58		
			Sodium (Na)	0,52		
			Sodium	203		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
HARD CHEESE						
muva- HA-1516	Hard cheese	Fat	g/100g	28,18	100 g	35,00
		Dry matter	g/100g	62,07		
	Type Emmentaler	Protein	g/100g	27,96		
	pH value	/	5,62			
	Chloride	mg/100g	566			
	Retest date:	Sodium Chloride: via Chloride	g/100g	0,93		
	12/2026	Sodium	mg/100g	396		
	Sodium Chloride: via Sodium	g/100g	1,01			
muva- HA-1517	Hard cheese	Fat	g/100g	33,68	80 g	35,00
		Dry matter	g/100g	65,62		
	Type Emmentaler	Protein	g/100g	27,13		
	pH value	/	5,90			
	Chloride	mg/100g	780			
	Retest date:	Natrium	mg/100g	489		
	09/2028	Sodium	mg/100g	1,24		
	Sodium Chloride: via Sodium	g/100g	1,29			
SEMI HARD CHEESE						
muva- K-1806	Semi hard cheese	Fat	g/100g	33,91	100 g	35,00
		Dry matter	g/100g	63,69		
	Protein	g/100g	25,29			
	Retest date:	pH value	/	5,86		
	12/2027	Chloride	mg/100g	725		
	Sodium Chloride: via Sodium	g/100g	1,13			
	Sodium Chloride: via Chloride	g/100g	1,19			
ALKALINE PHOSPHATASE - CHEESE						
muva- HAP-2507	Hard cheese freeze-dried	Alkaline Phosphatase Activity	mU/g	14	ca. 5 g	29,40
Retest date: 02/2029						
muva- HAP-2508 <i>NEW</i>	Hard cheese freeze-dried	Alkaline Phosphatase Activity	mU/g	1061	ca. 5 g	29,40
Retest date: 09/2029						

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
MILK POWDER						
muva- MP-0225	Skimmed milk powder	Fat	g/100g	0,90	80 g	36,15
		Dry matter	g/100g	96,25		
		Protein	g/100g	37,65		
		Lactose (monohydrate)	g/100g	48,84		
		Retest date: pH value	/	6,67		
		06/2031 Ash	g/100g	7,82		
muva- MP-0226	Whole milk powder roller-dried	Nitrate	mg/kg	3,25	80 g	36,15
		Fat	g/100g	26,05		
		Dry matter	g/100g	97,19		
		Protein	g/100g	26,43		
		Lactose (monohydrate)	g/100g	37,34		
		Retest date: pH value	/	6,66		
muva- MP-0227	Cream-powder roller-dried	06/2031 Ash	g/100g	5,81	80 g	36,15
		Fat	g/100g	42,39		
		Dry matter	g/100g	97,84		
		Protein	g/100g	30,00		
		Lactose (monohydrate)	g/100g	31,11		
		Retest date: Free Fat	g/100g	32,96		
muva- MP-0230	Skimmed milk powder (lactose free)	Nitrate	mg/kg	6,35	80 g	36,15
		06/2031 Ash	g/100g	4,49		
		Fat	g/100g	0,66		
		Dry matter	g/100g	96,52		
		Protein	g/100g	36,48		
		Ash	g/100g	7,72		
muva- MP-0231 <i>NEW</i>	Whole milk powder	Lactose (monohydrate)	g/100 g	0,022	80 g	36,15
		Retest date: pH value	/	6,56		
		Fat	g/100g	27,93		
		Free fat	g/100g	3,63		
		Dry matter	g/100g	96,73		
		Protein	g/100g	24,11		
		Ash	g/100g	5,47		
		Retest date: Lactose (monohydrate)	g/100 g	38,79		
		04/2032 Nitrate	mg/kg	8,52		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
WHEY POWDER						
muva-MO-0617	Whey powder	Fat	g/100g	0,77	80 g	38,85
		Dry matter (102 °C)	g/100g	98,57		
		Protein	g/100g	12,66		
		Lactose (monohydrate)	g/100g	72,63		
		Retest date: 02/2027	Ash	7,64		
		Calcium	mg/kg	5145		
		Magnesium	mg/kg	1153		
		Nitrate	mg/kg	36,6		
		NPN	g/100g	2,88		
		Total lactic acide	mg/100g	389,8		
muva-MO-0618	Whey powder	Fat	g/100g	2,11	80 g	38,85
		Dry matter (87 °C)	g/100g	95,41		
		Dry matter (102 °C)	g/100g	95,00		
		Protein	g/100g	36,09		
		Lactose (monohydrate)	g/100g	48,68		
		Retest date: 06/2029	Ash	5,52		
		Calcium	mg/kg	5479		
		Magnesium	mg/kg	969		
		Nitrate	mg/kg	37,90		
		NPN	g/100g	3,41		
		Total lactic acide	mg/100g	620,0		
muva-MO-0619 <i>NEW</i>	Whey powder	Fat	g/100g	0,73	80 g	38,85
		Dry matter (87 °C)	g/100g	98,41		
		Dry matter (102 °C)	g/100g	98,19		
		Protein	g/100g	12,76		
		Lactose (monohydrate)	g/100g	73,78		
		Retest date: 04/2030	Ash	7,68		
		Calcium	mg/kg	5152		
		Magnesium	mg/kg	1166		
		Nitrate	mg/kg	48,5		
		NPN	g/100g	2,71		
		Total lactic acide	mg/100g	293,8		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **	
WHEY PROTEIN CONCENTRATE							
muva-MPK-0908	Whey protein concentrate	Fat	g/100g	5,35	80 g	34,40	
		Water	g/100g	5,06			
		Protein	g/100g	77,51			
		Retest date: 05/2030	Lactose (monohydrate)	g/100g			6,31
		Ash	g/100g	3,28			
muva-MPK-0909	Whey protein concentrate	Fat	g/100g	5,48	80 g	34,40	
		Water	g/100g	4,99			
		Protein	g/100g	72,06			
		Retest date: 06/2031	Lactose (monohydrate)	g/100g			10,535
		Ash	g/100g	3,58			
SODIUM-CASEINATE							
muva-CA-0908	Sodium Caseinate	Fat	g/100g	0,77	60 g	34,40	
		Water	g/100g	5,44			
		Protein	g/100g	91,02			
		Retest date: 01/2028	Lactose (monohydrate)	g/100g			0,057
		Ash	g/100g	3,48			
CARBOHYDRATES							
muva-KI-1110	Carbohydrates Infant food (powder):	Glucose	g/100g	0,69	80 g	35,00	
		Fructose	g/100g	1,60			
		Lactose (monohydrate)	g/100g	23,73			
		Retest date: 06/2029	Saccharose	g/100g			0,97
muva-KI-1111	Carbohydrates Infant food (powder):	Glucose	g/100g	1,04	80 g	35,00	
		Fructose	g/100g	0,87			
		Lactose (monohydrate)	g/100g	24,03			
		Retest date: 06/2029	Saccharose	g/100g			0,84
VITAMINS							
muva-VI-3301 <i>NEW</i>	Vitamins Infant food (pre-mixed)	Vitamin A	µg/100ml	52,7	200 ml	40,00	
		Vitamin C	mg/100ml	13,8			
		Vitamin E	mg/100ml	1,64			
		Vitamin B 1	µg/100ml	138,3			
		Retest date: 01/2027	Vitamin B 2	µg/100ml			149,0
		Vitamin B 6	µg/100ml	56,9			
		Vitamin B 12	µg/100ml	0,30			
muva-VI-3302 <i>NEW</i>	Vitamins Infant food (pre-mixed)	Vitamin A	µg/100ml	62,5	200 ml	40,00	
		Vitamin C	mg/100ml	10,1			
		Vitamin E	mg/100ml	0,91			
		Vitamin B 1	µg/100ml	65,0			
		Retest date: 01/2027	Vitamin B 2	µg/100ml			208,4
		Vitamin B 6	µg/100ml	28,2			
		Vitamin B 12	µg/100ml	0,20			

