



# Program Reference Materials

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**...quality assured**

<b>Table of Contents</b>	<b>Page</b>
<b>Description of reference materials</b>	<b>3 – 4</b>
<b>REFERENCE MATERIALS</b>	
<b>Powder</b> <b>(Milk Powder; Whey Powder; Sodium Caseinate; Whey Protein Concentrate;</b> <b>Carbohydrates / Vitamins in Infant Food; Minerals / Trace Elements in Infant</b> <b>Food</b> <b>Rennet Whey Powder in Milk Powder</b> <b>Fatty Acid Composition in Whole Milk Powder)</b>	<b>5 – 7</b>
<b>UHT-milk (skimmed milk, 1,5 % and 3,5 % fat)</b> <b>UHT-milk (lactose-free, low in lactose)</b> <b>Alkaline Phosphatase Activity in Milk</b>	<b>8</b>
<b>Raw Milk, shock frozen (different fat contents)</b> <b>Fatty Acid Composition in Raw Milk, shock frozen</b> <b>Aflatoxin M1 in Raw Milk, shock frozen (different concentrations)</b> <b>Veterinary drugs (Inhibitors) in Raw Milk, shock frozen (qualitative and</b> <b>quantitative)</b>	<b>9 – 10</b>
<b>Dairy Products</b> <b>(Evaporated Milk; Coffee Cream; UHT-Cream; Cream Cheese; Yoghurt; Butter)</b>	<b>11 – 12</b>
<b>Cheese</b> <b>(Processed Cheese; Hard Cheese; Semi-hard Cheese)</b> <b>Alkaline Phosphatase Activity in Hard Cheese</b>	<b>13 – 14</b>
<b>Other Edibles</b> <b>(Chocolate; Sausages; Fruit Juice)</b>	<b>15</b>
<b>Microbiology</b> <b>(Bacterial Count; Yeasts; Geotrichum; E. coli, Enterobacteriaceae, Coliforms;</b> <b>coagulase positive Staphylococcus)</b>	<b>16</b>
<b>Sensory</b> <b>(Triangle Test)</b>	<b>17</b>
<b>Sensory</b> <b>Test Kit “Drinking Water”</b>	<b>18</b>
<b>Sensory</b> <b>Training materials</b>	<b>19</b>
<b>Terms of payment and transport</b>	<b>20</b>

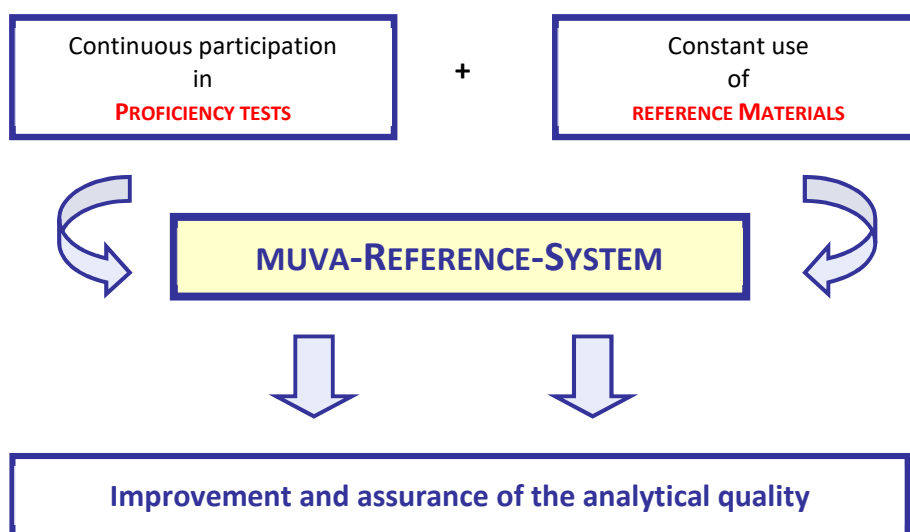
## TRUST IS GOOD – CONTROL IS BETTER!

Within quality assurance in food analysis the question comes up, to what extent the result of your analysis is close to the true value. Today it is essential to clarify this question, because the consequences of inexact results can be annoying and cost-intensive.

Besides the participation in proficiency testing studies the use of reference materials is also a suitable tool to proof the optimum quality of the whole panel and the panellists.

Reference materials can be used for quality control charts as well as for the training of the technicians.

## GUARANTEED ACCURATE RESULTS BY THE HELP OF REFERENCE SYSTEM OF MUVA KEMPTEN GMBH



The **REFERENCE SYSTEM** of MUVA KEMPTEN GMBH is based on two essential modules in analytical quality assurance. Besides the participation in **PROFICIENCY TESTING** schemes of MUVA KEMPTEN GMBH, **REFERENCE MATERIALS** contribute substantially to the internal and external quality assurance.

