

Reference- materials

Product and
price list

➔ 2024 – Rev. 1



www.qse-gmbh.de



www.muva.de



In such circumstances – A preface

The muva Kempten GmbH and the QSE GmbH make a common cause! We have bundled our strengths since May 2024. Why? Both companies are known for their expertise in the dairy industry. Muva Kempten GmbH has made a name in proficiency testing and reference materials. QSE GmbH, a wholly-owned subsidiary of Milchprüfing Bayern e.V., is firm in the areas of long-term standards and reference materials and also offers proficiency tests.

Reference material from one hand!

Together we are paving the way for innovations for even higher quality services and products. And you can benefit from it too! Our services are now presented in this first joint catalogue of reference materials, which you are currently browsing through.

Your advantages:

- ▶ **We offer the complete package!**
Everything from a single source - the right building blocks for your convenience.
- ▶ **We combine our experience and improve our quality!**
Benefit from our combined expertise.
- ▶ **We develop innovative offers!**
Together we can respond even better to your individual requirements.

What belongs together for the benefit of the dairy industry is growing together. We are curious about what lies ahead and look forward to your trust!

Kind regards from Kempten and from Weidenbach-Triesdorf

Your reference material-team

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Table of Contents

TRUST IS GOOD – CONTROL IS BETTER..... 3

ENSURE CORRECT RESULTS WITH OUR REFERENCE MATERIAL..... 3

COMPLETE QUALITY ASSURANCE 3

OUR REFERENCE MATERIALS 3

NEWS..... 5

IDENTIFICATION OF FROZEN SAMPLES..... 5

OUR DISCOUNT SYSTEM 5

DON'T MISS OUT ON OUR ADDITIONAL DISCOUNTS ON REFERENCE

MATERIALS! HOW TO ORDER..... 5

CONTACTS MUVA / QSE 5

CHEMICAL-PHYSICAL ANALYSES..... 6

UHT MILK..... 6

UHT MILK (LOW IN LACTOSE, LACTOSE FREE)..... 6

ALKALINE PHOSPHATASE ACTIVITY IN MILK..... 7

RAW MILK..... 7

FATTY ACID COMPOSITION IN RAW MILK 8

AFLATOXIN M1 IN RAW MILK..... 9

VETERINARY DRUGS (quantitative) 9

VETERINARY DRUGS in Milk (qualitative) for inhibitor
test system 9

EVAPORATED MILK / COFFEE CREAM 10

YOGHURT..... 10

UHT CREAM..... 10

BUTTER 11

PROCESSED CHEESE..... 11

CREAM CHEESE..... 12

HARD CHEESE 13

SEMI HARD CHEESE 13

ALKALINE PHOSPHATASE - CHEESE 13

MILK POWDER..... 13

FATTY ACID COMPOSITION IN MILK POWDER 14

WHEY POWDER 14

WHEY PROTEIN CONCENTRATE..... 15

SODIUM-CASEINATE..... 16

CARBOHYDRATES / VITAMINS..... 16

MINERALS / TRACE ELEMENTS 16

MILK POWDER WITH DEFINED CONTENT OF RENNET

WHEY POWDER 17

PLANT DRINK 17

VEGAN SPREAD CREAM17

VEGAN CHEESE.....17

FRUIT JUICE17

CHOCOLATE.....18

CANNED SAUSAGE18

Products made of raw milk for checking analysis of
fatty acids with gas chromatography19

Products for checking inhibitor analysis.....20

Products for checking milk pregnancy-test-systems20

Products made of milk powder21

MICROBIOLOGICAL ANALYSIS 22

TOTAL BACTERIAL COUNT.....22

E. COLI / ENTEROBACTERIACEAE / COLIFORMS22

YEAST / GEOTRICHUM22

STAPHYLOCOCCUS22

SENSORY ANALYSES 23

SENSORY RANK ORDER23

SENSORY TRIANGLE TEST23

SENSORY FATS & OILS23

CALIBRATION STANDARDS 24

Products for checking, calibration and adjustment
analysis of somatic cells.....24

Products for checking bacterial count with
milkstandards24

Products made of raw buffalo milk.....25

Products made of raw goat milk.....25

Products made of raw sheep milk.....26

Products made of UHT milk26

Products made of whey.....26

Products for checking cryoscopy27

Products for checking fatty acids27

Products made of raw milk27

Products made of pasteurized milk.....28

Products made of raw milk29

Products made of pasteurized cream30

TERMS OF PAYMENT AND TRANSPORT 31

PACKAGING COSTS:31

ORDER FORM QSE GMBH 32

ORDER FORM FOR REFERENCE MATERIALS 33

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

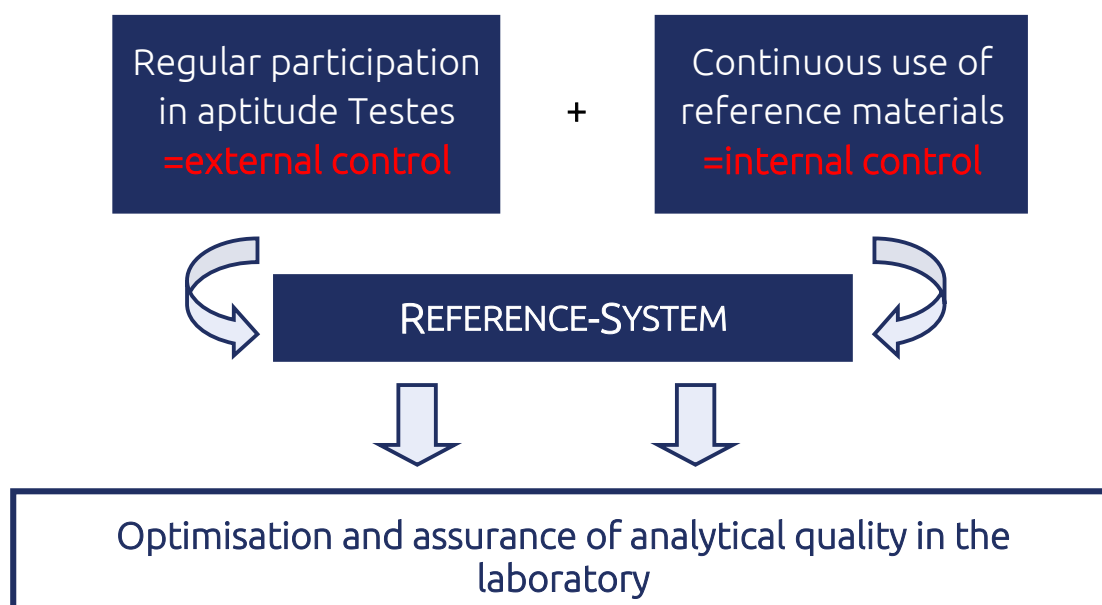
muva kempten GmbH has many years of experience in the characterisation and handling of reference materials, is involved in numerous national and international working groups, and has long been familiar with laboratory quality management and analytical quality assurance. With over 170 employees, we have 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