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
MINERALS / TRACE ELEMENTS						
muva- NEM-1610	Minerals / trace elements Infant food (powder) Retest date: 06/2029	Sodium	mg/kg	1281	80 g	47,00
		Kalium	mg/kg	6081		
		Calcium	mg/kg	4841		
		Magnesium	mg/kg	848,0		
		Iron	mg/kg	30,1		
		Zinc	mg/kg	21,6		
		Phosphorus	mg/kg	4363		
		Copper	mg/kg	2,54		
		Manganese	mg/kg	10,32		
Chloride	mg/kg	2372				
muva- NEM-1611	Minerals / trace elements Infant food (powder) Retest date: 06/2029	Sodium	mg/kg	1210	80 g	47,00
		Kalium	mg/kg	5618		
		Calcium	mg/kg	4743		
		Magnesium	mg/kg	510,7		
		Iron	mg/kg	18,1		
		Zinc	mg/kg	11,7		
		Phosphorus	mg/kg	3360		
		Copper	mg/kg	1,38		
		Manganese	mg/kg	2,36		
Chloride	mg/kg	2343				
MILK POWDER WITH DEFINED CONTENT OF RENNET WHEY POWDER						
muva- GMP-2602	Retest date: 01/2027	Content of rennet whey powder	g/100g	1,07	25 g	45,85
muva- GMP-2605	Retest date: 04/2032	Content of rennet whey powder	g/100g	5,03	25 g	45,85
muva- GMP-2606	Retest date: 04/2032	Content of rennet whey powder	g/100g	0,99	25 g	45,85
PLANT DRINK						
muva- VM-3103	Plant drink (Pea) Retest date: 11/2027	Fat	g/100g	2,90	40 ml	48,85 ❄️
		Dry matter (102 °C)	g/100g	9,44		
		pH-value	/	7,71		
		Protein	g/100g	1,57		
muva- VM-3104	Plant drink (Oats) Retest date: 11/2027	Fat	g/100g	3,50	40 ml	48,85 ❄️
		Dry matter (102 °C)	g/100g	10,21		
		pH-value	/	6,97		
		Protein	g/100g	0,82		
muva- VM-3105 <i>NEW</i>	Plant drink (Soja) Retest date: 11/2028	Fat	g/100g	1,78	40 ml	48,85 ❄️
		Dry matter (102 °C)	g/100g	6,66		
		pH-value	/	3,07		
		Protein	g/100g	6,99		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
PLANT BASED SPREAD CREAM						
muva- VS-3002	Cashew base	Fat	g/100g	22,55	135 g	59,70
		Dry matter (102 °C)	g/100g	34,82		
	Retest date: 02/2027	Protein	g/100g	4,29		
		Ash	g/100g	1,16		
muva- VS-3004	Sunflower seed base	Fat	g/100g	39,38	180 g	59,70
		Dry matter (102 °C)	g/100g	57,24		
	Retest date: 03/2027	Protein	g/100g	4,87		
		Ash	g/100g	2,21		
PLANT BASED CHEESE ALTERNATIVE						
muva- VK-3201	Starch base	Fat	g/100g	23,18	100 g	 59,70 -15% discount
		Dry matter (102 °C)	g/100g	46,90		
	Retest date: 01/2027	Protein	g/100g	1,19		
		pH value	/	3,78		
		Chloride	mg/100 g	886		
muva- VK-3202	Starch base	Fat	g/100g	22,58	100 g	 59,70
		Dry matter (102 °C)	g/100g	50,80		
	Retest date: 09/2027	Protein	g/100g	2,99		
		pH value	/	5,28		
		Chloride	mg/100 g	1281		
		Sodium	mg/100 g	839		
FRUIT JUICE						
muva- FS-1920	Apple juice naturally cloudy	Glucose	g/l	21,67	150 ml	35,55
		Fructose	g/l	52,82		
		Patulin	µg/l	52,1		
		Titratable acid	mmol H ⁺ /l	87,43		
	Retest date: 07/2027	pH value	/	3,46		
		Ethanol	mg/l	361,2		
		Soluble solids	°Brix	11,27		
CHOCOLATE						
muva- S-0820	Whole milk chocolate	Fat	g/100g	40,37	100 g	52,75
		Dry matter	g/100g	98,94		
		Protein	g/100g	7,65		
		Lactose (monohydrate)	g/100g	8,10		
	Retest date: 01/2027	Saccharose	g/100g	35,01		
		Theobromine	mg/kg	1920		
		Coffeine	mg/kg	361		
		Milk fat	g/100g	4,91		
muva- S-0821	Nougat	Fat	g/100g	30,36	100 g	52,75
		Dry matter	g/100g	99,37		
	Retest date: 02/2027	Protein	g/100g	7,19		
		Lactose (monohydrate)	g/100g	4,76		
		Saccharose (enzym.)	g/100g	50,15		
		Coffeine	mg/kg	155		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
CANNED SAUSAGE						
muva- BR-1007	Canned sausage (calf liver sausage)	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		
	Retest date: 02/2027	Sodium Chloride: via Chloride	g/100 g	1,80		
		Ash	g/100 g	2,30		
		Hydroxyproline	g/100 g	0,24		
muva- BR-1009	Canned sausage (Lyoner)	Fat	g/100 g	22,64	125 g	44,75
		Water	g/100 g	61,57		
		Protein (N x 6,25)	g/100 g	12,73		
		Chloride	mg/100 g	1121		
	Retest date: 07/2028	Sodium Chloride: via Chloride	g/100 g	1,85		
		Ash	g/100 g	2,55		
		Hydroxyproline	g/100 g	0,20		
		Sodium (Na)	g/100 g	1,90		
muva- BR-1010	Canned sausage (Leberwurst)	Nitrate	mg/kg	21,38	125 g	44,75
		Fat	g/100 g	31,44		
		Water	g/100 g	50,09		
		Protein (N x 6,25)	g/100 g	14,57		
	Retest date: 07/2028	Chloride	mg/100 g	1065		
		Sodium Chloride: via Chloride	g/100 g	1,76		
		Ash	g/100 g	2,20		
		Hydroxyproline	g/100 g	0,34		
		Nitrate	mg/kg	53,67		
		Sodium (Na)	g/100 g	1,78		