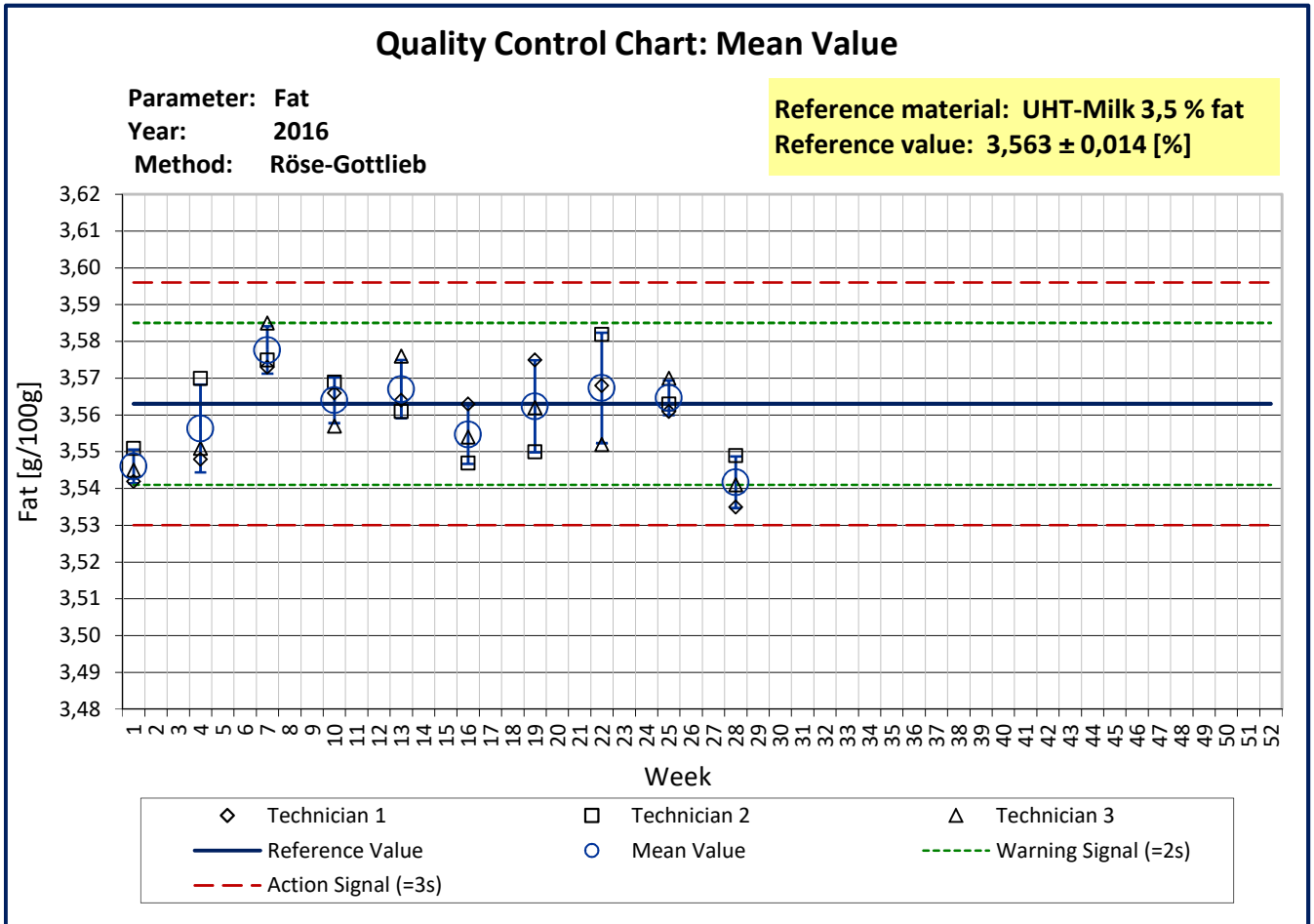
The use of these suitable instruments ensures the accuracy and reliability of all results with high probability. Therefore it assures maximal certainty and in addition it allows a clearly documentation and demonstration to third parties:

## REFERENCE MATERIALS OF MUVA KEMPTEN GMBH

The **REFERENCE MATERIALS** of MUVA KEMPTEN GMBH are produced according to the international accepted standards and are characterized by high quality.

- The reference values for all parameters are based on a high number of datasets, which are mainly obtained by several laboratory comparisons. This ensures the high reliability of the reference values.
- The homogeneity of the material is tested by the laboratory of MUVA KEMPTEN GMBH for all relevant parameters. The results are indicated in the data sheets.
- The **REFERENCE MATERIALS** have been predominantly produced for long-term use. During storage, materials are regularly checked for their stability by the laboratory of MUVA KEMPTEN GMBH.
- A clear and significant data sheet is attached to each reference material.

- Continuous monitoring of the chemical, physical and microbiological analysis by use of control charts. In addition to the monitoring of the analytical reproducibility, failures, bias and trends in analyses can be detected at a glance and consequently they can be rapid and effectively corrected.
- Improvement of the analytical process  
Cause studies after detection of failures in analysis, training of the personal etc.
- Estimation of the measurement uncertainty
- Determination of the analytical performance (z-score, z'-score etc.)
- Calibration of analytical devices



MUVA KEMPTEN GMBH possesses long experience in practice with reference materials. Additionally it is an international provider in proficiency testing that has been accredited on the sectors of physical, physical-chemical, chemical, sensory and microbiological analysis of food stuffs.

Of course, we are happy to advice you and we are pleased to submit you an offer.

***With exception of sensory materials for sensory tasting, all reference materials are unfit for human and animal consumption.***

