Technische Universität München

PRICE-LIST

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Research Centre Weihenstephan for Brewing and Food Quality

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Deutsche
Akkreditierungsstelle
D-PL-14063-02-00

Akkreditierung nach DIN EN ISO/IEC 17025:2005
Analytische Qualitätssicherung Bayern (AQS)
Zertifikat-Nr. AQS 01/060/98
Zertifikate gem. TrinkwV 2001

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World wide broad analysis and consulting services for brewing, malting and beverage industry, including the supply industry

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Certificates to TrinkwV 2001

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1. General Information ...

1.1 Purpose and Organization

The Research Center Weihenstephan for Brewing and Food Quality is affiliated with the Technische Universität München. Our organization aims to cultivate the cooperation between the Center of Life and Food Sciences Weihenstephan (WZW) and the beverage and food industry.

Our services include:

- Industry-specific research
- Support for brewers, maltsters and producers of beverages and foods in technology related subjects and in energy management. We provide practical expertise and services in the following areas:
  - Industry-specific tests of raw materials, products and processing aids by applying chemical, microbial and other specific methods of analysis
  - Assessment of energy efficiency
  - Consulting services for machineries and processing systems, especially with regard to the beverage industry
  - Consulting services for the assessment of technology aspects of the facility's operation, either on-site, by phone or in written
- Expert evaluation and certification services for the public and private sectors
- Seminars, training and presentations

1.2 Membership Terms

Partners from food and beverage industries, other businesses, as well as public institutions, organizations and associations are eligible for obtaining membership in the Research Center for Brewing and Food Quality. The annual fee for breweries and malt houses is calculated according to their yearly production output (see Table below). For other members, the fee is determined on an individual basis. Members are entitled to reduced fees for all services being offered (for more information, see the price list).

The membership is determined according to the calendar year. The membership-fee is to be paid in advance for the up-coming year. An application for membership can be submitted any time during the year (the fee will be prorated accordingly). To withdraw from membership for the following year, a statement in written must be submitted before 1st December.

Annual membership fee for breweries and malt producers:

hl of beer or 100 kg of malt production related to the previous fiscal year

to 5.000	50,00 EUR
5.000 - 10.000	80,00 EUR
10.000 - 30.000	180,00 EUR
30.000 - 70.000	260,00 EUR
70.000 - 100.000	310,00 EUR
100.000 - 250.000	460,00 EUR
250.000 - 500.000	620,00 EUR
over 500.000	1.000,00 EUR

The annual fees for food production companies and allied industry suppliers are calculated on an individual basis.

Note: The following fees listed for tests and analyses apply only for members of the Research Center Weihenstephan. For non-members, the fees increase by 50% – analytical tests exempted from this rule are indicated with three asterisks (***).

1.3 Services and Fees

All services and fees are subjected to our general terms and conditions. The location of legal jurisdiction is Freising.

1.4 Tests and Analyses

For all analytical and microbial tests offered for performance by the Research Center Weihenstephan, see the enclosed Catalog of Services[1]. Every sample delivered for testing must be accompanied by a written request, specifying exactly the analytical method(s) or test(s) that are required to be performed. The results of the analytical determination will be comprised in a report and sent back to customer via standard postal service, or if requested by fax or e-mail.

Note: The following fees listed for tests and analyses apply only for members of the Research Center Weihenstephan. For non-members, the fees increase by 50% – analytical tests exempted from this rule are indicated with three asterisks (***).

1.5 Consulting

1.5.1 Consulting in technology and microbiology

- General consulting in the areas of technology and microbiology
- Technological and microbiological quality control
- Introduction and implementation of special production procedures
- Consulting regarding operational disruptions
- Assistance in production optimization
- Technical inspection of the operation of new equipment (brewhouse, filtration, bottling and kegging equipment)
- Microbiological quality control of new equipment (filtration, bottling and kegging equipment)
- Specific technical measurements conducted on-site
- Assessment of raw materials, processing aids as well as intermediary products and finished products

1.5.2 Consulting in energy management and process engineering

- General consulting in energy management
- Consulting in equipment planning

[1] Errors in print are non-binding

- Consulting for the operation and optimization of heating and refrigeration systems
- Evaluation of options for effective energy usage
- Evaluation of electricity usage, heating and water management
- Testing of heating and refrigeration systems
- Inspection and testing of new equipment (refrigeration equipment, brewhouse, boilers and wort chillers)
- Evaluation of the output of bottling and kegging equipment
- Technical evaluation and documentation of energy efficiency

1.5.3 Consulting in Environmental and waste management

- Inspection and testing of water treatment equipment
- Consulting for optimization of water management
- Consulting regarding waste water reduction and discharge concentration (BSB5, CSB, N- and P-compounds)
- Creation of technical waste water reports (determination of waste water volume, discharge concentration, as well as additional parameters according to current governmental regulations)
- Creation of waste disposal concepts
- Creation of cleaning and disinfection concepts
- Inspection and testing of CIP system

1.5.4 Consulting in Hygienic Design

- Advice on compliance with the hygienic design requirements
- Advice on the process of EHEDG certification
- Advice regarding the EHEDG cleanability test, sterilizability and bacteria tightness test
- Training the engineers in-house
- Advice and assessment of equipment for hygienic design
- Advice on tendering to comply with the hygienic design requirements
- Hygienic design assessment of new systems
- Technical advice on microbiological problems due to cleaning
- Development of optimized design proposals
- Validation of the hygienic design in the production

1.6 Prices (The following prices are applicable for our services unless agreed otherwise upon writing)

1.6.1 Consulting Services (According to time required)

Hourly rate for consultant	According to time required and on demand
total travel time	According to time required and on demand

Travel costs are calculated according to the time required or to the Bavarian law governing travel costs.

1.6.2 Analyses and Tests

See individual prices[2] given in the catalog of analyses (see also section 3.1)
Charges for tests not included in the catalog will be calculated according to the time and materials required.

1.6.3 Inspection and Testing Services (According to time required)

Hourly rate of inspector or - supervisor	According to time required and on demand
total travel time	According to time required and on demand
Personnel assisting in the inspection	According to time required and on demand
total travel time	According to time required and on demand

Travel costs are calculated according to the time required or to the Bavarian law governing travel costs.