* None of the reference materials are suitable for consumption!

** Prices do not include VAT

*** Values may differ from the data sheet

Microbiological analysis

All microorganisms belong to risk group S1

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
TOTAL BACTERIAL COUNT						
muva-MBK-1721	Hard cheese (freeze-dried) Retest date: 01/2027	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/g	6,14	40 g	26,40
muva-MBK-1722	Curd powder Retest date: 11/2026	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/g	2,66	40 g	26,40
muva-GKZ-1729	Milk Retest date: 11/2026	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/ml	4,47	30 ml	34,40 ❄️
muva-GKZ-1730	Milk Retest date: 11/2026	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/ml	5,45	30 ml	34,40 ❄️
E. COLI / ENTEROBACTERIACEAE / COLIFORMS						
muva-ECE-1729	Milk Retest date: 11/2026	E. Coli Enterobacteriaceae Coliforms	log ₁₀ cfu/ml	4,01 4,29 4,31	30 ml	42,45 ❄️
muva-ECE-1730	Milk Retest date: 11/2026	E. Coli Enterobacteriaceae Coliforms	log ₁₀ cfu/ml	5,05 5,34 5,36	30 ml	42,45 ❄️
YEAST / GEOTRICHUM						
muva-HS-1731	Milk Retest date: 11/2026	Hefen Geotrichum	log ₁₀ cfu/ml	4,93 3,20	30 ml	37,90 ❄️
muva-HS-1732	Milk Retest date: 11/2026	Hefen Geotrichum	log ₁₀ cfu/ml	5,92 4,09	30 ml	37,90 ❄️
STAPHYLOCOCCUS						
muva-ST-1721	Milk Retest date: 10/2026	Staphylokokken	log ₁₀ cfu/ml	5,11	30 ml	37,90 ❄️
muva-ST-1722	Milk Retest date: 10/2026	Staphylokokken	log ₁₀ cfu/ml	6,05	30 ml	37,90 ❄️

* None of the reference materials are suitable for consumption!