# POWDER

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>MILK POWDER</b>						
muva- MP-0211	<b>Cream powder, roller dried</b>  <b>Best before: 10/2022</b>	Fat Free fat Dry matter Protein Lactose (monohydrate) Ash	g/100g g/100g g/100g g/100g g/100g g/100g	42,13 39,53 99,04 21,47 28,08 4,65	80 g	31,50 €
muva- MP-0214	<b>Milk powder, spray dried, fat reduced</b>  <b>Best before: 01/2024</b>	Fat Dry matter Protein Lactose (monohydrate) Ash Nitrate	g/100g g/100g g/100g g/100g g/100g mg/kg	13,88 97,16 32,94 43,53 6,82 6,0	80 g	31,50 €
muva- MP-0215	<b>Whole milk powder, roller dried</b>  <b>Best before: 01/2024</b>	Fat Dry matter Protein Lactose (monohydrate) Ash Nitrate	g/100g g/100g g/100g g/100g g/100g mg/kg	26,79 97,75 24,87 40,27 5,54 2,5	80 g	31,50 €
muva- MP-0218	<b>Whole milk powder, spray dried</b>  <b>Best before: 05/2025</b>	Fat Free fat Dry matter Protein Lactose (monohydrate) Ash pH value	g/100g g/100g g/100g g/100g g/100g g/100g /	26,85 9,90 96,59 26,77 37,36 5,62 6,66	80 g	31,50 €
muva- MP-0219	<b>Skimmed milk powder, spray dried</b>  <b>Best before: 12/2025</b>	Fat Dry matter Protein Lactose (monohydrate) Ash pH value	g/100g g/100g g/100g g/100g g/100g /	0,74 96,51 35,12 52,39 7,86 6,54	80 g	31,50 €
muva- MP-0220	<b>Skimmed milk powder, spray dried, lactose-free</b>  <b>Best before: 06/2026</b>	Fat Protein Lactose (monohydrate) Ash pH value	g/100g g/100g g/100g g/100g /	1,26 35,75 0,049 7,66 6,57	80 g	31,50 €
<b>MILK POWDER WITH DEFINED CONTENT OF RENNET WHEY POWDER</b>						
muva- GMP- 2601	<b>Milk Powder with defined content of Rennet Whey Powder</b>  <b>Best before: 04/2023</b>	Content of Rennet Whey Powder	g/100g	5,63	ca. 25 g	40,00 €
muva- GMP- 2602	<b>Milk Powder with defined content of Rennet Whey Powder</b>  <b>Best before: 04/2023</b>	Content of Rennet Whey Powder	g/100g	1,07	ca. 25 g	40,00 €

# POWDER

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>MINERALS / TRACE ELEMENTS</b>						
<b>muva-NEM-1607</b>	<b>Minerals / Trace Elements (Infant Food)</b>  <b>Best before: 04/2021</b>	Sodium Potassium Calcium Magnesium Iron Zinc Phosphorus Copper Manganese Chloride	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	1381 6895 4670 926,0 29,2 33,0 4483 2,38 13,89 2596	50 g	41,00 €
<b>NEW!</b> <b>muva-NEM-1608</b>	<b>Minerals / Trace Elements (Infant Food)</b>  <b>Best before: 04/2025</b>	Sodium Potassium Calcium Magnesium Iron Zinc Phosphorus Copper Manganese Chloride	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	1417 6780 5048 911,5 28,5 21,9 4429 2,50 12,33 2796	50 g	41,00 €
<b>NEW!</b> <b>muva-NEM-1609</b>	<b>Minerals / Trace Elements (Infant Food)</b>  <b>Best before: 04/2025</b>	Sodium Potassium Calcium Magnesium Iron Zinc Phosphorus Copper Manganese Chloride	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	1421 6188 4994 543,3 18,4 12,5 3214 1,38 2,43 2956	50 g	41,00 €
<b>WHEY POWDER</b>						
<b>muva-MO-0615</b>	<b>Whey Powder</b>  <b>Best before: 10/2023</b>	Fat Dry matter (87 °C) Dry matter (102 °C) Protein Lactose (monohydrate) Ash Calcium Magnesium Nitrate NPN Total lactic acid	g/100g g/100g g/100g g/100g g/100g g/100g mg/kg mg/kg mg/kg g/100g mg/100g	0,88 98,47 98,14 11,95 74,36 7,32 4991 1101 38,1 2,94 225,3	80 g	33,90 €
<b>muva-MO-0616</b>	<b>Whey Powder</b>  <b>Best before: 05/2024</b>	Fat Dry matter (87 °C) Dry matter (102 °C) Protein Lactose (monohydrate) Ash Calcium Magnesium Nitrate NPN Total lactic acid	g/100g g/100g g/100g g/100g g/100g g/100g mg/kg mg/kg mg/kg g/100g mg/100g	2,59 96,01 95,79 35,51 49,50 6,34 5011 970 19,2 3,11 309,7	80 g	33,90 €

# POWDER

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>CARBOHYDRATES / VITAMINS</b>						
muva-KI-1107	Carbohydrates / Vitamins (Infant Food)  Best before: 04/2021	Glucose Fructose Lactose (Monohydrate) Saccharose Vitamin A Vitamin C Vitamin E	g/100 g g/100 g g/100 g g/ 100 g µg/100g mg/100 g mg/100 g	1,20 2,11 22,67 0,72 489,5 47,7 5,5	50 g	33,00 €
<b>WHEY PROTEIN CONCENTRATE</b>						
muva-MPK-0905	Whey Protein Concentrate  Best before: 10/2025	Fat Water Protein Lactose (monohydrate) Ash	g/100g g/100g g/100g g/100g g/100g	4,90 3,66 65,76 19,07 4,05	80 g	30,00 €
<b>NEW!</b> muva-MPK-0907	Whey Protein Concentrate  Best before: 05/2026	Fat Water Protein Lactose (monohydrate) Ash	g/100g g/100g g/100g g/100g g/100g	5,80 4,47 77,54 6,45 3,19	80 g	30,00 €
<b>SODIUM CASEINATE</b>						
muva-CA-0904	Sodium Caseinate  Best before: 02/2023	Fat Water Protein Lactose (monohydrate) Ash	g/100g g/100g g/100g g/100g g/100g	0,55 5,60 91,14 0,026 3,59	80 g	30,00 €
muva-CA-0906	Sodium Caseinate  Best before: 10/2025	Fat Water Protein Lactose (monohydrate) Ash	g/100g g/100g g/100g g/100g g/100g	0,82 5,71 91,03 0,044 3,65	80 g	30,00 €
<b>FATTY ACID COMPOSITION IN SPRAY DRIED WHOLE MILK POWDER</b>						
Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
muva-FM-2105	Fatty acid composition (in spray dried whole milk powder)  Best before: 05/2025	Butyric acid (C4:0) Caproic acid (C6:0) Caprylic acid(C8:0) Capric acid (C10:0) Lauric acid(C12:0) Myristic acid (C14:0) Myristoleic acid(C14:1) Palmetic acid (C16) Palmitoleic acid (C16:1 cis) Stearic acid(C18:0) Oleic acid (C18:1 cis-9) Elaidic acid (C18:1 total trans) Linoleic acid (C18:2 all-cis-9,12) C18:2 total trans Linolenic acid (C18:3 all-cis-9,12,15) Arachidic acid (C20:0)	g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g	3,67 2,27 1,34 3,03 3,52 11,60 1,01 29,87 1,50 9,64 19,52 2,53 1,53 0,92 0,70 0,14	at least 40 ml	55,00 €