1.6.4 Technical Assessment and Reporting Services (According to time required)

Hourly rate of technical assessor	According to time required and on demand
total travel time	According to time required and on demand

Travel costs are calculated according to the time required or to the Bavarian law governing travel costs.

Terms of payment: Service fees are to be remitted no later than four weeks from the date of billing.
Discounts are not given for cash payments. Prices do not include applicable taxes and fees.

[2] Prices are subject to change without notice

Sampling Methods

Type of Sample	Source
Water, microbiological analysis	MEBAK III, 10.2.1.1 Probenahme, Transport und Aufbewahrung, page 282 f. EN 25667-2 Wasserbeschaffenheit – Probenahme, Part 2: Anleitung zur Probenahmetechnik
Water, chemical-technical analysis	MEBAK, Band Wasser, 1.1.3 Probenahme, page 30ff
Waste water	MEBAK, Band Wasser, 1.4.2 Probenahme, page 264
Barley	MEBAK, Rohstoffe, 1.1 Probenahme, page 17 f.
Adjuncts	MEBAK, Rohstoffe, 3.1.1 Probenahme, page 90
Malt	MEBAK, Rohstoffe, 3.1.1 Probenahme, page110
Grist	MEBAK WBBM, 1.1.1 Schrotsortierung, page 19 f.
Spent grains	MEBAK WBBM, 1.4.1 Probenahme, page 28
Hop and hop products	
Hop and pellets	MEBAK, Rohstoffe, 4.1.1 Probenahme, page 279 f
Hop extract	MEBAK, Rohstoffe, 4,2.1 Probenahme, page 304
Isomerised hop extract	MEBAK, Rohstoffe, 4.3.1 Probenahme, page 311
Wort	MEBAK WBBM, 2.1 Probenahme, page 50 Anstellwürze: sterile Probenahme der kalten Anstellwürze nach Kühlzeit
Beer	MEBAK II, 2.1 Probenahme, page 32
Filter media/Filter aids	MEBAK IV, 1.5.1 Probenahme und Probeteilung, page 46
Media for stabilizing and clarifying	MEBAK IV, 1.5.1 Probenahme und Probeteilung, page 46

Explanation of methods: MEBAK Raw Materials, published 2008; MEBAK water, published 2011
MEBAK WBBM = Würze, Bier, Biermischgetränke Auflage 2012

2. Analyses

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
2.1 / 2.1.1		**Barley and Wheat**			
5001		Split grains	Rohstoffb. 1.2.7.1.1	100g	17,00
5002		Split grains, premalting	Rohstoffb. 1.2.7.1.2	100g	40,00
5005		Pregermination, hidden	Rohstoffb. 1.4.5.2	100g	17,00
5006		Pregermination, visible	Rohstoffb. 1.4.5	100g	17,00
5007		Pregermination, visible	Rohstoffb. 1.4.5.1	100g	17,00
5008		Beta-Glucan enzymatic	PV 5008	50g	89,00
5010		Visual inspection	Rohstoffb. 1.2	500g	21,00
5020		Protein and moisture content	Rohstoffb.1.5.2.1/1.5.1.1	100g	24,00
5025		Hectoliter weight	Rohstoffb. 1.3.3	300g	11,00
5026		Gushing potential (Carlsberg method, modified), additional micromalting necessary	Rohstoffb. 3.1.4.21.2	1000g	89,00
5026		Gushing potenial (Donhauser method), additional micromalting necessary	Rohstoffb. 3.1.4.21.1	1000g	89,00
5030	Ag**	Silver	WBBM 2.24.12	100g	35,00
5030	Al**	Aluminium	WBBM 2.24.12	100g	35,00
5030	As**	Arsenic	DIN EN ISO 11969 D 18	100g	45,00
5030	B**	Boron	WBBM 2.24.12	100g	35,00
5030	Ba**	Barium	WBBM 2.24.12	100g	35,00
5030	Ca**	Calcium	WBBM 2.24.12	100g	35,00
5030	Cd**	Cadmium	DIN EN ISO 5961 E19	100g	45,00
5030	Co**	Cobalt	WBBM 2.24.12	100g	35,00
5030	Cr**	Chrome	DIN EN 1233 1996-08 E 10	100g	45,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Barley and Wheat			
5030	Cu**	Copper	WBBM 2.24.12	100g	35,00
5030	Fe**	Iron	WBBM 2.24.12	100g	35,00
5030	Hg**	Mercury	DIN EN 12338-E31	100g	45,00
5030	K**	Potassium	WBBM 2.24.12	100g	35,00
5030	Mg**	Magnesium	WBBM 2.24.12	100g	35,00
5030	Mn**	Manganese	WBBM 2.24.12	100g	35,00
5030	Mo**	Molybdenum	WBBM 2.24.12	100g	35,00
5030	Na**	Sodium	WBBM 2.24.12	100g	35,00
5030	Ni**	Nickel	DIN 38406 E11-2	100g	45,00
5030	P**	Phosphorus	WBBM 2.24.12	100g	35,00
5030	Pb**	Lead	DIN 38406 E6-2 1998-07	100g	45,00
5030	Sb**	Antimony	DIN 38405 D32-2	100g	45,00
5030	Se**	Selenium	DIN 38405 23-2 1994-10	100g	45,00
5030	Si**	Silicon	WBBM 2.24.12	100g	35,00
5030	Sn**	Stannous	WBBM 2.24.12	100g	35,00
5030	Sr**	Strontium	WBBM 2.24.12	100g	35,00
5030	Tl**	Thallium	WBBM 2.24.12	100g	35,00
5030	Zn**	Zinc	WBBM 2.24.12	100g	35,00
5035		Sample preparation	PV AAS030		45,00
5040		Germinative energy after 3 and 5 days (Aubry)	Rohstoffb. 1.4.2.1	100g	26,00
5042		Germinative energy BRF method	Rohstoffb. 1.4.2.4	100g	26,00

* unless performed in conjunction with a test mash, an additional charge of 24,00 EUR will be added | ** Sample preparation necessary | *** Outsourcing to a partner laboratory