** Prices do not include VAT.

*** Values may differ from the data sheet

Sensory Analyses

Code	Material*	Parameter	Number of Packs	Packaging unit	Price € **
SENSORY RANK ORDER					
muva-SeRF-56	Flavored Water Retest date: 06/2027	sweet	4 samples	4x 50 ml	58,50
muva-SeRF-57	Flavored Water Retest date: 06/2027	sour	4 samples	4x 50 ml	58,50
muva-SeRF-54	Flavored Water Retest date: 06/2027	salty	4 samples	4x 50 ml	58,50
SENSORY TRIANGLE TEST					
muva-SeD-23	Nut nougat cream Retest date: 03/2027		3 samples	3x 50 g	44,75
muva-SeD-24	Ham sausage Retest date: 09/2029		3 samples	3x 50 g	44,75
SENSORY FATS & OILS					
muva-SeO-17	Rapeseed oil Retest date: 12/2026	deficient	1 sample	30 ml	28,15
muva-SeO-18	Rapeseed oil Retest date: 12/2026	neutral	1 sample	30 ml	28,15

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

** Prices do not include VAT.

QSE reference samples for calibration

Products made of raw milk

for calibration and adjustment of analytical instruments and for checking bench chemistry methods

Certified shock-frozen long-term standard (LZS) (F1-F8/E1-E4 3 years shelf life from date of manufacture / PM 8 2 years shelf life from date of manufacture)



QSE Prod.- Nr.	Product appellation	Reference value (varies due to batch slightly)																	Packaging unit	Price/ Unit
		Fat [g/100g]	Protein [g/100g]	Lactose monohydrate [g/100g]	Dry matter [g/100g]	Urea [mg/L]	Freezing point [°C]	pH value	Casein [g/100g]	NPN [g/100g]	Fatty acids [g/100g milk]									
											uFA	SFA	MUFA	PUFA	C14:0	C16:0	C18:0	C18:1		
5100018	F1	2,2	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	9,90 €
5100035	F5	2,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	9,85 €
5100019	F2	3,2	-	-	-	550	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	9,90 €
5100036	F6	3,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	9,85 €
5100020	F3	4,2	3,5	4,7	13,3	200	-0,520	6,68	2,7	0,02	1,3	2,9	1,1	0,2	0,5	1,3	0,5	1,0	40 mL	13,80 €
5100037	F7	4,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	9,85 €
5100021	F4	5,5	-	4,8	-	300	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	9,90 €
5100038	F8	6,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	9,85 €
5100039	E1	-	3,0	4,2	11,5	-	-0,450	-	2,3	-	-	-	-	-	-	-	-	-	40 mL	11,00 €
5100040	E2	-	3,3	-	-	-	-0,510	-	2,6	-	-	-	-	-	-	-	-	-	40 mL	10,25 €
5100041	E3	-	3,8	-	-	-	-0,525	-	3,0	-	-	-	-	-	-	-	-	-	40 mL	10,25 €
5100042	E4	-	4,2	5,3	14,5	-	-0,600	-	3,3	-	-	-	-	-	-	-	-	-	40 mL	11,00 €
5100022	Set F1-F4	Slope/Intercept for fat, urea; Intercept for protein, lactose monohydrate, dry matter, freezing point, pH value, casein, NPN, fatty acids																	4 x 40 mL	37,00 €
5100034	Set F1-F8	Slope/Intercept for fat, urea; Intercept for protein, lactose monohydrate, dry matter, freezing point, pH value, casein, NPN, fatty acids																	8 x 40 mL	70,45 €
5100033	Set F1-F4, PM8 ¹	Slope/Intercept for fat, urea; Intercept for protein, lactose monohydrate, dry matter, freezing point, pH value, casein, NPN, fatty acids																	5 x 40 mL	48,50 €
5100043	Set E1-E4	Slope/Intercept for protein, freezing point, casein; Intercept for lactose monohydrate, dry matter																	4 x 40 mL	37,20 €
5100045	2 Sets E1-E4 ²	Slope/Intercept for protein, freezing point, casein, lactose monohydrate, dry matter																	8 x 40 mL	74,20 €
5100044	Set E1, E4, F3 ³	Slope/Intercept for protein, lactose monohydrate, dry matter, freezing point, casein; Intercept for fat, urea, pH value, NPN, fatty acids																	3 x 40 mL	30,45 €

¹ For calibration up to 7 % fat, raw milk LZS F1-F4 can be complemented with pasteurized milk LZS PM8. Test calibrations were carried out successfully.

² By mixing different batches E1-E4, different samples for Slope/Intercept calibration and adjustment are available. Test calibrations were carried out successfully.

³ By mixing different batches E1, E4, F3, 3 different samples for Slope/Intercept calibration and adjustment are available. Test calibrations were carried out successfully.