# MILK

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>UHT MILK</b>						
muva-M-0145	UHT Skimmed Milk (sterilized) Best before: 06/2021	Fat Dry matter Protein Lactose (monohydrate) Freezing point Density	g/100g g/100g g/100g g/100g °C g/ml	0,061 8,93 3,489 4,578 -0,4998 1,0329	250 ml	27,50 €
muva-M-0146	UHT-Milk 3,5 % Fat Best before: 06/2021	Fat Dry matter Protein Lactose (monohydrate) Freezing point Density	g/100g g/100g g/100g g/100g °C g/ml	3,494 12,53 3,574 4,690 -0,5205 1,0309	200 ml	27,50 €
<b>UHT MILK (LOW IN LACTOSE, LACTOSE FREE)</b>						
<b>NEW!</b> muva-ML-2314	UHT-Milk (low in lactose) MHD: 07/2021	Lactose (monohydrate): ♦ via HPLC ♦ via enzym. (Gal.) ♦ via enzym. (Glc.) Galactose enzym. Glucose enzym.	g/100g g/100g g/100g g/100g g/100 g	0,199 0,452 0,313 2,14 2,20	100 ml	25,00 €
<b>NEW!</b> muva-ML-2315	UHT-Milk (lactose-free, frozen) MHD: 07/2021	Lactose (monohydrate): ♦ via HPLC ♦ via enzym. (Gal.) ♦ via enzym. (Glc.) Galactose enzym. Glucose enzym.	g/100g g/100g g/100g g/100g g/100 g	0,006 0,037 0,037 2,38 2,37	at least 40 ml	25,00 €
<b>ALKALINE PHOSPHATASE ACTIVITY IN MILK, FROZEN</b>						
muva-MAP-2509	Pasteurized Milk + Raw Milk (frozen) MHD: 05/2021	Alkaline Phosphatase Activity	mU/l	31.650	ca. 5 ml	25,00 €



# MILK

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>RAW MILK (SHOCK FROZEN)</b>						
muva-RO-0753	Raw milk (shock frozen) Best before: 11/2021	Fat Dry matter Protein Lactose (monohydrate) Freezing point pH Value Casein	g/100g g/100g g/100g g/100g °C / g/100g	1,905 11,36 3,927 4,811 -0,5213 6,72 3,108	at least 40 ml	24,75 €
muva-RO-0754	Raw milk (shock frozen) Best before: 07/2022	Fat Dry matter Protein Lactose (monohydrate) Freezing point pH Value Urea	g/100g g/100g g/100g g/100g °C / mg/l	3,818 12,66 3,371 4,824 -0,5183 6,68 222,0	at least 40 ml	24,75 €
<b>NEW!</b> muva-RO-0756	Raw milk (shock frozen) Best before: 01/2023	Fat Dry matter Protein Lactose (monohydrate) Freezing point pH Value Casein	g/100g g/100g g/100g g/100g °C / g/100g	4,579 13,64 3,590 4,791 -0,5246 6,70 2,858	at least 40 ml	24,75 €
<b>NEW!</b> muva-RO-0757	Raw milk (shock frozen) Best before: 01/2023	Fat Dry matter Protein Lactose (monohydrate) Freezing point pH Value Casein	g/100g g/100g g/100g g/100g °C / g/100g	2,954 12,05 3,580 4,838 -0,5196 6,72 2,841	at least 40 ml	24,75 €
<b>FATTY ACID COMPOSITION IN RAW MILK (SHOCK FROZEN)</b>						
Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
muva-FM-2104	Fatty acid composition (in raw milk, shock frozen) Best before: 12/2020	Butyric acid (C4:0) Caproic acid (C6:0) Caprylic acid(C8:0) Capric acid (C10:0) Lauric acid(C12:0) Myristic acid (C14:0) Myristoleic acid(C14:1) Palmetic acid (C16) Palmitoleic acid (C16:1 cis) Stearic acid(C18:0) Oleic acid (C18:1 cis-9) Elaidic acid (C18:1 total trans) Linoleic acid (C18:2 all-cis-9,12) C18:2 total trans Linolenic acid (C18:3 all-cis-9,12,15) Arachidic acid (C20:0)	g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g g/100 g	3,47 2,20 1,37 3,05 3,63 12,17 1,14 30,74 1,59 9,08 18,89 2,73 1,23 1,02 0,43 0,14	at least 40 ml	55,00 €