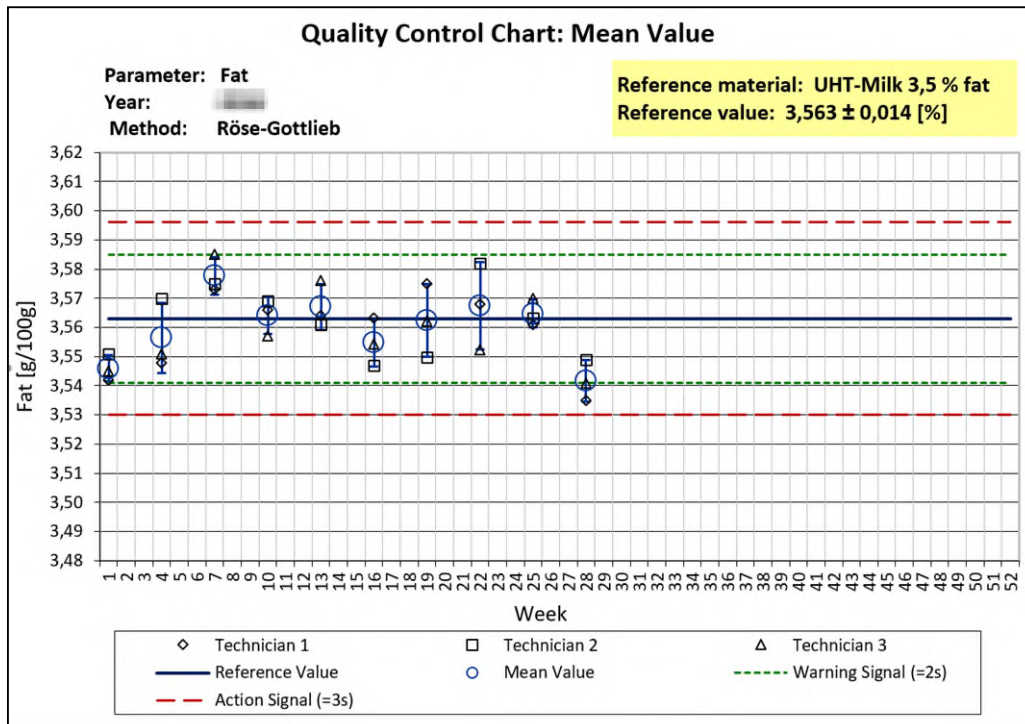
The reference materials of muva kempten GmbH and QSE GmbH are produced following the current international standards and guidelines (e.g. DIN EN ISO 17034) and are high-quality characterised.

- ▶ 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



News

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 32 for more information.

Our discount system

You will find our new discount scale on page 31:

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

Don't miss out on our additional discounts on reference materials!

How to order

Our order forms are on pages 32 and 33. Order the entire range via muva kempten 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.