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Barley and Wheat			
5045		Germinative capacity (Vitascope)	Rohstoffb. 1.4.1.1	50g	26,00
5046		Germinative capacity (H2O2)	Rohstoffb. 1.4.1.2	50g	26,00
5050	***	Micromalting	Rohstoffb. 1.5.3	1000g	168,00
5060		Grain anomalies (split grains, incomplete hush layer, husk damage with and without loss of embryo, visible pregermination)	Rohstoffb. 1.2.7	200g	76,00
5066		Radioactivity	PV 5066	500g	effort related
5067		Oxalate/Oxalic acid	Rohstoffb. 3.1.4.19	100g	69,00
5071		Mold growth, detection of (all red grains)	PV 5071	100g	25,00
5072		Mold growth, detection of (relevant red grains)	PV 5072	100g	13,00
5075	***	Mycolocical status	Rohstoffb. 1.2.8	50g	95,00
5090	***	Identification of varieties (declaration of country of origin is necessary)	Rohstoffb. 1.6.1	50g	170,00
5095		Sieving test	Rohstoffb. 1.3.1	300g	15,00
5096		Sieving and purity	Rohstoffb. 1.2.5	300g	25,00
5105		Thousand corn weight	Rohstoffb. 1.3.2	100g	15,00
5110		Moisture content	Rohstoffb. 1.5.1.1	50g	12,00
5115		Moisture content (pre-dried)	Rohstoffb. 1.5.1.1	200g	19,00
5120		Water sensitivity	Rohstoffb. 1.4.3	100g	26,00
5125		Moisture content after steeping	Rohstoffb. 1.4.4	200g	19,00
5145	Package	Moisture content, protein, sieving test, germinative energy	MEBAK	400g	41,00
5145	Package	Moisture content, protein, sieving test, germinative capacity	MEBAK	500g	41,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Barley and Wheat			
5150	Package	Moisture content, protein, hectoliter weight, sieving test, thousand corn weight, germinative energy, germinative capacity, visual inspection	MEBAK	500g	68,00
		Adjuncts			
7005		Protein and moisture content	MEBAK	100g	24,00
7008		Extract and moisture content	MEBAK	200g	53,00
7010		Lipids (raw fat)	Rohstoffb. 2.5	100g	53,00
7015		Moisture content	Rohstoffb. 2.2	50g	12,00
7020	***	Temperature of gelatinization	PV 7020	200g	63,00
		Malt (Barley and Wheat)			
9000		Speed of filtration	PV 9000	200g	27,00
9010		Alpha-amino nitrogen, free (FAN)	WBBM 2.6.4.1.2	200g	81,00
9012	Br*	Bromide (congress mash)	WBBM 2.22.2	250g	59,00
9012	BrO3*	Bromate (congress mash)	WBBM 2.22.2	250g	65,00
9012	Cl*	Chloride (congress mash)	WBBM 2.22.2	150g	59,00
9012	HPO4*	Hydrogen phosphate (congress mash)	WBBM 2.22.2	150g	59,00
9012	NO3*	Nitrate (congress mash)	WBBM 2.22.2	150g	59,00
9012	Package*	Anions complete (Br, Cl, PO4, NO3, SO4, BrO3)	WBBM 2.22.2	250g	199,00
9012	SO4*	Sulfate (congress mash)	WBBM 2.22.2	150g	59,00
9020		Amylase, Alpha-	Rohstoffb. 3.1.4.7.1	100g	63,00
9021		Split grains	Rohstoffb. 1.2.7.1.1	100g	19,00
9023		Beta-Glucan enzymatic	PV 9023	50g	89,00

* unless performed in conjunction with a test mash, an additional charge of 24,00 EUR will be added | ** Sample preparation necessary | *** Outsourcing to a partner laboratory

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Malt (Barley and Wheat)			
9025	*	Beta-glucans	Rohstoffb. 3.1.4.9.1.2	200g	80,00
9026	*	Beta-glucans and Beta-glucan gel	Rohstoffb. 3.1.4.9.1.2	200g	142,00
9027		Beta-glucans, Hartong 65 °C	Rohstoffb. 3.1.4.9.1	200g	80,00
9030		Acrospire length	Rohstoffb. 3.1.3.7	50g	14,00
9045		Diastatic power (Windisch-Kolbach)	Rohstoffb. 3.1.4.6	200g	53,00
9050		Dimethyl sulfide (DMS), precursor	Rohstoffb. 3.1.4.17	150g	128,00
9060		Protein and moisture content	Rohst.3.1.4.1/3.1.4.5.1.1	100g	32,00
9070	*	Kolbach Index	Rohstoffb. 3.1.4.5.3	200g	32,00
9080	*	Final attenuation	Rohstoffb. 3.1.4.10.1.1	200g	22,00
9085		Extract and moisture content	Rohst.3.1.4.1/3.1.4.2.2	200g	26,00
9090	*	Color (EBC)	Rohstoffb. 3.1.4.2.8.1	200g	23,00
9091	*	Color (spectrophotometric)	Rohstoffb. 3.1.4.2.8.2	200g	23,00
9093	*	Ferulic- and Coumaric acid	WBBM 2.21.3.2	250g	125,00
9105		Friabilimeter - barley malt	Rohstoffb. 3.1.3.6.1	200g	22,00
9110	*	Sensory evaluation of malt (test mash)	Rohstoffb. 3.1.4.2.3	200g	14,00
9115		Sensory evaluation of malt (hot water extract)	PV 9115	200g	14,00
9125		Glucose spray test (glucose value)	PV 9125	100g	56,00
9126		Gushing potential (Carlsberg method, modified)	Rohstoffb. 3.1.4.21.2	150g	89,00
9126		Gushing potential (Donhauser method)	Rohstoffb. 3.1.4.21.1	1000g	89,00
9136	*	Hartong Index VZ 45 °C	Rohstoffb. 3.1.4.11	300g	25,00
9137	*	Hartong Index VZ 65 °C	Rohstoffb. 3.1.4.11	300g	25,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Malt (Barley and Wheat)			
9140		Homogeneity and modification (calcofluor method)	A-EBC IV 4.14	100g	56,00
9142		Homogeneity (Baxter), only in conjunction with friabilimeter	J.Inst.Brew.1983 Vol. 89	200g	16,00
9145		Hectoliter weight	Rohstoffb. 3.1.3.3	200g	12,00
9150	*	Iodine test for saccharification time	Rohstoffb. 3.1.4.2.4	200g	13,00
9153	*	Iodine value - laboratory mash with coarse grind	Rohstoffb. 3.1.4.12	200g	65,00
9155	Ag*	Silver	WBBM 2.24.12	100g	35,00
9155	Al*	Aluminum	WBBM 2.24.12	100g	35,00
9155	As*	Arsenic	DIN EN ISO 11969 D 18	100g	45,00
9155	B*	Boron	WBBM 2.24.12	100g	35,00
9155	Ba*	Barium	WBBM 2.24.12	100g	35,00
9155	Ca*	Calcium	WBBM 2.24.12	100g	35,00
9155	Cd**	Cadmium	DIN EN ISO 5961 E19	100g	45,00
9155	Co*	Cobalt	WBBM 2.24.12	100g	35,00
9155	Cr**	Chrome	DIN EN 1233 1996-08 E 10	100g	45,00
9155	Cu*	Copper	WBBM 2.24.12	100g	35,00
9155	Fe*	Iron	WBBM 2.24.12	100g	35,00
9155	Hg**	Mercury	DIN EN 12338-E31	100g	45,00
9155	K*	Potassium	WBBM 2.24.12	100g	35,00
9155	Mg*	Magnesium	WBBM 2.24.12	100g	35,00
9155	Mn*	Manganese	WBBM 2.24.12	100g	35,00
9155	Mo*	Molybdenum	WBBM 2.24.12	100g	35,00