# MILK

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>AFLATOXIN M1 (RAW MILK, SHOCK FROZEN)</b>						
muva-MA-2407	Aflatoxin M1 (Raw milk, shock frozen)  MHD: 09/2021	Aflatoxin M1	µg/kg	0,047	at least 40 ml	27,00 €
muva-MA-2408	Aflatoxin M1 (Raw milk, shock frozen)  MHD: 09/2021	Aflatoxin M1	µg/kg	0,028	at least 40 ml	27,00 €
<b>VETERINARY DRUGS (RAW MILK, SHOCK FROZEN)</b>						
muva-TAZ-2701	Veterinary Drugs (Raw Milk, shock frozen)  MHD: 11/2021	Penicillin Cloxacillin Ampicillin Cefalexin Cefoperazon Sulfadimidin Tetracyclin Enrofloxacin	µg/kg	2,75 28,70 4,10 101,12 44,82 110,72 110,46 100,66	at least 40 ml	65,00 €
muva-TAZ-2701	Veterinary Drugs (Raw Milk, shock frozen)  MHD: 11/2021	Cloxacillin Cefalexin Cefoperazon Sulfadimidin Tetracyclin Enrofloxacin	µg/kg	28,70 101,12 44,82 110,72 110,46 100,66	at least 40 ml	65,00 €
muva-TAM-2801	Inhibitors (qualitative) (Raw milk, shock frozen)  MHD: 11/2021	Penicillin		Content ca. 10% above MRL	at least 40 ml	30,00 €
muva-TAM-2802	Inhibitors (qualitative) (Raw milk, shock frozen)  MHD: 11/2021	Ampicillin		Content ca. 20% above MRL	at least 40 ml	30,00 €
muva-TAM-2802	Raw Milk, inhibitor free (shock frozen)  MHD: 11/2021				at least 40 ml	30,00 €

# DAIRY PRODUCTS

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>EVAPORATED MILK</b>						
muva-KM-0515	Evaporated Milk 4 % fat  Best before: 03/2021	Fat Dry matter Protein Ash Phosphorus	g/100g g/100g g/100g g/100g mg/kg	4,09 24,29 7,05 1,52 2038	400 g	27,00 €
muva-KM-0516	Coffee Cream 10 % fat  Best before: 03/2021	Fat Dry matter Protein Ash Phosphorus	g/100g g/100g g/100g g/100g mg/kg	10,11 18,46 3,20 0,67 841,2	100 ml	27,00 €
muva-KM-0517	Evaporated Milk 8 % fat  Best before: 03/2022	Fat Dry matter Protein Ash Phosphorus	g/100g g/100g g/100g g/100g mg/kg	8,12 25,88 6,12 1,30 1644	170 g	27,00 €
<b>YOGHURT</b>						
muva-JO-1425	Yoghurt 1,8% fat  Best before: 11/2021	Fat Dry matter Protein Lactic acid pH-Value	g/100g g/100g g/100g mg/100g /	1,84 14,45 5,02 1104 4,20	500 g	27,00 €
muva-JO-1426	Yoghurt 3,8 % fat  Best before: 11/2021	Fat Dry matter Protein Lactic acid pH-Value	g/100g g/100g g/100g mg/100g /	3,82 15,67 4,74 1179 4,06	500 g	27,00 €
<b>UHT CREAM</b>						
muva-R-0439	UHT-Cream 30 % fat  Best before: 01/2021	Fat Dry matter Protein	g/100g g/100g g/100g	31,68 38,22 2,33	ca. 160 g	24,00 €
muva-R-0440	UHT-Cream 37 % fat  Best before: 01/2021	Fat Dry matter Protein	g/100g g/100g g/100g	37,41 43,45 2,13	ca. 160 g	24,00 €
<b>NEW!</b> muva-R-0441	UHT-Cream 30 % fat  Best before: 01/2022	Fat Dry matter Protein	g/100g g/100g g/100g	30,35 37,05 2,44	ca. 160 g	24,00 €
<b>NEW!</b> muva-R-0442	UHT-Cream 35 % fat  Best before: 01/2022	Fat Dry matter Protein	g/100g g/100g g/100g	35,33 41,63 2,25	ca. 160 g	24,00 €

# DAIRY PRODUCTS

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>CREAM CHEESE</b>						
<b>muva-FK-1230</b>	<b>Cream Cheese 30 % f.i.d.m.  Best before: 05/2022</b>	Fat Dry matter Protein Lactose (monohydrate) Lactic acid pH value Chloride Sodium chloride (via Cl)	g/100g g/100g g/100g g/100g mg/100g / mg/100g g/100g	5,75 21,89 9,63 2,96 527 4,59 381 0,63	500 g	29,00 €
<b>muva-FK-1231</b>	<b>Cream Cheese 30 % f.i.d.m.  Best before: 05/2022</b>	Fat Dry matter Protein Lactose (monohydrate) Lactic acid pH value Chloride Sodium chloride (via Cl)	g/100g g/100g g/100g g/100g mg/100g / mg/100g g/100g	13,64 25,82 6,75 2,96 486 4,58 437 0,72	500 g	29,00 €
<b>BUTTER</b>						
<b>muva-BU-1311</b>	<b>Mild Acid Butter  Best before: 06/2021</b>	Solids non-fat Water Cholesterol Butyric acid methyl ester Milk fat	g/100g g/100g mg/kg g/100g g/100g	1,59 15,43 2295 3,85 82,22	250 g	29,00 €
<b>muva-BU-1312</b>	<b>Sweet Cream Butter  Best before: 06/2021</b>	Solids non-fat Water pH Value Cholesterol Butyric acid methyl ester Milk fat	g/100g g/100g / mg/kg g/100g g/100g	1,61 15,86 6,74 2337 3,73 82,58	250 g	29,00 €
<b>muva-BU-1313</b>	<b>Sweet Cream Butter, salted  Best before: 06/2021</b>	Solids non-fat Water pH Value Cholesterol Chloride Sodium chloride (via Cl) Sodium Sodium chloride (via Na) Butyric acid methyl ester Milk fat	g/100g g/100g / mg/kg mg/100g g/100g mg/100g g/100g g/100g g/100g	2,61 15,77 6,48 2317 803 1,32 508 1,29 3,71 81,53	250 g	29,00 €
<b>muva-BU-1314</b>	<b>Sweet Cream Butter, salted  Best before: 12/2022</b>	Solids non-fat Water pH Value Cholesterol Chloride Sodium chloride (via Cl) Butyric acid methyl ester	g/100g g/100g / mg/kg mg/100g g/100g g/100g	2,73 16,24 6,48 2212 827 1,36 3,84	250 g	29,00 €