Contacts muva / QSE

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

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Chemical-physical analyses

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
UHT MILK						
muva-M-0155	UHT Milk	Fat	g/100g	3,486	200 ml	31,55
	3,5 % Fat	Dry matter	g/100g	12,33		
		Protein	g/100g	3,338		
	Best before:	Lactose (monohydrate)	g/100g	4,688		
	02/2025	Freezing point	°C	-0,5173		
		pH value	/	6,64		
		Density	g/ml	1,0301		
muva-M-0156 <i>NEW</i>	UHT Milk	Fat	g/100g	0,070	200 ml	31,55
	< 0,1% Fat	Dry matter	g/100g	9,37		
		Protein	g/100g	3,560		
		Lactose (monohydrate)	g/100g	4,910		
	Best before:	Freezing point	°C	-0,5178		
	05/2025	Calcium	mg/kg	1141		
muva-M-0157 <i>NEW</i>	UHT Milk	Fat	g/100g	1,398	200 ml	31,55
	1,4 % Fat	Dry matter	g/100g	10,61		
		Protein	g/100g	3,507		
		Lactose (monohydrate)	g/100g	4,857		
	Best before:	Freezing point	°C	-0,5183		
	05/2025	Calcium	mg/kg	1119		
UHT MILK (LOW IN LACTOSE, LACTOSE FREE)						
muva-ML-2320	UHT Milk	Lactose (monohydrate):			40 ml	33,80
	(Lactose-reduced)	HPLC	g/100g	0,231		
		Enzym. (Gal.)	g/100g	0,335		
	Best before:	Enzym. (Glc.)	g/100g	0,300		
	12/2024	Galactose enzym.	g/100 g	2,21		
		Galactose (HPLC)	g/100 g	2,23		
		Glucose enzym.	g/ 100g	2,26		
		Glucose (HPLC)	g/100 g	2,20		
muva-ML-2321	UHT Milk	Lactose (monohydrate):			40 ml	33,80
	(free of lactose)	HPLC	g/100g	0,009		
		Enzym. (Gal.)	g/100g	0,105		
	Best before:	Enzym. (Glc.)	g/100g	0,032		
	06/2025	Galactose enzym.	g/100 g	2,39		
		Galactose (HPLC)	g/100 g	2,40		
		Glucose enzym.	g/100 g	2,42		
		Glucose (HPLC)	g/100 g	2,43		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
muva-ML-2322	UHT Milk (lactose-reduced)	Lactose (monohydrate):				❄️ 33,80
		HPLC	g/100g	0,585		
		Enzym. (Gal.)	g/100g	0,641		
	Best before: 06/2025	Enzym. (Glc.)	g/100g	0,615	40 ml	
		Galactose enzym.	g/100 g	2,16		
		Galactose (HPLC)	g/100 g	2,22		
		Glucose enyzm.	g/100 g	2,19		
		Glucose (HPLC)	g/100 g	2,22		
ALKALINE PHOSPHATASE ACTIVITY IN MILK						
muva-MAP-2514	Pasteurised milk					❄️ 29,40
	Best before: 06/2025	Alkaline Phosphatase Activity	mU/l	2556	5 ml	
RAW MILK						
muva-RO-0767	Raw milk	Fat	g/100g	4,301		❄️ 28,40
		Dry matter	g/100g	13,64		
		Protein	g/100g	3,888		
	Best before: 01/2025	Lactose Monohydrat	g/100g	4,737	40ml	
		Freezing point	°C	-0,5247		
		pH value	/	6,71		
		Casein	g/100g	3,072		
muva-RO-0768	Raw milk	Fat	g/100g	3,619		❄️ 28,40
		Dry matter	g/100g	13,02		
		Protein	g/100g	3,893		
	Best before: 01/2025	Lactose Monohydrat	g/100g	4,832	40ml	
		Freezing point	°C	-0,5244		
		pH value	/	6,72		
		Casein	g/100g	3,065		
muva-RO-0770	Raw milk	Fat	g/100g	3,114		❄️ 28,40
		Dry matter	g/100g	12,12		
		Protein	g/100g	3,538		
	Best before: 07/2025	Lactose Monohydrat	g/100g	4,744	40ml	
		Freezing point	°C	-0,5153		
		pH value	/	6,72		
		Urea	g/100g	178,0		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
muva-RO-0771	Raw milk	Fat	g/100g	4,025	40ml	28,40
		Dry matter	g/100g	13,15		
		Protein	g/100g	3,681		
	Best before: 09/2025	Lactose Monohydrat	g/100g	4,680		
		Freezing point	°C	-0,5210		
		pH value	/	6,71		
		Urea	g/100g	189,4		
muva-RO-0772	Raw milk	Fat	g/100g	4,563	40ml	28,40
		Dry matter	g/100g	13,79		
		Protein	g/100g	3,815		
	Best before: 12/2025	Lactose Monohydrat	g/100g	4,624		
		Freezing point	°C	-0,5214		
		pH value	/	6,71		
		Urea	g/100g	3,003		
muva-RO-0773	Raw milk	Fat	g/100g	3,414	40ml	28,40
		Dry matter	g/100g	12,77		
		Protein	g/100g	3,891		
	Best before: 12/2025	Lactose Monohydrat	g/100g	4,624		
		Freezing point	°C	-0,5140		
		pH value	/	6,74		
		Urea	g/100g	3,083		
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	63,05
		Caproic acid (C6:0)	g/100 g	2,09		
		Caprylic acid (C8:0)	g/100 g	1,23		
	Best before: 11/2026	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		
		Palmetoleic acid (C16:1 cis)	g/100g	1,93		
		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		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
AFLATOXIN M1 IN RAW MILK						
muva-MA-2410	Aflatoxin M1 in milk	Aflatoxin M1	µg/kg	0,010	40 ml	31,00 ❄️
	Best before: 02/2025					
muva-MA-2412	Aflatoxin M1 in milk	Aflatoxin M1	µg/kg	0,062	40 ml	31,00 ❄️
	Best before: 07/2025					
VETERINARY DRUGS (quantitative)						
muva-TAZ-2701 (TAD)	Veterinary drugs in raw milk	Cefalexin	µg/kg	101,12	40 ml	74,50 ❄️
	Best before: 09/2025	Sulfadimidin		110,72		
		Tetracyclin		110,46		
		Enrofloxacin		100,66		
muva-TAZ-2706 (TAA)	Veterinary drugs in raw milk	Penicillin G	µg/kg	4,06	40 ml	74,50 ❄️
		Oxacillin		31,20		
		Cloxacillin		31,14		
		Amoxicillin		4,09		
NEW	Best before: 09/2025	Ampicillin		4,30		
		Cefalexin		106,1		
		Cefapirin		71,07		
		Cefoperazone		52,60		
muva-TAZ-2707 (TAB)	Veterinary drugs in raw milk	Gentamicin	µg/kg	102,0	40 ml	34,50 ❄️
NEW	Best before: 09/2025					
muva-TAZ-2708 (TAC)	Veterinary drugs in raw milk	Erythromycin	µg/kg	42,99	40 ml	34,50 ❄️
NEW	Best before: 09/2025					
VETERINARY DRUGS in Milk (qualitative) for inhibitor test system						
muva-TAM-2807	Inhibitor free	Blanc sampel	Content ca. 10% above MRL	40 ml	34,40	❄️
	Best before: 10/2025					
muva-TAM-2804	Inhibitor positiv	Cefalonium	Content ca. 10% above MRL	40 ml	34,40	❄️
	Best before: 10/2025					
muva-TAM-2805	Inhibitor positiv	Penicillin G	Content ca. 10% above MRL	40 ml	34,40	❄️
	Best before: 10/2025					

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
		Dry matter	g/100g	25,71		
		Protein	g/100g	6,16		
		Ash	g/100g	1,32		
		Phosphorus	mg/kg	1696		
muva-KM-0521 <i>NEW</i>	Evaporated milk 10 % Fat	Fat	g/100g	10,11	170 g	31,00
		Dry matter	g/100g	18,37		
		Protein	g/100g	3,21		
		Ash	g/100g	0,64		
		Phosphorus	mg/kg	894		
muva-KM-0522 <i>NEW</i>	Evaporated milk 4 % Fat	Fat	g/100g	4,02	170 g	31,00
		Dry matter	g/100g	24,20		
		Protein	g/100g	7,09		
		Ash	g/100g	1,49		
		Phosphorus	mg/kg	2065		
YOGHURT						
muva-JO-1433	Yoghurt 1,8% Fat	Fat	g/100g	1,83	500 g	31,00
		Dry matter	g/100g	12,12		
		Protein	g/100g	4,89		
		Lactic acid	mg/100g	971		
		pH value	/	4,29		
muva-JO-1434	Yoghurt 3,8% Fat	Fat	g/100g	3,87	500 g	31,00
		Dry matter	g/100g	16,61		
		Protein	g/100g	4,91		
		Lactic acid	mg/100g	1189		
		pH value	/	4,18		
UHT CREAM						
muva-R-0445	UHT Cream	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	Fat	g/100g	35,26	ca. 140 ml	28,15 ❄️
		Dry matter	g/100g	41,01		
		Protein	g/100g	2,23		
muva-R-0447	UHT Cream	Fat	g/100g	14,97	ca. 200 ml	28,15
		Dry matter	g/100g	22,90		
		Protein	g/100g	3,10		
muva-R-0448	H-Rahm	Fat	g/100g	29,71	ca. 200 ml	28,15
		Dry matter	g/100g	36,19		
		Protein	g/100g	2,50		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **	
BUTTER							
muva-BU-1315	Sweet cream butter	Solids non-fat	g/100g	1,55	250 g	33,30	
		Water	g/100g	15,63			
		pH value	/	6,75			
	Best before: 12/2024	Cholesterol	mg/kg	2267			
		Butyric acid methyl ester	g/100g	3,86			
muva-BU-1316	Sweet cream Butter salted	Solids non-fat	g/100g	2,43	250 g	33,30	
		Water	g/100g	15,91			
		pH value	/	6,52			
		Best before: 11/2025	Cholesterol	mg/kg			2299
			Sodium	mg/100g			463
			Chloride	mg/100g			708
			Sodium Chloride via Chloride	g/100g			1,17
			Sodium Chloride via Sodium	g/100g			1,18
			Butyric acid methyl ester	g/100g			3,69
muva-BU-1317	Mild acid butter	Solids non-fat	g/100g	1,33	250 g	33,30	
		Water	g/100g	15,53			
		pH value	/	6,21			
		Best before: 12/2025	Cholesterol	mg/kg			2280
			Butyric acid methyl ester	g/100g			3,78
PROCESSED CHEESE							
muva-SK-0321	Processed cheese 40 % f.i.d.m.	Fat	g/100g	13,21	250 g	41,30	
		Dry matter	g/100g	35,21			
		Protein	g/100g	16,31			
		Best before: 4 weeks after shipment	Lactose (monohydrate)	g/100g			0,47
		Ash	g/100g	3,91			
		pH value	/	5,61			
		Citronic acid	mg/100g	71,4			
		Chloride	mg/100g	506			
		Sodium Chloride: (aus Chloride)	g/100g	0,83			
		Sodium	mg/100g	904			
		Sodium Chloride: (aus Sodium)	g/100g	2,30			
		Gesamtphosphor	g/100g	0,85			