* unless performed in conjunction with a test mash, an additional charge of 24,00 EUR will be added | ** Sample preparation necessary | *** Outsourcing to a partner laboratory

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Malt (Barley and Wheat)			
9155	Na*	Sodium	WBBM 2.24.12	100g	35,00
9155	Ni*	Nickel	DIN 38406 E11-2	100g	45,00
9155	P*	Phosphorus	WBBM 2.24.12	100g	35,00
9155	Pb**	Lead	DIN 38406 E6-2 1998-07	100g	45,00
9155	Sb**	Antimony	DIN 38405 D32-2	100g	45,00
9155	Se**	Selenium	DIN 38405 23-2 1994-10	100g	45,00
9155	Si*	Silicon	WBBM 2.24.12	100g	35,00
9155	Sn*	Stannious	WBBM 2.24.12	100g	35,00
9155	Sr**	Strontium	WBBM 2.24.12	100g	35,00
9155	T*	Thallium	WBBM 2.24.12	100g	35,00
9155	Zn*	Zinc	WBBM 2.24.12	100g	35,00
9160		Sample preparation	AAS030		45,00
9165		Germinative capacity	Rohstoffb. 3.1.3.9	100g	24,00
9170	*	Boiled wort color, visual	Rohstoffb. 3.1.4.2.8.1	200g	30,00
9171	*	Boiling color spectrophotometric	Rohstoffb. 3.1.4.2.9	200g	30,00
9180	Package	Mechanical analysis (barley malt)	MEBAK	500g	53,00
9200	*	Nitrosamine (NDMA)	Rohstoffb. 3.1.4.18	250g	115,00
9201		Oxalic acid	Rohstoffb. 3.1.4.19	200g	65,00
9202	*	Calcium-oxalate	MEBAK	200g	95,00
9204	***	Pesticides		200g	effort related