# CHEESE

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>PROCESSED CHEESE</b>						
<b>muva-SK-0315</b>	<b>Processed Cheese 45 % f.i.d.m.  Best before: 4 weeks after shipment</b>	Fat Dry matter Protein Lactose (monohydrate) Ash pH Value Citric Acid Chloride Sodium chloride (via Cl) Sodium Sodium chloride (via Na)	g/100g g/100g g/100g g/100g g/100g / mg/100g mg/100g g/100g mg/100g g/100g	19,43 42,30 15,97 1,29 4,34 5,78 83,5 620 1,02 1068 2,71	250 g	35,50 €
<b>muva-SK-0319</b>	<b>Processed Cheese 45 % f.i.d.m.  Best before: 4 weeks after shipment</b>	Fat Dry matter Protein Lactose (monohydrate) Ash pH value Citric Acid Chloride Sodium chloride (via Cl) Sodium Sodium chloride (via Na) Total phosphorus	g/100g g/100g g/100g g/100g g/100g / mg/100g mg/100g g/100g mg/100g g/100g g/100g	20,28 42,24 14,94 2,03 3,89 5,90 104,3 555 0,92 930 2,36 0,77	250 g	35,50 €
<b>muva-SK-0320</b>	<b>Processed Cheese 55 % f.i.d.m.  Best before: 4 weeks after shipment</b>	Fat Dry matter Protein Lactose (monohydrate) Ash pH value Citric acid Chloride Sodium chloride (via Cl) Sodium Sodium chloride (via Na) Total phosphorus	g/100g g/100g g/100g g/100g g/100g / mg/100g mg/100g g/100g mg/100g g/100g g/100g	24,78 44,26 12,29 2,66 3,54 5,84 112,7 317 0,52 809 2,06 0,77	250 g	35,50 €

# CHEESE

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>HARD CHEESE</b>						
muva- HA-1513	<b>Hard Cheese (type Emmental Cheese)</b>  <b>Best before: 4 weeks after shipment</b>	Fat Dry matter Protein Chloride Sodium chloride (via Cl) pH Value	g/100g g/100g g/100g mg/100g g/100g /	27,13 60,95 27,43 519 0,85 5,59	100 g	30,00 €
<b>SEMI HARD CHEESE</b>						
muva- K-1803	<b>Semi Hard Cheese (type Gouda Cheese)</b>  <b>Best before: 4 weeks after shipment</b>	Fat Dry matter Protein Chloride Sodium chloride (via Cl) pH Value	g/100g g/100g g/100g mg/100g g/100g /	26,72 58,06 23,04 1321 2,18 5,21	100 g	30,00 €
<b>ALKALINE PHOSPHATASE IN HARD CHEESE</b>						
muva- HAP-2501	<b>Hard cheese (freeze dried)</b>  <b>Best before: 12/2020</b>	Alkaline phosphatase activity	mU/g	1540	ca. 5 g	25,00 €
muva- HAP-2502	<b>Hard cheese (freeze dried)</b>  <b>Best before: 12/2020</b>	Alkaline phosphatase activity	mU/g	928	ca. 5 g	25,00 €
muva- HAP-2504	<b>Hard cheese (freeze dried)</b>  <b>Best before: 02/2022</b>	Alkaline phosphatase activity	mU/g	623	ca. 5 g	25,00 €

# OTHER EDIBLES

Code	Material	Parameter	Unit	Reference value	Packaging unit	Price
<b>CHOCOLATE</b>						
<b>muva-S-0818</b>	<b>Whole Milk Chocolate</b>  <b>Best before: 03/2023</b>	Fat Milk fat Dry matter Protein Lactose (monohydrate) Saccharose Theobromine	g/100g g/100g g/100g g/100g g/100g g/100g mg/kg	35,65 6,26 99,21 8,44 9,89 39,46 953	ca. 100 g	31,00 €
<b>NEW!</b> <b>muva-S-0819</b>	<b>Nougat</b>  <b>Best before: 03/2024</b>	Fat Dry matter Lactose (monohydrate) Saccharose Theobromine	g/100g g/100g g/100g g/100g mg/kg	35,46 99,65 0,36 49,01 788	ca. 100 g	31,00 €
<b>FRUIT JUICE</b>						
<b>muva-FS-1917</b>	<b>Apple Juice</b>  <b>Best before: 03/2021</b>	Glucose Fructose Titratable acid pH Value Ethanol Patulin Soluble solids	g/l g/l mmol H <sup>+</sup> /l / mg/l µg/l °Brix	23,77 66,55 75,71 3,57 214,7 23,8 11,79	ca. 150 ml	31,00 €
<b>muva-FS-1918</b>	<b>Grape Juice</b>  <b>Best before: 10/2021</b>	Glucose Fructose Titratable acid pH Value Soluble solids	g/l g/l mmol H <sup>+</sup> /l / °Brix	77,38 82,47 86,06 3,45 17,06	ca. 200 ml	31,00 €
<b>muva-FS-1919</b>	<b>Apple Juice</b>  <b>Best before: 04/2022</b>	Glucose Fructose Titratable acid pH Value Ethanol Soluble solids	g/l g/l mmol H <sup>+</sup> /l / mg/l °Brix	22,11 64,23 70,20 3,66 431,1 12,20	ca. 150 ml	31,00 €
<b>TINNED SAUSAGE</b>						
<b>muva-BR-1005</b>	<b>Tinned Sausage (Liver Sausage)</b>  <b>Best before: 03/2022</b>	Fat Water Protein Chloride Sodium chloride (via Cl) Sodium Sodium chloride (via Na) Ash Hydroxyproline Nitrate Total Phosphorus (P)	g/100g g/100g g/100g mg/100g g/100g mg/100g g/100g g/100g g/100g mg/kg mg/100g	29,01 52,10 15,93 943 1,55 612 1,56 1,95 0,61 61,4 135,8	125 g	36,00 €
<b>muva-BR-1006</b>	<b>Tinned Sausage (Ham Sausage)</b>  <b>Best before: 03/2022</b>	Fat Water Protein Chloride Sodium chloride (via Cl) Sodium Sodium chloride (via Na) Ash Hydroxyproline Nitrate Total Phosphorus (P)	g/100g g/100g g/100g mg/100g g/100g mg/100g g/100g g/100g g/100g mg/kg mg/100g	27,40 56,82 12,52 1257 2,07 857 2,18 2,96 0,33 18,2 154,3	125 g	36,00 €