Sample	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	41,30
		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: aus Chloride	g/100g	0,79		
		Sodium	mg/100g	900		
		Sodium Chloride: aus Sodium	g/100g	2,29		
		Gesamtphosphor	g/100g	0,86		
muva-SK-0324	Processed cheese 55 % f.i.d.m. Best before: 4 weeks after shipment	Fat	g/100 g	26,01	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		
		Ash	g/100g	3,07		
		pH value	/	5,74		
		Citronic acid	mg/100g	247,3		
		Chloride	mg/100g	337		
		CREAM CHEESE				
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		
		Milchsäure	mg/100g	579,4		
		pH value	/	4,57		
		Chloride	mg/100g	345		
		Sodium	mg/100g	205		
muva-FK-1235 <i>NEW</i>	Cream cheese 66 % F.i.d.m. Best before: 05/2025	Fat	g/100g	21,38	300 g	33,30
		Dry matter	g/100g	32,18		
		Protein	g/100g	5,77		
		Lactose	g/100g	3,03		
		pH value	/	4,82		
		Chloride	mg/100g	479		
		Sodium	mg/100g	298		
muva-FK-1236 <i>NEW</i>	Cream cheese 45 % F.i.d.m. Best before: 06/2025	Fat	g/100g	10,79	300 g	33,30
		Dry matter	g/100g	23,75		
		Protein	g/100g	7,26		
		Lactose	g/100g	2,78		
		pH value	/	4,57		
		Chloride	mg/100g	433		
		Sodium	mg/100g	272		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
HARD CHEESE						
muva- HA-1515	Hard cheese Type Emmentaler	Fat	g/100g	28,35	100 g	35,00
		Dry matter	g/100g	63,68		
		Protein	g/100g	28,93		
	Best before:	pH value	/	5,51		
	4 weeks after shipment	Chloride	mg/100g	383		
		Sodium Chloride: via Chloride	g/100g	0,63		
		Sodium	mg/100g	230		
		Sodium Chloride: via Sodium	g/100g	0,59		
muva- HA-1516	Hard cheese Type Emmentaler	Fat	g/100g	28,34	100 g	35,00
		Dry matter	g/100g	63,60		
		Protein	g/100g	29,06		
	Best before:	pH value	/	5,53		
	4 weeks after shipment	Chloride	mg/100g	385		
		Sodium Chloride: via Chloride	g/100g	0,63		
		Sodium	mg/100g	254		
		Sodium Chloride: via Sodium	g/100g	0,65		
SEMI HARD CHEESE						
muva- K-1805	Semi hard cheese Type Gouda	Fat	g/100g	100 g	35,00	
		Dry matter	g/100g			
		Protein	g/100g			
	Best before:	pH value	/			
	4 weeks after shipment	Chloride	mg/100g			
		Sodium Chloride: via Chloride	g/100g			
ALKALINE PHOSPHATASE - CHEESE						
muva- HAP- 2505	Hard cheese Type Emmentaler					
	Best before:	Alkaline Phosphatase Activity	mU/g	767	ca. 5 g	29,40
	08/2025					
MILK POWDER						
muva- MP-0224	Cream powder roller dried	Fat	g/100g	42,25	80 g	36,15
		Dry matter	g/100g	98,04		
		Protein	g/100g	19,23		
	Best before 10/2027	Lactose (monohydrate)	g/100g	30,73		
		Ash	g/100g	4,44		
		pH value	/	6,69		
		Free Fat	g/100g	32,84		
		Nitrate	mg/kg	2,65		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
muva-MP-0225	Skimmed milk powder	Fat	g/100g	0,89	80 g	36,15
		Dry matter	g/100g	69,07		
	Protein	g/100g	37,77			
	Best before 06/2031	Lactose (monohydrate)	g/100g	51,07		
		pH value	/	6,76		
		Ash	g/100g	7,80		
		Nitrtate	mg/kg	2,85		
muva-MP-0226	Cream powder roller dried	Fat	g/100g	26,00	80 g	36,15
		Dry matter	g/100g	97,20		
	Protein	g/100g	26,45			
	Best before 06/2031	Lactose (monohydrate)	g/100g	38,53		
		pH value	/	6,730		
		Ash	g/100g	5,81		
		Free Fat	g/100g	21,16		
	Nitrtate	mg/kg	3,06			
FATTY ACID COMPOSITION IN MILK POWDER						
muva-FM-2108 Available from 03/2025	Fatty acid composition	Butyric acid (C4:0)	g/100 g	80 g	63,05	
		Caproic acid (C6:0)	g/100 g			
	in milk cream povder	Caprylic acid (C8:0)	g/100 g			
	Capric acid (C10:0)	g/100 g				
	Best before:	Lauric acid (C12:0)	g/100 g			
		Myristic acid (C14:0)	g/100 g			
		Myristoleic acid (C14:1)	g/100 g			
		Palwithic acid (C16:0)	g/100 g			
		Palmetoleic acid (C16:1 cis)	g/100g			
		Stearic acid (C18:0)	g/100 g			
		Oleic acid (C18:1 cis-9)	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			
WHEY POWDER						
muva-MO-0616	Whey powder	Fat	g/100g	2,58	80 g	38,85
		Dry matter (87 °C)	g/100g	96,01		
	Best before: 12/2024	Dry matter (102 °C)	g/100g	95,75		
		Protein	g/100g	35,56		
		Lactose (monohydrate)	g/100g	49,44		
		Ash	g/100g	6,34		
		Calcium	mg/kg	4996		
		Magnesium	mg/kg	966		
		Nitrate	mg/kg	19,8		
		NPN	g/100g	3,04		
		Total lactic acide	mq/100g	317,1		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
muva-MO-0617	Whey powder	Fat	g/100g	0,78	80 g	38,85
		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		
		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		
muva-MO-0618	Whey powder	Fat	g/100g	2,16	80 g	38,85
		Dry matter (87 °C)	g/100g	95,49		
	Best before: 06/2029	Dry matter (102 °C)	g/100g	95,06		
		Protein	g/100g	36,09		
		Lactose (monohydrate)	g/100g	49,10		
		Ash	g/100g	5,53		
		Calcium	mg/kg	5,365		
		Magnesium	mg/kg	963		
		Nitrate	mg/kg	38,1		
		NPN	g/100g	3,40		
		Total lactic acid	mg/100g	635,1		
WHEY PROTEIN CONCENTRATE						
muva-MPK-0905	Whey protein concentrate	Fat	g/100g	4,87	80 g	34,40
		Water	g/100g	3,56		
	Best before: 10/2025	Protein	g/100g	65,74		
		Lactose (monohydrate)	g/100g	18,95		
		Ash	g/100g	4,07		
muva-MPK-0908	Whey protein concentrate	Fat	g/100g	5,35	80 g	34,40
		Water	g/100g	5,06		
	Best before: 05/2030	Protein	g/100g	77,51		
		Lactose (monohydrate)	g/100g	6,31		
		Ash	g/100g	3,28		
muva-MPK-0909	Whey protein concentrate	Fat	g/100g	5,45	80 g	34,40
		Water	g/100g	4,89		
	Best before: 06/2031	Protein	g/100g	72,61		
		Lactose (monohydrate)	g/100g	10,90		
		Ash	g/100g	3,50		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
SODIUM-CASEINATE						
muva-CA-0908	Sodium-Caseinate	Fat	g/100g	0,77	60 g	34,40
		Water	g/100g	5,46		
		Best before: Protein	g/100g	91,11		
		01/2028 Lactose (monohydrate)	g/100g	0,06		
		Ash	g/100g	3,48		
CARBOHYDRATES / VITAMINS						
muva-KI-1108	Carbohydrates / vitamins	Glucose	g/100g	1,17	80 g	43,60
		Fructose	g/100g	2,02		
		Infant food Lactose (monohydrate)	g/100g	22,75		
		(powder) Saccharose	g/100g	0,65		
		Vitamin A	µg/100g	540		
		Best before: Vitamin C	mg/100g	40,4		
		04/2025 Vitamin E	mg/100g	5,42		
muva-KI-1109	Carbohydrates / vitamins	Glucose	g/100g	1,24	80 g	43,60
		Fructose	g/100g	1,52		
		Infant food Lactose (monohydrate)	g/100g	23,46		
		(powder) Saccharose	g/100g	0,99		
		Vitamin A	µg/100g	568		
		Best before: Vitamin C	mg/100g	42,1		
		04/2025 Vitamin E	mg/100g	5,56		
MINERALS / TRACE ELEMENTS						
muva-NEM-1608	Minerals / trace elements	Sodium	mg/kg	1439	80 g	47,00
		Kalium	mg/kg	6891		
		Infant food Calcium	mg/kg	5123		
		(powder) Magnesium	mg/kg	908,4		
		Iron	mg/kg	28,2		
		Best before: Zinc	mg/kg	21,2		
		04/2025 Phosphorus	mg/kg	4434		
		Copper	mg/kg	2,49		
		Manganese	mg/kg	11,99		
		Chloride	mg/kg	2797		
muva-NEM-1609	Minerals / trace elements	Sodium	mg/kg	1441	80 g	47,00
		Kalium	mg/kg	6214		
		Infant food Calcium	mg/kg	4993		
		(powder) Magnesium	mg/kg	545,1		
		Iron	mg/kg	18,5		
		Best before: Zinc	mg/kg	12,4		
		04/2025 Phosphorus	mg/kg	3198		
		Copper	mg/kg	1,37		
		Manganese	mg/kg	2,40		
		Chloride	mg/kg	2892		