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Malt (Barley and Wheat)			
9205		Phenols in malt	Rohstoffb. 3.1.4.13	200g	83,00
9210	*	pH	Rohstoffb. 3.1.4.2.7	200g	10,00
9211		Radioactivity	PV 5066	500g	effort related
9225		Mold growth, detection of (all red grains)	PV 9225	300g	25,00
9226		Mold growth, detection of (relevant red grains)	PV 9226	300g	13,00
9235		Sulfur treatment (SO2), quantitative	PV 9235	100g	52,00
9250	***	Test for the purity of one variety using electrophoresis (declaration of country of origin is necessary)	Rohstoffb. 1.6.1	50g	185,00
9255		Sieving test	Rohstoffb. 3.1.3.1	300g	17,00
9260	*	Nitrogen - soluble	Rohstoffb. 3.1.4.5.2	200g	22,00
9261	*	Nitrogen - coagulable	WBBM 2.6.2	200g	53,00
9263	*	Nitrogen - MgSO4-precipitable	WBBM 2.6.3.1	200g	53,00
9270		Tannoids	MEBAK II 2.17.3 1987	100g	95,00
9275		Thousand corn weight	Rohstoffb. 3.1.3.2	200g	15,00
9280	*	Thiobarbituric acid number (TBZ)	Rohstoffb. 3.1.4.14	200g	46,00
9281	*	Turbidity (EBC)	PV 9281	200g	16,00
9284	***	Temperature of gelatinization	Rohstoffb. 2.7	100g	63,00
9285	*	Viscosity (calculated to 8.6 % extract)	Rohstoffb. 3.1.4.4.2	200g	31,00
9286	*	Viscosity Hartong 65 °C (calculated to 8.6 %)	Rohstoffb. 3.1.4.4.2	200g	31,00
9295		Moisture content	Rohstoffb. 3.1.4.1	100g	14,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Malt (Barley and Wheat)			
9310	Package	Moisture content, color, speed of filtration, saccharification, sensory evaluation of mash and wort, extract, extract difference, Kolbach index	MEBAK	400g	62,00
9311	Package	Moisture content, color, speed of filtration, saccharification, sensory evaluation of mash and wort, extract, extract difference, Kolbach index, friabilimeter	MEBAK	500g	75,00
9320	Package	Moisture content, color, speed of filtration, saccharification, sensory evaluation of mash and wort, extract, extract difference, Kolbach index, VZ-45 °C	MEBAK	500g	78,00
9321	Package	Moisture content, color, speed of filtration, saccharification, sensory evaluation of mash and wort, extract, extract difference, Kolbach index, VZ45 °C, friabilimeter	MEBAK	600g	92,00
9325	Package	Moisture content, color, speed of filtration, saccharification, sensory evaluation of mash and wort, extract, extract difference, Kolbach index, sieving test, thousend corn weight, pH, VZ45 °C	MEBAK	600g	115,00
9335	Package	Moisture, color, speed of filtration, saccharification, sensory evalutation, extract, extract. diff., Kolbach index, sieving test, 1000-corn weight, pH, VZ45 °C, boiled wort color, friab., visc.	MEBAK	700g	148,00
9380	Package*	Trace elements ICP1 (Ca, Mg, K, Na, Fe, Zn, Mn, Cu, Al)	WBBM 2.24.12	100g	95,00
9390	Package*	Heavy metals package 1 (As, Sb, Se, Hg)	DIN EN ISO 11969 D 18	100g	95,00
9395	Package*	Heavy metals package 1 (Ni, Cr, Cd, Pb)	DIN EN ISO	100g	95,00
9400	Package*	Mycotoxins DON, NIV, ZEA, OTA, ß-ol	HPLC	100g	345,00
9401		Mycotoxin Deoxynivalenol (DON)	HPLC	100g	100,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Malt (Barley and Wheat)			
9402		Mycotoxin NIV	HPLC	100g	45,00
9403		Mycotoxin OTA	HPLC	100g	100,00
9404		Mycotoxin ZEA	HPLC	100g	100,00
9405	***	Mycological analysis of mold	Rohstoffb. 3.1.4.16	100g	90,00
9407	***	Nitrofen	DFG S19	100g	120,00
9450	***	Monitoring system malt package I		5kg	750,00
9460	***	Monitoring system malt package II		5kg	1.190,00
		Roasted and Caramel Malts			
11000	Package	Caramel malt: moisture, extract, color	MEBAK	200g	44,00
11002	Package	Roasted malt: moisture, extract, color	MEBAK	200g	44,00
11005		Extract and moisture	je nach Einzelparameter	100g	26,00
11006	*	Color EBC (photometric)	Rohstoffb. 3.2.3	200g	23,00
11008		pH	Rohstoffb. 3.1.4.2.7	200g	10,00
11009	*	Thiobarbituric acid number (TBZ)	Rohstoffb. 3.1.4.14	200g	46,00
		Malt Extract			
13005		Amylase, Alpha-	Rohstoffb. 3.1.4.7.1	200g	63,00
13010		Extract	P-Sch VII/4b	200g	27,00
13015		Protein	Rohstoffb. 3.1.4.5.1	100g	20,00
13020		Diastetic power (Windisch-Kolbach)	Rohstoffb. 3.1.4.6	200g	53,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Grist			
15005		Sieving test (MEBAK)	WBBM 1.1.1	2 x 150g	22,00
15010		Husk volume	WBBM 1.1.2	2 x 150g	15,00
		Spent Grains (Wet)			
17000	Package	Comprehensive analysis: washable and soluble extract, water content	MEBAK	1000g	53,00
17005		Washable extract, air-dried	WBBM 1.4.3.2	500g	21,00
17010		Soluble extract	WBBM 1.4.4.1	1000g	53,00
17011		Extract soluble air dry (Diastatic method)	WBBM 1.4.4.2	1000g	53,00
17013		Iodine value	WBBM 1.4.5	300g	61,00
17015		Water content (spent grains wet)	WBBM 1.4.2	200g	14,00
17016		Soluble extract in spent grains squeezings	MEBAK II 1.4.3.1	1000g	21,00
17020	**	Lead	DIN 38406 E6-2 1998-07	100g	45,00
17021	**	Cadmium	DIN EN ISO 5961 E19	100g	45,00
17022	**	Arsenicum	DIN EN ISO 11969 D 18	100g	45,00
17023	**	Mercury	DIN EN 12338-E31	100g	45,00