# MICROBIOLOGY

Code	Matrix	Parameter*	Unit	Content	Price
<b>BACTERIAL COUNT</b>					
muva-MBK-1719	Curd Powder Best before: 02/2021	Mesophilic, aerobic bacterial count	log cfu/g	2,95	23,00 €
muva-MBK-1720	Hard Cheese, freeze-dried Best before: 03/2021	Mesophilic, aerobic bacterial count	log cfu/g	7,32	23,00 €
muva-MBK-1721	Hard Cheese, freeze-dried Best before: 04/2022	Mesophilic, aerobic bacterial count	log cfu/g	6,38	23,00 €
<b>NEW!</b> muva-GKZ-1711	Milk, frozen Best before: 08/2021	Total bacterial count	log cfu/g	4,54	30,00 €
<b>NEW!</b> muva-GKZ-1712	Milk, frozen Best before: 08/2021	Total bacterial count	log cfu/g	5,51	30,00 €
<b>YEASTS / GEOTRICHUM</b>					
muva-MBH-1727	Skimmed UHT milk + capsule Best before: 02/2021	Saccharomyces Cerevisiae	log KBE/ml	3,56	23,00 €
muva-MBH-1728	Skimmed UHT milk + capsule Best before: 02/2021	Saccharomyces Cerevisiae	log KBE/ml	3,60	23,00 €
<b>NEW!</b> muva-HS-1713	Milk, frozen Best before: 02/2021	Yeasts Geotrichum	log cfu/g log cfu/g	4,84 1,49	33,00 €
<b>NEW!</b> muva-HS-1714	Milk, frozen Best before: 02/2021	Yeasts Geotrichum	log cfu/g log cfu/g	5,77 2,36	33,00 €
<b>E. COLI / ENTEROBACTERIACEAE / COLIFORMS</b>					
<b>NEW!</b> muva-ECE-1711	Milk, frozen Best before: 05/2021	E. coli Enterobacteriaceae Coliforms	log cfu/g	2,89 3,63 3,70	37,00 €
<b>NEW!</b> muva-ECE-1712	Milk, frozen Best before: 05/2021	E. coli Enterobacteriaceae Coliforms	log cfu/g	3,76 4,53 4,63	37,00 €
<b>COAGULASE POSITIVE STAPHYLOCOCCUS</b>					
muva-ST-1709	Milk, frozen Best before: 12/2020	Coagulase positive Staphylococcus	log cfu/g	4,53	33,00 €
muva-ST-1710	Milk, frozen Best before: 12/2020	Coagulase positive Staphylococcus	log cfu/g	5,48	33,00 €

\* All materials are strains of the safety group S1 and can be analysed without any restriction



# SENSORY

Code	Material	Parameter		Packaging unit	Price
<b>SENSORY TRIANGLE TEST</b>					
<b>muva- SeD-10</b>	<b>Tinned sausage (Lyoner)  Best before 12/2020</b>	Umami	3 samples (A/A/B)	3 x 200 g	39,00 €
<b>muva- SeD-12</b>	<b>Tinned sausage (Lyoner)  Best before 12/2020</b>	Garlic aroma	3 samples (A/A/B)	3 x 200 g	39,00 €

# SENSORY

## SENSORY TEST KIT „DRINKING WATER“



### FOR ASSURANCE OF THE SENSORY PERFORMANCE OF PANELISTS

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

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

- ★ Set 1 for visual testing consisting of 5 tubes with different attributes. (turbidity, particles, discolorations etc.)
- ★ Set 2 for odour testing consisting of 5 aroma sticks with different flavors from the drinking water sector.

Together with the sample materials, you will obtain a data sheet including the relevant decoding.

The sniffing stick shall remain sealed for approximately 10 minutes after testing. If the material is stored refrigerated at 6 °C the material is stable for 3 months .