Products made of raw milk

for calibration and adjustment of analytical instruments and for checking bench chemistry methods

Certified shock-frozen long-term standard (LZS) (3 years shelf life from date of manufacture)



QSE Product no.	Product appellation	Reference value (varies due to the batch slightly)						Packaging unit	Price/Unit
		Fat [g/100g]	Protein [g/100g]	Lactose monohydrate [g/100g]	Dry matter [g/100g]	Freezing point [°C]	Casein [g/100g]		
5100046	E&F1	2,5	3,3	4,4	10,9	-0,470	2,6	40 mL	16,45 €
5100047	E&F2	5,5	3,5	4,7	14,4	-0,521	2,8	40 mL	16,45 €
5100048	E&F3	3,5	3,9	4,9	13,0	-0,536	3,1	40 mL	16,45 €
5100049	E&F4	4,5	4,4	5,4	15,1	-0,605	3,5	40 mL	16,45 €
5100050	Set E&F1-E&F4	Slope/Intercept for fat, protein, lactose monohydrate, dry matter, freezing point, casein						4 x 40 mL	53,90 €

Products for checking fatty acids

for calibration and adjustment of analytical instruments

Certified shock-frozen long-term stable standards for raw milk (3 years shelf life from date of manufacture)



QSE Product no.	Product appellation	Reference value (varies due to the batch slightly)								Packaging unit	Price/Unit
		Fatty acids [g/100g milk] another 7 short-chain fatty acids according to FOSS Application Note AN 0064, AN 5465 ⁶									
		uFA	SFA	MUFA	PUFA	C14:0	C16:0	C18:0	C18:1		
5100110	FS1 ⁵	0,6	1,5	0,5	0,05	0,25	0,6	0,2	0,5	40 mL	18,30 €
5100111	FS2 ⁵	0,8	2,1	0,7	0,07	0,35	1,0	0,3	0,6	40 mL	18,30 €
5100112	FS3 ⁵	1,2	2,7	1,0	0,10	0,40	1,2	0,4	0,9	40 mL	18,30 €
5100113	FS4 ⁵	1,5	3,7	1,3	0,11	0,60	1,8	0,5	1,2	40 mL	18,30 €
5100114	Set FS1 – FS4	Slope/Intercept for fatty acids								4 x 40 mL	58,60 €

⁵ includes also characterization according to F1 – F4

⁶ short chain fatty acids according to FOSS Application Note: SCFA, MCFA, LCFA, trans FA, mixed FA, preformed FA, de nova FA

Products for checking free fatty acids

for calibration and adjustment of analytical instruments and for checking bench chemistry methods

Shock-frozen long-term stable raw milk (1 year shelf life from date of manufacture)



QSE Product no.	Product appellation	Product description	Packaging unit	Price/Unit
5100115	Free fatty acids	Shock-frozen raw milk 0,5 – 0,7 mmol/100 g fat – not in the accredited area	40 mL	10,10 €

Products made of raw milk for checking analysis of fatty acids with gas chromatography

Certified shock-frozen long-term standards (LZS) (1 year shelf life from date of manufacture)



QSE Product no.	Product appellation	Reference value (various due to the batch slightly)		Packaging unit	Price/Unit
		Fatty acids [g/100g fatty acids in fat]			
5100109	FSM	C 4:0	3,60	40 mL	49,95 €
		C 6:0	2,10		
		C 8:0	1,30		
		C 10:0	2,80		
		C 12:0	3,30		
		C 14:0	10,80		
		C 14:1 (c9)	0,90		
		C 15:0	1,10		
		C 16:0	30,30		
		C 16:1 (c9)	1,70		
		C 17:0	0,60		
		C 18:0	8,70		
		C 18:1 (total of cis-Isomere)	20,90		
		C18:1 (total of trans-Isomere)	1,80		
		C 18:2 (c9, c12)	1,60		
		C 18:2 (c9, t11)	0,60		
		C 18:3 (c9, c12, c15)	0,40		
		C 20:5 (c5, c8, c11, c14, c17)	0,05		
		C 22:0	0,05		
		SFA	66,40		
		MUFA	24,10		
		PUFA	2,40		
		TRANS	2,10		
		CLA	0,60		

Products for checking, calibration and adjustment analysis of somatic cells

Certified shock-frozen long-term stable cell milk for carry-over test with instruments for somatic cell counting (4 years shelf life from date of manufacture) 

QSE Product no.	Product appellation	Product description	Packaging unit	Price/Unit
5100094	High cell sample	Shock-frozen raw milk with somatic cell count between 750.000 - 1.700.000 Cells/mL	40 mL	4,50 €

Certified shock-frozen or lyophilized long-term stable somatic cell standard (shelf life 2 years for frozen standards, 4½ years for lyophilized standards from date of manufacture) 

Determination of the reference value with the inclusion of the „Golden Standard“ of the European Commission ERM-BD001