17025	**	Arsenicum, Cadmium, Mercury, Lead	DIN	100g	95,00
		Hops (Whole Hops, Pellets, Powder)			
19000		Complete analysis (see resin fractions)	Rohstoffb. 4.1.5.1	200g	99,00
19001	Package	Hop oil compounds (Linalool, Myrcen and Humulen) incl. determination of hopoil	MEBAK III 1.4	100g	160,00
19002	Package	Hop aroma components (Linalool, Myrcen, Humulen, ß-Farnesen, trans-Caryophyllen, Terpineol, Damascenon, Limonen, alpha-Pinen, ß-Pinen)	MEBAK III 1.4	100g	190,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Hops (Whole Hops, Pellets, Powder)			
19004		Iso-alpha acids (HPLC)	EBC 7.8	200g	120,00
19005		Alpha and Beta acids (HPLC)	EBC 7.7	200g	120,00
19006		Iso-alpha-acids and reduced Iso-alpha-acids	EBC 7.9	100g	140,00
19007		Alpha-, Beta- and Iso-alpha-acids in isomerised hop-pellets	EBC 7.11	100g	165,00
19010		Alpha acids (co-n-ad-Humulon) and Beta acids (co-n-ad-Lupulon) and Iso-alpha-acids in hop and isomerised hop products	EBC 7.8	200g	165,00
19011		Alpha and Beta acids (spectrophotometric) + HSI	ASBC HOPS 6 1992	200g	41,00
19015		Fraction of debris (leaves, stems, stones and soil)	Rohstoffb. 4.1.2.1	500g	33,00
19020		Bittering units (Universal bittering units)	MEBAK I 5.1.5.3	200g	61,00
19025		Visual inspection	Rohstoffb. 4.1.2	500g	21,00
19030		Inspection based on point system	MEBAK	500g	32,00
19040	Package	Resin fractions (Total resin, total soft resin, Lead conductance value, Beta fraction, hard resin)	Rohstoffb. 4.1.5.1	200g	99,00
19041		Hop oil volumetric	EBC 7.10	100g	60,00
19050	Ag**	Silver	WBBM 2.24.12	10g	35,00
19050	Al**	Aluminium	WBBM 2.24.12	10g	35,00
19050	As**	Arsenic	DIN EN ISO 11969 D 18	10g	45,00
19050	B**	Boron	WBBM 2.24.12	10g	35,00
19050	Ba**	Barium	WBBM 2.24.12	10g	35,00
19050	Ca**	Calcium	WBBM 2.24.12	10g	35,00
19050	Cd**	Cadmium	DIN EN ISO 5961 E19	10g	45,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Hops (Whole Hops, Pellets, Powder)			
19050	Co**	Cobalt	WBBM 2.24.12	10g	35,00
19050	Cr**	Chrome	DIN EN 1233 1996-08 E 10	10g	45,00
19050	Cu**	Copper	WBBM 2.24.12	10g	35,00
19050	Fe**	Iron	WBBM 2.24.12	10g	35,00
19050	Hg**	Mercury	DIN EN 12338-E31	10g	45,00
19050	K**	Potassium	WBBM 2.24.12	10g	35,00
19050	Mg**	Magnesium	WBBM 2.24.12	10g	35,00
19050	Mn**	Manganese	WBBM 2.24.12	10g	35,00
19050	Mo**	Molybdenum	WBBM 2.24.12	10g	35,00
19050	Na**	Sodium	WBBM 2.24.12	10g	35,00
19050	Ni**	Nickel	DIN 38406 E11-2	10g	45,00
19050	P**	Phosphorus	WBBM 2.24.12	10g	35,00
19050	Pb**	Lead	DIN 38406 E6-2 1998-07	10g	45,00
19050	Sb**	Antimony	DIN 38405 D32-2	10g	45,00
19050	Se**	Selenium	DIN 38405 23-2 1994-10	10g	45,00
19050	Si**	Silicon	WBBM 2.24.12	10g	35,00
19050	Sn**	Stannious	WBBM 2.24.12	10g	35,00
19050	Tl**	Thallium	DIN 38406 E26	10g	35,00
19050	Zn**	Zinc	WBBM 2.24.12	10g	35,00
19051	Package**	Trace elements ICP1 (Al, Ca, Mg, Na, K, Fe, Cu, Mn, Z)	WBBM 2.24.12	100g	95,00
19052	Package**	Heavy metals package 1 (As, Sb, Se, Hg)	je nach Einzelparameter	100g	95,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Hops (Whole Hops, Pellets, Powder)			
19053	Package**	Heavy metals package 2 (Ni, Cr, Cd, Pb)	je nach Einzelparameter	100g	85,00
19055		Sample preparation	PV AAS030		45,00
19060		Lead conductance value (MEBAK)	Rohstoffb. 4.1.5.1	200g	48,00
19065		Lead conductance value and water content	MEBAK	200g	60,00
19070		Lead conductance value (EBC-Toluol)	EBC 7.4	200g	52,00
19075		Lead conductance value (EBC-Toluol) and water content	EBC	200g	63,00
19085		Sodium	WBBM 2.22.2	20g	100,00
19100		Sulfur dioxide	PV 19100	200g	48,00
19115		Moisture content	Rohstoffb. 4.1.4	100g	12,00
		Hop Extract			
19125		Alpha-acids (co-n-ad-Humulon) and Beta acids (co-n-ad-Lupulon)	EBC 7.7	50g	120,00
19130		Alpha-acids (co-n-ad-Humulon) and Beta-acids (co-n-ad-Lupulon) and Iso-alpha-acids in hop and isomerised hop	EBC 7.8	50g	165,00
19131		Alpha- and Beta acids (spectrophotometric)	ASBC HOPS 6 1992	50g	43,00
19135		Bittering units (universal bittering units)	MEBAK I 5.2.4.3	50g	61,00
19140		Resin fractions (total resin, total soft resin, Lead conductance value, betra fraction, hard resin)	MEBAK	50g	103,00
19145		Iso-alpha-acids (HPLC)	EBC 7.8	50g	120,00
19146		Iso-alpha-acid reduced	EBC 7.9	10g	149,00
19150	Ag**	Silver	WBBM 2.24.12	10g	35,00
19150	Al**	Aluminium	WBBM 2.24.12	10g	35,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Hop Extract			
19150	As**	Arsenic	DIN EN ISO 11969 D 18	10g	45,00
19150	B**	Boron	WBBM 2.24.12	10g	35,00
19150	Ba**	Barium	WBBM 2.24.12	10g	35,00
19150	Ca**	Calcium	WBBM 2.24.12	10g	35,00
19150	Cd**	Cadmium	DIN EN ISO 5961 E19	10g	45,00
19150	Cr**	Chromium	DIN EN 1233 1996-08 E 10	10g	45,00
19150	Cu**	Copper	WBBM 2.24.12	10g	35,00
19150	Fe**	Iron	WBBM 2.24.12	10g	35,00
19150	Hg**	Mercury	DIN EN 12338-E31	10g	45,00
19150	K**	Potassium	WBBM 2.24.12	10g	35,00
19150	Mg**	Magnesium	WBBM 2.24.12	10g	35,00