SENSORY TEST KIT „DRINKING WATER“				
Material	Parameter		Packaging unit	Price
Test kit drinking water case	5 different odours 5 different visual attributes	5 samples 5 samples	1 unit	75,00 €
Refill package odour pens	5 different odours	5 samples	1 package	35,00 €
Refill package visual Test	5 different visual attributes	5 samples	1 package	35,00 €
Single stick / Single test tube	1 odour or 1 visual attribute each	1 sample	1 stick / tube	7,50 €



# SENSORY

## SENSORY TRAINING MATERIALS

FOR THE TRAINING OF SENSORY ASSESSORS (ACCORDING TO DIN EN ISO 8586)



In the field of sensory testing, the human being with its sensory abilities and skills is the centre of attention as a "measuring instrument". In accordance with DIN EN ISO 8586 / DIN ISO 22935-1, these must be maintained and refined in order to achieve continuously comparable and repeatable results - especially within a group of assessors.

### YOUR COMPLETE TRAINING KIT FOR YOUR IN-HOUSE TRAINING

Our sensory training kit contains all the tools and utensils, including exercises for the in-house training of your assessors. You can immediately start with the exercises – according to the norm – to practice your sensory skills.

For this purpose, we have developed new muva sniffing-sticks for the identification and description of odours. Whether smells of well-known foodstuffs or product-specific faults - the muva sniffing-sticks help you to recruit the right assessor, within your in-house training and as a help in the daily quality control.



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

SENSORY TRAINING MATERIAL				
material	parameter	range	packing unit	price **
sniffing sticks <sup>2)</sup>	Within the aroma-sets you can choose <b>ten different flavours</b> freely. <i>More information about flavour selection at <a href="http://www.muva.de">www.muva.de</a> (Sensor technology / Training material &gt;&gt; Order form)</i>	Aroma-set with 10 sticks incl. storage case	1 pack	79,00 €
sniffing sticks <sup>2)</sup>	refill-set	Aroma-set with 10 sticks without storage case	1 pack	62,00 €
basic tastes	<b>sweet, sour, bitter, salty und umami</b> <i>The training-set includes cups, tools for the production and exercise examples plus tablet pad.</i>	For the training of → 5 persons → 10 persons	1 pack 1 pack	55,00 € 100,00 €
threshold test <sup>3)</sup>	<b>sweet, sour, bitter, salty</b> <i>The training-set includes cups, tools for the production and exercise examples plus tablet pad.</i>	For the training of → 5 persons → 10 persons	1 pack 1 pack	55,00 € 100,00 €
colour sequences	wet medium: <b>red, yellow, green</b> dry medium: <b>graphite</b>	10th ranking for → wet medium → dry medium	1 pack 1 pack	59,00 € 61,00 €
haptic test	haptic test (10th ranking) with <b>different strength levels</b>	For the training of → 5 persons → 10 persons	1 pack 1 pack	150,00 € 225,00 €

<sup>2)</sup> When ordering individual sticks outside of the set of 10, a stick will be charged € 6.90.

<sup>3)</sup> The listed prices for the threshold test include one basic flavor

## TERMS OF PAYMENT AND TRANSPORT

The delivery of the reference materials shall be ex works.

Our list prices are net prices plus VAT (**excluding** companies in the European Union outside Germany who have notified their **VAT identification number** to us) and forwarding charges.

Please transfer **the net amount invoiced within 8 days**.

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

### Discount:

from 5 units:	5 %
from 10 units:	10 %
from 25 units:	15 %
from 50 units:	20 %

### Terms of delivery for „Raw milk reference materials“:

Raw milk materials will be shipped by MUVA KEMPTEN GMBH separately from other materials in frozen state (express shipping) ex works. The prices are net prices plus postage and packaging. The data sheet contains a clear advice how to handle the material before use.

Shock frozen raw milk can be delivered into foreign countries to only a limited extend, because the carriers take too long and during this time the samples will be expected to be defrosted. We therefore regret to be not able to take any liability for a delivery to a number of countries.

### Packaging Costs:

Package size	Number of bottles	Packaging materials	Packaging costs	Credit note for return delivery of packaging materials <sup>2)</sup>
VP 1	Up to 8 bottles	Polystyrene box + 7 TP <sup>4)</sup>	20,00 €	20,00 €
VP2	Up to 30 bottles	Polystyrene box + 11 TP <sup>5)</sup>	35,00 €	35,00 €

<sup>4)</sup> TP = Thermal packs (cool packs)

<sup>5)</sup> The credit note is reduced for 2.00 € for every not returned thermal pack

muva kempten GmbH  
 Postfach 32 54  
 D-87441 Kempten/Allgäu

Simone Nitzsche  
 Fon: +49 (0) 831/5290-233  
 Fax-Nr.: +49 (0) 831/5290-197  
 e-Mail: [ring-ref@muva.de](mailto:ring-ref@muva.de)

**ORDER FORM FOR REFERENCE MATERIALS**

**Order number:** \_\_\_\_\_

**Please send me the following materials:**

No. of units	Material	Remarks (e.g. frequency of regular delivery)*

\*Delivery is at anytime possible. We also offer weekly and monthly delivery.

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

*The general terms of business drawn up by muva kempten GmbH apply at all times ([www.muva.de](http://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  
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 D-87441 Kempten/Allgäu

Simone Nitzsche  
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 Fax-Nr.: +49 (0) 831/5290-197  
 e-Mail: [ring-ref@muva.de](mailto:ring-ref@muva.de)

## ORDER FORM FOR REFERENCE MATERIALS – DRINKING WATER TESTKIT

**Order number:** \_\_\_\_\_

**Please send me the following materials:**

No. of units	Material	Remarks (e.g. wished attributes in the single pens and tubs)*
	Test kit drinking water case	
	Refill package odour pens	
	Refill package visual Test	
	Single stick / Single test tube	

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

*The general terms of business drawn up by muva kempten GmbH apply at all times ([www.muva.de](http://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



**Please use our comprehensive services**