Sample	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
MILK POWDER WITH DEFINED CONTENT OF RENNET WHEY POWDER						
muva-GMP-2602	Milk powder with defined content of rennet whey powder Best before: 01/2025	Content of rennet whey powder	g/100g	1,07	ca. 25 g	45,85
PLANT DRINK						
muva-VM-3102	Plant drink (Soja) Best before: 07/2025	Fat Dry matter (102 °C) Protein	g/100g g/100g g/100g	2,05 7,55 3,39	40 ml	48,85 
muva-VM-3101	Plant drink (Oats) Best before: 07/2025	Fat Dry matter (102 °C) Protein pH value	g/100g g/100g g/100g /	1,00 10,80 1,27 7,50	40 ml	48,85 
VEGAN SPREAD CREAM						
muva-VS-3002	Cashew base Best before: 12/2024	Fat Dry matter (102 °C) Protein Ash	g/100g g/100g g/100g g/100g	22,60 34,87 4,30 1,17	100 g	59,70
VEGAN CHEESE						
muva-VK-3101 Available from 03/2025	Starch base Best before: 10/2025	Fat Dry matter (102 °C) Protein pH value Sodium Chloride	g/100g g/100g g/100g / mg/kg mg/kg		100 g	59,70
FRUIT JUICE						
muva-FS-1918	Grape juice Best before: 01/2025	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	35,55
muva-FS-1919	Apple juice Best before: 01/2025	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	35,55

Products for checking free fatty acids

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

Shok frozenlangzeitstabile Raw milk (1 year shelf life from date of manufacture)

Product no.	Product appellation	Product description	Packaging unit	Price/Unit
8551	Free fatty acids	Shock frozen raw milk 0,5 – 0,7 mmol/100 g fat – not in the accredited area	40 mL	8,95 € ❄️

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)