19150	Mn**	Manganese	WBBM 2.24.12	10g	35,00
19150	Na**	Sodium	WBBM 2.24.12	10g	35,00
19150	Ni**	Nickel	DIN 38406 E11-2	10g	45,00
19150	Pb**	Lead	DIN 38406 E6-2 1998-07	10g	45,00
19150	Sb**	Antimony	DIN 38405 D32-2	10g	45,00
19150	Se**	Selenium	DIN 38405 23-2 1994-10	10g	45,00
19150	Sn**	Zinc	WBBM 2.24.12	10g	35,00
19150	Tl**	Thallium	WBBM 2.24.12	100g	45,00
19150	Zn**	Stannious	WBBM 2.24.12	10g	35,00
19151	Package**	Trace elements ICP1 (Al, Ca, Mg, Na, K, Fe, Cu, Mn, Z)	WBBM 2.24.12	100g	95,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Hop Extract			
19155		Sample preparation	PV AAS030		45,00
19156		Hop oil volumetric	EBC 7.10	100g	60,00
19160		Lead conductance value (MEBAK)	Rohstoffb. 4.2.4.1	50g	48,00
19165		Lead conductance value and water content (MEBAK)	MEBAK	50g	64,00
19170		Lead conductance bitter value (Ethanol extract), Lead conductance value, air-dried, Iso-alpha acids	MEBAK	50g	174,00
19175	Package	Hop oil components (Linalool, Myrcen, Humulene)	MEBAK III 1.4	100g	160,00
19176	Package	Hop oil flavouring compounds (Linalool, Myrcen, Humulene, ß-Farnesen, trans-Caryophyllen, Terpineol, Damascenon, Limonen, alpha-Pinen, ß-Pinen)	MEBAK III 1.4	100g	190,00
19195		Water content	Rohstoffb. 4.2.3	50g	16,00
		Water			
21008		Adsorbable organic halogens (AOX)	DIN EN 1485-H14	250ml	96,00
21010		Evaporation residue (170 °C)	Wasserbd. 1.1.9.2	500ml	18,00
21015	Br	Bromide	DIN EN ISO 10304-1	100ml	59,00
21015	BrO3	Bromate	DIN EN ISO 10304-1	100ml	65,00
21015	Cl	Chloride	DIN EN ISO 10304-1	100ml	59,00
21015	bottle(s)	Fluoride	DIN EN ISO 10304-1	100ml	59,00
21015	H2PO4	Hydrogen phosphate	DIN EN ISO 10304-1	100ml	59,00
21015	J	Iodide	DIN EN ISO 10304-1	100ml	59,00
21015	NO2	Nitrite	DIN EN ISO 10304-1	100ml	59,00
21015	NO3	Nitrate	DIN EN ISO 10304-1	100ml	59,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Water			
21015	SO4	Sulfate	DIN EN ISO 10304-1	100ml	59,00
21016	Package	Anions package 1 (Cl, Br, NO2, NO3, PO4, SO4)	DIN EN ISO 10304-1	100ml	150,00
21017	Package	Anions package 2 (Cl, Br, NO2, NO3, PO4, Fl, SO4, BrO3, J)	DIN EN ISO 10304-1	100ml	199,00
21018		Benzol	DIN 38407-F9	250ml	95,00
21019		Bismuth complex formation, index of	DIN 38409-H26	100ml	74,00
21024		Chlorate	DIN EN ISO 10304-1	100ml	65,00
21035		Carbonate hardness	Wasserbd. 1.1.10	500ml	9,00
21040		Chlorine, free	PV SON022	100ml	20,00
21045		Chlorine, total	PV SON022	100ml	20,00
21046		Chlorite	PV SON022	100ml	65,00
21047		Chlorine dioxide	PV SON022	100ml	25,00
21055		Chlorinated hydrocarbons (Dichlormethan, 1,1,1-Trichlorethan, Trichlorethen, Tetrachlorethen, Tetrachlormethan)	DIN EN ISO 10301 F4	250ml	118,00
21060		Chlorophenoles (Di-, Tri-, Tetra-, Penta-chlorophenols)	PV GC015	1l	140,00
21065		Cyanide	DIN 38405-D13	100ml	55,00
21070		pH difference (before and after lime saturation)	DIN	500ml	15,00
21095		Coloration	DIN EN ISO 7887-C1	500ml	34,00
21105		Odor threshold determination	DEV B1/2	500ml	14,00
21110		Total hardness (Titriplex)	Wasserbd. 1.1.10.2	500ml	20,00
21111		Total minerals	Wasserbd. 1.1.9.1	500ml	34,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Water			
21115		Total hardness	ICP	100ml	85,00
21120		Ash content (550 °C)	Wasserbd. 1.1.9.2	500ml	25,00
21125		Highly volatile halogenated hydrocarbons (LHKW), Haloform and chlorinated hydrocarbons	DIN EN ISO 10301 F4	250ml	149,00
21130		Haloforms/Trihalomethane	DIN EN ISO 10301 F4	250ml	95,00
21131		Hydrogencarbonate	Wasserbd. 1.1.11	250ml	33,00
21150		Lime assay	PV 21150	100ml	20,00
21155		Lime water (CaOH2), test for degree of saturation	Wasserbd. 1.2.2.1	500ml	13,00
21157		Carbonate hardness, softening effect	MEBAK	500ml	33,00
21160	Ag	Silver	DIN EN ISO 11885 E22	100ml	35,00
21160	Al	Aluminium	DIN EN ISO 11885 E22	100ml	35,00
21160	As	Arsenic	DIN EN ISO 11969 D 18	100ml	45,00
21160	B	Boron	DIN EN ISO 11885 E22	100ml	35,00
21160	Ba	Barium	DIN EN ISO 11885 E22	100ml	35,00
21160	Ca	Calcium	DIN EN ISO 11885 E22	100ml	35,00
21160	Cd	Cadmium	DIN EN ISO 5961 E19	100ml	45,00
21160	Co	Cobalt	DIN EN ISO 11885 E22	100ml	35,00
21160	Cr	Chromium	DIN EN 1233 1996-08 E 10	100ml	45,00
21160	Cu	Copper	DIN EN ISO 11885 E22	100ml	35,00
21160	Fe	Iron	DIN EN ISO 11885 E22	100ml	35,00
21160	Hg	Mercury	DIN EN 12338-E31	100ml	45,00
21160	K	Potassium	DIN EN ISO 11885 E22	100ml	35,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Water			
21160	Li	Lithium	DIN EN ISO 11885 E22	100ml	35,00
21160	Mg	Magnesium	DIN EN ISO 11885 E22	100ml	35,00
21160	Mn	Manganese	DIN EN ISO 11885 E22	100ml	35,00
21160	Mo	Molybdenum	DIN EN ISO 11885 E22	100ml	35,00
21160	Na	Sodium	DIN EN ISO 11885 E22	100ml	35,00
21160	Ni	Nickel	DIN 38406 E11-2	100ml	45,00
21160	P	Phosphorus	DIN EN ISO 11885 E22	100ml	35,00
21160	Pb	Lead	DIN 38406 E6-2 1998-07	100ml	45,00
21160	Sb	Antimony	DIN 38405 D32-2	100ml	45,00
21160	Se	Selenium	DIN 38405 23-2 1994-10	100ml	45,00