5100096	Set SCC1 - SCC5 Standard 40 mL	Shock-frozen raw milk with somatic cell count between 100.000 - 1.200.000 Cells/mL	5 x 40 mL	87,80 €
5100097	Set SCC2 + SCC3 Standard 40 mL	Shock-frozen raw milk with somatic cell count between 200.000 - 500.000 Cells/mL	2 x 40 mL	35,10 €
5100098	Set SCC2 + SCC4 Standard 40 mL	Shock-frozen raw milk with somatic cell count between 200.000 - 720.000 Cells/mL	2 x 40 mL	35,10 €
5100099	Set SCC2 – SCC4 Standard 40 mL	Shock-frozen raw milk with somatic cell count between 200.000 - 720.000 Cells/mL	3 x 40 mL	52,70 €
5100102	SCC1 Standard 40 mL	Shock-frozen raw milk with somatic cell count between 100.000 - 200.000 Cells/mL	1 x 40 mL	17,60 €
5100100	SCC2 Standard 40 mL	Shock-frozen raw milk with somatic cell count between 200.000 - 300.000 Cells/mL	1 x 40 mL	17,60 €
5100101	SCC3 Standard 40 mL	Shock-frozen raw milk with somatic cell count between 400.000 - 550.000 Cells/mL	1 x 40 mL	17,60 €
5100103	SCC4 Standard 40 mL	Shock-frozen raw milk with somatic cell count between 700.000 - 800.000 Cells/mL	1 x 40 mL	17,60 €
5100104	SCC5 Standard 40 mL	Shock-frozen raw milk with somatic cell count between 950.000 – 1.200.000 Cells/mL	1 x 40 mL	17,60 €
5100095	Set SCC1 - SCC5 Standard 15 mL	Lyophilized milk with somatic raw milk cell count between 100.000 - 1.200.000 Cells/mL	5 x 15 mL	95,50 €

Products for checking bacterial count with milkstandards

Shock-frozen long-term stable bacterial count for calibration and adjustment of flow cytometry instruments (6 months shelf life from date of manufacture) 

QSE Product no.	Product appellation	Product description	Packaging unit	Price/Unit
5100134	MS A150-200 IBC	MS A with 150-200 impulses/mL (Manufactured by MIH – Dr. Hübner accredited)	40 mL	4,50 €
5100135	MS B 300-450 IBC	MS B with 300-450 impulses/mL (Manufactured by MIH – Dr. Hübner accredited)	40 mL	4,50 €
5100136	MS C ≈ 1000 IBC	MS C with ≈ 1000 impulses/mL (Manufactured by MIH – Dr. Hübner accredited)	40 mL	6,40 €

Products made of pasteurized milk

for calibration and adjustment of analytical instruments and for checking bench chemistry methods

Certified shock frozen long-term standard (LZS) (M1-M5, PM1-PM3 3 years shelf life from date of manufacture / PM8 2 years shelf life from date of manufacture)



QSE Product no.	Product appellation	Reference value (varies due to the batch slightly)				Packaging unit	Price/Unit
		Fat[g/100g]	Protein [g/100g]	Dry matter [g/100g]	Freezing point [°C]		
Pasteurized skimmed milk:							
5100051	M1	0,05	3,5	9,6	-0,520	40 mL	10,45 €
5100052	M2	0,10	-	-	-0,510	40 mL	9,75 €
5100053	M3	0,15	-	-	-0,495	40 mL	9,75 €
5100054	M4	0,20	-	9,5	-	40 mL	9,75 €
5100056	M5	0,80	-	10,0	-	40 mL	9,75 €
5100055	Set M1-M4	Slope/Intercept for fat, freezing point; Intercept for protein, dry matter				4 x 40 mL	35,70 €
Pasteurized milk:							
5100023	PM1 ⁴	1,5	3,0	11,0	-0,470	40 mL	11,90 €
5100029	PM2 ⁴	3,5	3,8	13,5	-0,600	40 mL	11,90 €
5100030	PM3 ⁴	4,2	3,5	13,5	-0,520	40 mL	11,90 €
5100032	PM8	7,0	3,0	16,0	-	40 mL	11,90 €
5100031	Set PM1-PM3 ⁴	Slope/Intercept for fat, protein, dry matter, freezing point				3 x 40 mL	32,10 €

⁴pasteurized and homogenized milk

Products made of pasteurized cream

for calibration and adjustment of analytical instruments and for checking bench chemistry methods

Certified shock-frozen long-term standard (LZS) (2 years shelf life from date of manufacture)



QSE Product no.	Product appellation	Reference value (varies due to the batch slightly)			Packaging unit	Price/Unit
		Fat [g/100g]	Protein [g/100g]	Dry matter [g/100g]		
Pasteurized cream (low fat content):						
5100024	PM4	10	3,2	17	40 mL	11,90 €
5100025	PM5	12	3,1	20	40 mL	11,90 €
5100026	PM6	16	3,0	24	40 mL	11,90 €
5100027	PM7	20	2,8	28	40 mL	11,90 €
5100028	Set PM4-PM7	Slope/Intercept for fat, protein, dry matter			4 x 40 mL	42,85 €
Pasteurized cream (high fat content):						
5100061	R1	25	-	32	40 mL	14,40 €
5100062	R2	30	2,2	37	40 mL	14,95 €
5100067	R5	33	-	39	40 mL	14,40 €
5100063	R3	35	-	40	40 mL	14,40 €
5100068	R6	37	-	43	40 mL	14,40 €
5100064	R4	40	2,0	45	40 mL	14,95 €
5100070	R7	47	-	52	40 mL	14,95 €
5100065	Set R1-R4	Slope/Intercept for fat (25-40%), dry matter; Intercept for protein			4 x 40 mL	51,65 €
5100071	Set R1-R4, R7	Slope/Intercept for fat (25-47%), dry matter; Intercept for protein			5 x 40 mL	64,80 €
5100069	Set R2, R5, R6, R4	Slope/Intercept for fat (30-40%), dry matter; Intercept for protein			4 x 40 mL	51,00 €
5100066	Set PM6, PM7, R2, R4	Slope/Intercept for fat (16-40%), protein, dry matter			4 x 40 mL	51,15 €