Product no.	Product appellation	Reference value (various due to the batch slightly)		Packaging unit	Price/Unit
		fatty acids [g/100g fatty acids in fat]			
8500	FSM	C 4:0	3,60	40 mL	42,80 € 
		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 inhibitor analysis				
Certified shock frozen long term stable control standards (2 years shelf life from date of manufacture, all new positive control samples 1 year, neomycin ½ year)				
QSE- Product no.	Product appellation	Product description	Packaging unit	Price/Unit 
9000	Positiv-Kontrolle	shok frozenRaw milk with 4 µg/kg Penicillin G	6 mL*	6,85 €
9002	Positiv-Kontrolle	shok frozenRaw milk with 30 µg/kg Oxacillin -new-	6 mL	6,85 €
9003	Positiv-Kontrolle	shok frozenRaw milk with 30 µg/kg Cloxacillin -new-	6 mL	6,85 €
9004	Positiv-Kontrolle	shok frozenRaw milk with 4 µg/kg Amoxicillin -new-	6 mL	6,85 €
9005	Positiv-Kontrolle	shok frozenRaw milk with 4 µg/kg Ampicillin -new-	6 mL	6,85 €
9006	Positiv-Kontrolle	shok frozenRaw milk with 20 µg/kg Cefalonium -new-	6 mL	6,85 €
9007	Positiv-Kontrolle	shok frozenRaw milk with 60 µg/kg Cefapirin -new-	6 mL	6,85 €
9008	Positiv-Kontrolle	shok frozenRaw milk with 50 µg/kg Cefoperazon -new-	6 mL	6,85 €
9009	Positiv-Kontrolle	shok frozenRaw milk with 1500 µg/kg Neomycin -new-	6 mL	6,85 €
9010	Positiv-Kontrolle	shok frozenRaw milk with 50 µg/kg Tylosin -new-	6 mL	6,85 €
9011	Positiv-Kontrolle	shok frozenRaw milk with 100 µg/kg Sulfamethoxypyridazin -new-	6 mL	6,85 €
9012	Positiv-Kontrolle	shok frozenRaw milk with 100 µg/kg Oxytetracyclin -new-	6 mL	6,85 €
9013	Positiv-Kontrolle	shok frozenRaw milk with 100 µg/kg Enrofloxacin -new-	6 mL	6,85 €
9014	Positiv-Kontrolle	shok frozenRaw milk with 100 µg/kg Ciprofloxacin -new-	6 mL	6,85 €
9015	Positiv-Kontrolle	shok frozenRaw milk with 75 µg/kg Marbofloxacin -new-	6 mL	6,85 €
9001	Negativ-Kontrolle	shok frozenhemmstoff-freie Raw milk	6 mL*	3,20 €

* 40 mL auf Anfrage

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 
9100	PAG-positiv frozen	shock frozen raw milk (PAG-Pregnancy-Associated Glycoprotein), positive	40 mL	6,75 €
9101	PAG-negativ frozen	shock frozen raw milk (PAG-Pregnancy-Associated Glycoprotein), negative	40 mL	6,75 €

Products made of milk powder

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

Pulverized long-term standard

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]	Laktose- Monohydrat [g/100g]	Ash [g/100g]		
Sweet whey powder:								
7100	PSM1	0,85	13,0	98,0	77,0	4,0	100g	13,50 €
Skimmed milk powder:								
7150	PMM1	0,60	36,0	96,0	51,0	8,0	100g	13,50 €

Microbiological analysis

All microorganisms belong to risk group S1

Code	Material*	Parameter	Unit	Reference value***	Packaging unit	Price € **
TOTAL BACTERIAL COUNT						
muva-MBK-1721	Hard cheese (freeze-dried) Best before: 12/2024	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-1725	Milk Best before: 05/2025	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/ml		30 ml	34,40 ❄️
muva-GKZ-1726	Milk Best before: 05/2025	Mesophilic, aerobic Bacterial Count	log ₁₀ cfu/ml		30 ml	34,40 ❄️
E. COLI / ENTEROBACTERIACEAE / COLIFORMS						
muva-ECE-1723	Milk Best before: 12/2024	E. Coli		3,91		❄️
		Enterobacteriaceae	log ₁₀ cfu/ml	4,22	30 ml	42,45
		Coliforms		4,22		
muva-ECE-1724	Milk Best before: 12/2024	E. Coli		4,83		❄️
		Enterobacteriaceae	log ₁₀ cfu/ml	5,14	30 ml	42,45
		Coliforms		5,22		
YEAST / GEOTRICHUM						
muva-HS-1727	Milk Best before: 12/2024	Hefen	log ₁₀ cfu/ml	4,11	30 ml	37,90 ❄️
		Geotrichum		3,00		
muva-HS-1728	Milk Best before: 12/2024	Hefen	log ₁₀ cfu/ml	5,09	30 ml	37,90 ❄️
		Geotrichum		3,92		
STAPHYLOCOCCUS						
muva-ST-1717	Milk Best before: 12/2024	Staphylokokken	log ₁₀ cfu/ml	4,60	30 ml	37,90 ❄️
muva-ST-1718	Milk Best before: 12/2024	Staphylokokken	log ₁₀ cfu/ml	5,48	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-24	Canned sausage Lyoner Best before: 12/2024	sweet	4 samples	4x 200 g	58,50
muva-SeRF-44	Canned sausage Lyoner Best before: 12/2024	salty	4 samples	4x 100 g	58,50
SENSORY TRIANGLE TEST					
muva-SeD-12	Canned sausage Lyoner Best before: 12/2024	garlic	3 samples	3x 200 g	44,75
muva-SeD-18	Canned sausage Lyoner Best before: 12/2024	pepper	3 samples	3x 100 g	44,75
muva-SeD-20	Vegan spreadable cream based on sunflower seeds Best before: 11/2025		3 samples	3x 100 g	44,75
SENSORY FATS & OILS					
muva-SeO-17	Rapeseed oil MHD 12/2025	deficient	1 sample	30 ml	28,15
muva-SeO-18	Rapeseed oil MHD 12/2025	neutral	1 sample	30 ml	28,15

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

** Prices do not include VAT.

Calibration standards

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 
8000	high cell sample	shock frozen raw milk with somatic cell count between 750.000 - 1.700.000 Cells/mL	40 mL	4,00 €
Certified shock frozen or lyophilized long term stable somatic cell standard (shelf life 2 year for frozen standards, 4,5 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				
8012	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	79,90 €
8013	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	31,90 €
8014	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	31,90 €
8015	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	47,90 €
8018	SCC1 Standard 40 mL	shock frozen raw milk with somatic cell count between 100.000 - 200.000 Cells/mL	1 x 40 mL	15,90 €
8016	SCC2 Standard 40 mL	shock frozen raw milk with somatic cell count between 200.000 - 300.000 Cells/mL	1 x 40 mL	15,90 €
8017	SCC3 Standard 40 mL	shock frozen raw milk with somatic cell count between 400.000 - 550.000 Cells/mL	1 x 40 mL	15,90 €
8019	SCC4 Standard 40 mL	shock frozen raw milk with somatic cell count between 700.000 - 800.000 Cells/mL	1 x 40 mL	15,90 €
8020	SCC5 Standard 40 mL	shock frozen raw milk with somatic cell count between 950.000 – 1.200.000 Cells/mL	1 x 40 mL	15,90 €
8011	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	85,00 €
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 
8200	MS A150-200 IBC	MS A with 150-200 impulses/mL (Manufactured by MIH – Dr. Hübner accredited)	40 mL	4,00 €
8201	MS B 300-450 IBC	MS B with 300-450 impulses/mL (Manufactured by MIH – Dr. Hübner accredited)	40 mL	4,00 €
8202	MS C ≈ 1000 IBC	MS C with ≈ 1000 impulses/mL (Manufactured by MIH – Dr. Hübner accredited)	40 mL	5,70 €

Products made of raw buffalo milk

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

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

Product no.	Product appellation	Reference value (varies due to the batch)				Packaging unit	Price/Unit 
		Fat [g/100g]	Protein [g/100g]	Laktose- Monohydrat [g/100g]	Dry matter [g/100g]		
6853	B1	4,5	4,0	4,8	14,6	40 mL	10,10 €
6854	B2	5,7	4,1	5,0	15,5	40 mL	10,10 €
6855	B3	6,2	5,1	5,0	18,8	40 mL	10,10 €
6856	B4	8,5	4,3	5,2	17,0	40 mL	10,10 €
6857	Set B1-B4	Slope/Intercept for fat, protein, lactose-monohydrate, dry matter				4 x 40 mL	31,20 €

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)

Product no.	Product appellation	Reference value (varies due to the batch)						Packaging unit	Price/Unit 
		Fat [g/100g]	Protein [g/100g]	Laktose- monohydrate [g/100g]	Trocken- masse [g/100g]	Urea [mg/L]	Somatic cells [mL]		
6800	Z1	2,9	2,9	4,0	11,9	247	1.000.000	40 mL	12,25 €
6801	Z2	3,4	3,0	4,4	13,4	268	1.300.000	40 mL	12,25 €
6802	Z3	3,2	3,4	4,9	14,6	290	1.100.000	40 mL	12,25 €
6804	Set Z1-Z3	Slope/Intercept for fat, protein, somatic cells, dry matter, urea, lactose-monohydrate						3 x 40 mL	30,25 €

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)

Product no.	Product appellation	Reference value (varies duet to the batch slightly)				Packaging unit	Price/Unit 
		Fat [g/100g]	Protein [g/100g]	Laktose monohydrate [g/100g]	Dry matter [g/100g]		
6810	S1	3,9	4,4	4,6	13,6	40 mL	11,90 €
6811	S2	5,4	4,7	5,0	15,8	40 mL	11,90 €
6812	S3	6,5	4,9	5,2	17,3	40 mL	11,90 €
6813	Set S1-S3	Slope/Intercept for Fat, Protein, Laktose-Monohydrat, Dry matter				3 x 40 mL	29,20 €

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) (3 years shelf life from date of manufacture)

Product no.	Product appellation	Reference value (varies duet to the batch slightly)			Packaging unit	Price/Unit 
		Fat [g/100g]	Protein [g/100g]	Dry matter [g/100g]		
6400	H1	0,05	3,6	9,2	40 mL	9,45 €
6401	H2	1,5	3,5	10,5	40 mL	9,45 €
6402	H3	3,5	3,4	12,3	40 mL	9,45 €
6403	Set H1-H3	Slope/Intercept for Fat, Protein, Dry matter			3 x 40 mL	24,45 €

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)

Product no.	Product appellation	Reference value (varies duet to the batch slightly)				Packaging unit	Price/Unit 
		Fat [g/100g]	Protein [g/100g]	Laktose monohydrate [g/100g]	Dry matter [g/100g]		
6900	MO1	0,04	0,4	2,3	3,0	40 mL	9,90 €
6901	MO2	0,2	0,7	4,3	5,5	40 mL	9,90 €
6902	MO3	0,5	0,9	4,5	7,0	40 mL	9,90 €
6903	MO4	0,4	1,1	5,7	8,5	40 mL	9,90 €

6904	Set MO1-MO4	Slope/Intercept for Fat, Protein, Laktose-Monohydrat, Dry matter	4 x 40 mL	33,10 €
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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 
8100	GP -0,408 °C	aqueous standard (freezing point -0,408 °C)	40 mL	5,80 €
8101	GP -0,512 °C	aqueous standard (freezing point -0,512 °C)	40 mL	5,80 €
8102	GP -0,520 °C	aqueous standard (freezing point -0,520 °C)	40 mL	5,80 €
8103	GP -0,600 °C	aqueous standard (freezing point -0,600 °C)	40 mL	5,80 €

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									
		uFA	SFA	MUFA	PUFA	C14:0	C16:0	C18:0	C18:1		
8501	FS1	0,6	1,5	0,5	0,05	0,25	0,6	0,2	0,5	40 mL	15,10 €
8502	FS2	0,8	2,1	0,7	0,07	0,35	1,0	0,3	0,6	40 mL	15,10 €
8503	FS3	1,2	2,7	1,0	0,10	0,40	1,2	0,4	0,9	40 mL	15,10 €
8504	FS4	1,5	3,7	1,3	0,11	0,60	1,8	0,5	1,2	40 mL	15,10 €
8505	Set FS1 – FS4	Slope/Intercept for Fettsäuren								4 x 40 mL	46,00 €

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]	Laktose monohydrate [g/100g]	Dry matter [g/100g]	Freezing point [°C]	Casein [g/100g]		
6201	E&F1	2,5	3,3	14,80 €	10,9	-0,470	2,6	40 mL	14,80 €
6202	E&F2	5,5	3,5	14,80 €	14,4	-0,521	2,8	40 mL	14,80 €
6203	E&F3	3,5	3,9	14,80 €	13,0	-0,536	3,1	40 mL	14,80 €
6204	E&F4	4,5	4,4	14,80 €	15,1	-0,605	3,5	40 mL	14,80 €
6205	Set E&F1-E&F4	Slope/Intercept for Fat, Protein, Laktose-Monohydrat, Dry matter, Freezing point, Casein						4 x 40 mL	45,30 €