Products made of whey

for calibration and adjustment of analytical instruments and for checking bench chemistry methods

Certified shock-frozen long-term standard (LZS) (1 year shelf life from date of manufacture)



QSE Product no.	Product appellation	Reference value (varies due to the batch slightly)				Packaging unit	Price/Unit
		Fat [g/100g]	Protein [g/100g]	Lactose monohydrate [g/100g]	Dry matter [g/100g]		
5100085	MO1	0,04	0,4	2,3	3,0	40 mL	11,00 €
5100086	MO2	0,2	0,7	4,3	5,5	40 mL	11,00 €
5100087	MO3	0,5	0,9	4,5	7,0	40 mL	11,00 €
5100088	MO4	0,4	1,1	5,7	8,5	40 mL	11,00 €
5100089	Set MO1-MO4	Slope/Intercept for fat, protein, lactose monohydrate, dry matter				4 x 40 mL	38,50 €

Products made of UHT milk

for calibration and adjustment of analytical instruments and for checking bench chemistry methods

Certified shock-frozen long-term standard (LZS) (4 years shelf life from date of manufacture)



QSE Product no.	Product appellation	Reference value (varies due to the batch slightly)			Packaging unit	Price/Unit
		Fat [g/100g]	Protein [g/100g]	Dry matter [g/100g]		
5100057	H1	0,05	3,6	9,2	40 mL	10,50 €
5100058	H2	1,5	3,5	10,5	40 mL	10,50 €
5100059	H3	3,5	3,4	12,3	40 mL	10,50 €
5100060	Set H1-H3	Slope/Intercept for fat, protein, dry matter			3 x 40 mL	28,40 €

Products made of raw goat milk

for calibration and adjustment of analytical instruments and for checking bench chemistry methods

Certified shock-frozen long-term standard (LZS) (5 years shelf life from date of manufacture)

QSE Product no.	Product appellation	Reference value (varies due to the batch)						Packaging unit	Price/Unit
		Fat [g/100g]	Protein [g/100g]	Lactose monohydrate [g/100g]	Dry matter [g/100g]	Urea [mg/L]	Somatic cells [mL]		
5100072	Z1	2,9	2,9	4,0	11,9	247	1.000.000	40 mL	13,70 €
5100073	Z2	3,4	3,0	4,4	13,4	268	1.300.000	40 mL	13,70 €
5100074	Z3	3,2	3,4	4,9	14,6	290	1.100.000	40 mL	13,70 €
5100075	Set Z1-Z3	Slope/Intercept for fat, protein, somatic cells, dry matter, urea, lactose monohydrate						3 x 40 mL	35,10 €

Products made of raw sheep milk

for calibration and adjustment of analytical instruments and for checking bench chemistry methods

Certified shock-frozen long-term standard (LZS) (3 years shelf life from date of manufacture)



QSE Product no.	Product appellation	Reference value (varies due to the batch slightly)				Packaging unit	Price/Unit
		Fat [g/100g]	Protein [g/100g]	Lactose monohydrate [g/100g]	Dry matter [g/100g]		
5100076	S1	3,9	4,4	4,6	13,6	40 mL	13,25 €
5100077	S2	5,4	4,7	5,0	15,8	40 mL	13,25 €
5100078	S3	6,5	4,9	5,2	17,3	40 mL	13,25 €
5100079	Set S1-S3	Slope/Intercept for fat, protein, lactose monohydrate, dry matter				3 x 40 mL	33,80 €

Products made of raw buffalo milk

for calibration and adjustment of analytical instruments and for checking bench chemistry methods

Certified shock-frozen long-term standards (LZS) (3 years shelf life from date of manufacture)



QSE Product no.	Product appellation	Reference value (varies due to the batch)				Packaging unit	Price/Unit
		Fat [g/100g]	Protein [g/100g]	Lactose monohydrate [g/100g]	Dry matter [g/100g]		
5100080	B1	4,5	4,0	4,8	14,6	40 mL	11,30 €
5100081	B2	5,7	4,1	5,0	15,5	40 mL	11,30 €
5100082	B3	6,2	5,1	5,0	18,8	40 mL	11,30 €
5100083	B4	8,5	4,3	5,2	17,0	40 mL	11,30 €
5100084	Set B1-B4	Slope/Intercept for fat, protein, lactose monohydrate, dry matter				4 x 40 mL	37,90 €

Products for checking inhibitor analysis

Certified shock-frozen long-term stable control standards (3 years shelf life from date of manufacture, neomycin 1½ years)