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:							
6300	M1	0,05	3,5	9,5	-0,520	40 mL	9,45 €
6301	M2	0,10	-	-	-0,510	40 mL	8,75 €
6302	M3	0,15	-	-	-0,495	40 mL	8,75 €
6303	M4	0,20	-	-	-	40 mL	8,75 €
6305	M5	0,80	-	-	-	40 mL	8,75 €
6304	Set M1-M4	Slope/Intercept for Fat, Freezing point; Intercept for Protein, Dry matter				4 x 40 mL	30,70 €
Pasteurized milk:							
6016	PM1 ⁴	1,5	3,0	11,0	-0,470	40 mL	10,75 €
6022	PM2 ⁴	3,5	3,8	13,5	-0,600	40 mL	10,75 €
6023	PM3 ⁴	4,2	3,5	13,5	-0,520	40 mL	10,75 €
6025	PM8	7,0	3,0	16,0	-	40 mL	10,75 €
6024	Set PM1-PM3 ⁴	Slope/Intercept for Fat, Protein, Dry matter, Freezing point				3 x 40 mL	27,75 €

⁴ pasteurisierte und homogenisierte Milch

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)																	Packungs-einheit	Price/ Unit 
		Fat [g/100g]	Protein [g/100g]	Laktose-Monohydrat [g/100g]	Trocken-masse [g/100g]	Harn-stoff [mg/L]	Gefrier-punkt [°C]	pH value	Casein [g/100g]	NPN [g/100g]	Fatty acids [g/100g Milch]									
											uFA	SFA	MUFA	PUFA	C14:0	C16:0	C18:0	C18:1		
6011	F1	2,2	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	8,95 €
6030	F5	2,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	8,90 €
6012	F2	3,2	-	-	-	550	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	8,95 €
6031	F6	3,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	8,90 €
6013	F3	4,2	3,5	4,7	13,3	200	-0,520	6,68	2,7	0,2	1,3	2,9	1,1	0,2	0,5	1,3	0,5	1,0	40 mL	11,85 €
6032	F7	4,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	8,90 €
6014	F4	5,5	-	4,8	-	300	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	8,95 €
6033	F8	6,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40 mL	8,90 €
6107	E1	-	3,0	4,2	11,5	-	-0,450	-	2,3	-	-	-	-	-	-	-	-	-	40 mL	9,90 €
6108	E2	-	3,3	-	-	-	-0,510	-	2,6	-	-	-	-	-	-	-	-	-	40 mL	9,20 €
6109	E3	-	3,8	-	-	-	-0,525	-	3,0	-	-	-	-	-	-	-	-	-	40 mL	9,20 €
6110	E4	-	4,2	5,3	14,5	-	-0,600	-	3,3	-	-	-	-	-	-	-	-	-	40 mL	9,90 €
6015	Set F1-F4	Slope/Intercept for Fat, Urea; Intercept bei Protein, Laktose monohydrate, Dry matter, Freezing point, pH value, Casein, NPN, Fatty acids																	4 x 40 mL	30,80 €
6028	Set F1-F8	Slope/Intercept for Fat, Urea; Intercept bei Protein, Laktose monohydrate, Dry matter, Freezing point, pH value, Casein, NPN, Fatty acids																	8 x 40 mL	61,35 €
6027	Set F1-F4, PM8 ¹	Slope/Intercept for Fat, Urea; Intercept bei Protein, Laktose monohydrate, Dry matter, Freezing point, pH value, Casein, NPN, Fatty acids																	5 x 40 mL	42,20 €
6111	Set E1-E4	Slope/Intercept for Protein, Freezing point, Casein; Intercept bei Laktose monohydrat, Dry matter																	4 x 40 mL	32,45 €
6113	2 Sets E1-E4 ²	Slope/Intercept for Protein, Freezing point, Casein, Laktose-Monohydrat, Dry matter																	8 x 40 mL	65,20 €
6112	Set E1, E4, F3 ³	Slope/Intercept for Protein, Laktose-Monohydrat, Dry matter, Freezing point, Casein; Intercept bei Fat, Urea, pH value, NPN, Fatty acids																	3 x 40 mL	27,10 €

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 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):						
6017	PM4	10	3,2	17	40 mL	10,75 €
6018	PM5	12	3,1	20	40 mL	10,75 €
6019	PM6	16	3,0	24	40 mL	10,75 €
6020	PM7	20	2,8	28	40 mL	10,75 €
6021	Set PM4-PM7	Slope/Intercept for Fat, Protein, Dry matter			4 x 40 mL	36,90 €
pasteurized cream (high fat content):						
6700	R1	25	-	32	40 mL	12,95 €
6701	R2	30	2,2	37	40 mL	13,45 €
6706	R5	33	-	39	40 mL	12,95 €
6702	R3	35	-	40	40 mL	12,95 €
6707	R6	37	-	43	40 mL	12,95 €
6703	R4	40	2,0	45	40 mL	13,45 €
6709	R7	47	-	52	40 mL	13,45 €
6704	Set R1-R4	Slope/Intercept for Fat (25-40%), Dry matter; Intercept bei Protein			4 x 40 mL	45,30 €
6710	Set R1-R4, R7	Slope/Intercept for Fat (25-47%), Dry matter; Intercept bei Protein			5 x 40 mL	56,25 €
6708	Set R2, R5, R6, R4	Slope/Intercept for Fat (30-40%), Dry matter; Intercept bei Protein			4 x 40 mL	43,80 €
6705	Set PM6, PM7, R2, R4	Slope/Intercept for Fat (16-40%), Protein, Dry matter			4 x 40 mL	45,10 €

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 %

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.

❄ Packaging Costs:

Package size	Number of bottles	Packaging materials	Packaging costs	Credit note for return delivery of packaging materials ¹⁾
VP 1	Up to 12 bottles	Styrofoambox + 7 TP	20,00 €	13 €
VP2	Up to 30 b.	Styrofoambox +11 TP	35,00 €	18 €
VP3	Up to 52 b.	Styrofoambox + 11 TP	35,00 €	22 €
VP4	Up to 65 b.	Styrofoambox + 17 TP	48,00 €	28 €
VP5	Up to 104 b.	Styrofoambox + 25 TP	51,00 €	31 €
VP6	Up to 150 b.	Styrofoambox + 26 TP	53,00 €	33 €
VP3 und VP6	Up to 50 b.	Styrofoambox + Dry ice	different	different

TP = Thermal packs (cool packs)

¹⁾ 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 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 / 623-44.

Company:		
Consignee (name/department):		
Delivery address:		
Billing address (only if differing from delivery address):		
Email:		
Telephone number:		
Fax 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

QSE GmbH
Company office: Wolnzach / local court Ingolstadt: HRB 4147
Management: Alfred Enderle, Christine Röhl
Hochstatt 2
D-85283 Wolnzach

Contact us at:
Tel.: +49 (0) 9826/623-44
Email: sales@qse-gmbh.com
Web: www.qse-gmbh.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:		
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

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