QSE Product no.	Product appellation	Product description	Packaging unit	Price/Unit
5100116	Positive-control	Shock-frozen raw milk with 4 µg/kg penicillin G	6 mL*	7,60 €
5100118	Positive-control	Shock-frozen raw milk with 30 µg/kg oxacillin	6 mL	7,60 €
5100119	Positive-control	Shock-frozen raw milk with 30 µg/kg cloxacillin	6 mL	7,60 €
5100120	Positive-control	Shock-frozen raw milk with 4 µg/kg amoxicillin	6 mL	7,60 €
5100121	Positive-control	Shock-frozen raw milk with 4 µg/kg ampicillin	6 mL	7,60 €
5100122	Positive-control	Shock-frozen raw milk with 20 µg/kg cefalonium	6 mL	7,60 €
5100123	Positive-control	Shock-frozen raw milk with 60 µg/kg cephapiri	6 mL	7,60 €
5100124	Positive-control	Shock-frozen raw milk with 50 µg/kg cefoperazone	6 mL	7,60 €
5100125	Positive-control	Shock-frozen raw milk with 1500 µg/kg neomycin	6 mL	7,60 €
5100126	Positive-control	Shock-frozen raw milk with 50 µg/kg tylosin	6 mL	7,60 €
5100127	Positive-control	Shock-frozen raw milk with 100 µg/kg sulfamethoxypyridazine	6 mL	7,60 €
5100128	Positive-control	Shock-frozen raw milk with 100 µg/kg oxytetracycline	6 mL	7,60 €
5100129	Positive-control	Shock-frozen raw milk with 100 µg/kg enrofloxacin	6 mL	7,60 €
5100130	Positive-control	Shock-frozen raw milk with 100 µg/kg ciprofloxaci	6 mL	7,60 €
5100131	Positive-control	Shock-frozen raw milk with 75 µg/kg marbofloxacin	6 mL	7,60 €
5100117	Negative-control	Shock-frozen inhibitor-free raw milk	6 mL*	3,55 €

* 40 mL on demand

Products for checking milk pregnancy-test-systems

Certified shock-frozen long-term stable raw milk (2 years shelf life from date of manufacture)

QSE Product no.	Product appellation	Product description	Packaging unit	Price/Unit
5100132	PAG-positive frozen	Shock-frozen raw milk (PAG-Pregnancy-Associated Glycoprotein), positive	40 mL	7,60 €
5100133	PAG-negative frozen	Shock-frozen raw milk (PAG-Pregnancy-Associated Glycoprotein), negative	40 mL	7,60 €

Products for checking cryoscopy				
Certified aqueous freezing point standards for calibration of cryoscopes (2 month shelf life from date of manufacture)				
QSE Product no.	Product appellation	Product description	Packaging unit	Price/Unit
5100105	GP -0,408 °C	Aqueous standard (freezing point -0,408 °C)	40 mL	6,50 €
5100106	GP -0,512 °C	Aqueous standard (freezing point -0,512 °C)	40 mL	6,50 €
5100107	GP -0,520 °C	Aqueous standard (freezing point -0,520 °C)	40 mL	6,50 €
5100108	GP -0,600 °C	Aqueous standard (freezing point -0,600 °C)	40 mL	6,50 €

Products made of milk powder not in the accredited area								
For calibration and adjustment of analytical instruments and for checking bench chemistry methods								
Pulverized long-term standard								
QSE Product no.	Product appellation	Reference value (varies due to the batch slightly)					Packaging unit	Price/Unit
		Fat [g/100g]	Protein [g/100g]	Dry matter [g/100g]	Lactose monohydrate [g/100g]	Ash [g/100g]		
Sweet whey powder:								
5100091	PSM1	0,85	13,0	98,0	77,0	4,0	100g	15,15 €
Skimmed milk powder:								
5100092	PMM1	0,60	36,0	96,0	51,0	8,0	100g	15,15 €

Terms of Payment and Transport

EXW „ex works“ delivery [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.

For international bank transactions (outside the European Economic Area) a bank processing fee of 35,00 € will be charged.

Discount:

from 8 units: 5 %
from 15 units: 10 %
from 35 units: 15 %
from 51 units: subject to agreement.

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 or instruction for usage of frozen long-term standards 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.

❄ Packaging Costs

Package size	Number of bottles	Packaging materials	Packaging costs	Credit note for return delivery of packaging materials ¹⁾
VP 1 eco		Styrofoambox + 7 TP	22,00 €	13,00 €
VP 1	Up to 12 bottles	Styrofoambox + 7 TP	22,00 €	13,00 €
VP2	Up to 30 b.	Styrofoambox + 11 TP	35,00 €	27,00 €
VP3	Up to 52 b.	Styrofoambox + 16 TP	38,00 €	29,00 €
VP4	Up to 65 b.	Styrofoambox + 24 TP	48,00 €	38,00 €
VP5	Up to 104 b.	Styrofoambox + 26 TP	51,00 €	40,00 €
VP6	Up to 150 b.	Styrofoambox + 28 TP	53,00 €	41,00 €
VP3 and VP6	Up to 50 b.	Styrofoambox + Dry ice	different	different

TP = Thermal packs (cool packs)

¹⁾ The credit note is reduced for 1.50 € 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 QSE GmbH

Please send back the filled in order form to **E-Mail:** sales@qse-gmbh.com
If you have questions or if you want some individual consultancy, please do not hesitate and contact us
phone number. +49 (0) 9826 / 6234-30.

Company:		
Consignee (name/department):		
Email		
Delivery address:		
Billing adress (only if differing from delivery address):		
Invoice Email:		
Telephone number:		
Customer ID (if available):		
VAT number:		
Product no. or product appellation	Quantity/unit	Comment (e.g. standing order for a regular delivery)

Prices valid at the moment of order apply.

Date and Signature

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:		
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. Maximilian Moravek
Ignaz-Kiechle-Straße 20-22
D-87437 Kempten (Allgäu)

Your contact person:
Sandra Albrecht
Tel.: +49 (0) 831/5290-233
E-Mail: rm@muva.de
Web: www.muva.de

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