21160	Si	Silicium	DIN EN ISO 11885 E22	100ml	35,00
21160	Sn	Stannious	DIN EN ISO 11885 E22	100ml	35,00
21160	Sr	Strontium	DIN EN ISO 11885 E22	100ml	35,00
21160	Tl	Thallium	DIN 38406 E26	100ml	35,00
21160	V	Vanadium	DIN EN ISO 11885 E22	100ml	35,00
21160	Zn	Zinc	DIN EN ISO 11885 E22	100ml	35,00
21161		Sample preparation	PV AAS030		45,00
21165		Silicid acid	Wasserbd. 1.1.24	500ml	22,00
21167		Kjeldahl-nitrogen	DIN EN 25663-H11	500ml	15,00
21170		KMnO4r test, organic matter	MEBAK/DIN	500ml	22,00
21175		Carbon dioxide, aggressive	Wasserbd. 1.1.12.3.2	1l	32,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Water			
21180		Carbon dioxide, bound	Wasserbd. 1.1.12.1	500ml	16,00
21185		Carbon dioxide, free	Wasserbd. 1.1.12.2	500ml	16,00
21190		Conductivity	DIN EN 27888-C8	100ml	11,00
21195		Solvent residues (BTXE)	DIN 38407-F9	250ml	118,00
21222		Surface tension	PV SON021	1bottle(s)	40,00
21225		Oil, detection of (qualitative)	PV 21225	500ml	10,00
21235		Chlorinated organic pesticides	DIN 38407-F2	1l	195,00
21250		pH	DIN 38404-C5	500ml	9,00
21275		Phenol index	DIN 38409 H16	1l	73,00
21280		Phenolic compounds (Chlorophenols, Nitrophenols, Benzols)	PV GC015	1l	effort related
21285		Polychlorinated biphenyls (PCB)	DIN 38407-F3	1l	195,00
21295		Phenyl urea	DIN EN ISO 11369 F12	1l	effort related
21300		m-value	Wasserbd. 1.1.11	500ml	15,00
21305		p-value	Wasserbd. 1.1.11	500ml	15,00
21310		Polycyclic aromatic hydrocarbons (PAH)	DIN 38407-F8	1l	115,00
21312		Hydrocarbon-Index	EN ISO 9377-2.2000 H53	2 x 1Liter	120,00
21312		Salicylic acid	PV HPLC003	1bottle(s)	92,00
21315		Oxygen, dissolved (potentiometric)	DIN EN 25814-G22	1l	25,00
21345		TOC (total organic carbon)	DIN EN 1484-H3	250ml	83,00
21350		s-Triazin derivatives	DIN EN ISO 11369 F12	1l	155,00
21385		Turbidity	DIN EN ISO 7027-C2	500ml	34,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Water			
21390	Package	Basic chemical water analysis	MEBAK	500ml	80,00
21395	Package	Chemical water analysis	MEBAK	2l	225,00
21400	Package	Trace elements ICP1 (Al, Ca, Fe, K, Cu, Mn, Mg, Na, Zn)	WBBM 2.24.12	100ml	95,00
21401	Package	Trace elements ICP2 (Cu, Zn, Al, Si, B)	WBBM 2.24.12	100ml	75,00
21402	Package	Trace elements ICP3 (Al, B, Cu, Mn, P, Si, Zn)	WBBM 2.24.12	100ml	85,00
21405	Package	Heavy metals AAS1 (Ni, Cr, Cd, Pb)	AAS	100ml	85,00
21406	Package	Heavy metals AAS2 (As, Sb, Se, Hg)	AAS	100ml	95,00
21407	Package	Heavy metals complete (Sb, As, Pb, Ni, Cd, Cr, Hg, Se)	AAS	100ml	150,00
21500	Package	Water TVO 2001 section 2 part I (art. 6 sec. 2)	DIN	3l	385,00
21505		Water TVO 2001 section 2 part II (art. 6 sec. 2)	DIN	3l	200,00
21510		Water TVO 2001 Section 3 indicator test (sec. 7)	DIN	3l	210,00
21515	Package	TVO routine analysis	DIN	2l	110,00
21525		Calcite dissolving capicity	DIN 38404-C10	1l	160,00
21530		Measuring kit rental rate per week			25,00
		Wort			
23000		Alpha-amino nitrogen, free (FAN)	WBBM 2.6.4.1.2	100ml	73,00
23005		Amino acids	WBBM 2.6.4.1.2	100ml	81,00
23010	Br	Bromide	WBBM 2.22.2	100ml	65,00
23010	BrO3	Bromate	WBBM 2.22.2	100ml	65,00
23010	Cl	Chloride	WBBM 2.22.2	100ml	65,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
2.1.2		**Wort**			
23010	NO3	Nitrate	WBBM 2.22.2	100ml	65,00
23010	PO4	Hydrogen phosphate	WBBM 2.22.2	100ml	65,00
23010	SO4	Sulfate	WBBM 2.22.2	100ml	65,00
23011	Package	Anions complete (Cl, NO3, SO4, PO4, Br, BrO3)	WBBM 2.22.2	100ml	125,00
23012	Package	Anions complete (Cl, NO3, SO4, PO4)	WBBM 2.22.2	100ml	125,00
23013	Package	Anions package 2 (NO2, Br, BrO3)	WBBM 2.22.2	100ml	95,00
23015		Anthocyanogens	WBBM 2.16.2	300ml	65,00
23020		Beta-glucans	WBBM 2.5.2	300ml	80,00
23021		Beta-glucans and Beta-glucan-gel	MEBAK WBBM	300ml	142,00
23025		Bittering units	WBBM 2.17.1	300ml	40,00
23030		Bittering compounds, total (Rigby-Bars)	WBBM 2.17.2	300ml	70,00
23031		Butyric acid	WBBM 2.23.6	500ml	146,00
23032		Calcium-oxalate (haze potential)	MEBAK	200ml	95,00
23033		Surface tension	PV SON021	500ml	40,00
23040		Dimethyl sulfide (DMS), free	MEBAK III 1.3	100ml	75,00
23041		Dimethyl sulfide (DMS), precursor	MEBAK III 1.3	100ml	128,00
23045		Dimethyl sulfide (DMS), free and precursor	MEBAK III 1.3	100ml	145,00
23050		Final attenuation	WBBM 2.8.1	500ml	26,00
23055		Extract	WBBM 2.9.6.3	300ml	15,00
23065		Fatty acids, free (C6-C12)	WBBM 2.21.4	1bottle(s)	150,00
23069		Flavonoid	EBC 9.12	1bottle(s)	56,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Wort			
23070		Color visual	WBBM 2.12.1	300ml	12,00
23071		Color spectrophotometric	WBBM 2.12.2	300ml	17,00
23072		Ferulic- and Coumaric acid	WBBM 2.21.3.2	200ml	125,00
23073		Suspended solids	WBBM 1.6.2	1000ml	56,00
23090		Iodine test spectrophotometric	MEBAK II 7.3.2 1978	300ml	35,00
23091		Iodine test photometric (buffer-method)	WBBM 2.3	300ml	35,00
23095	Ag	Silver	WBBM 2.24.12	1bottle(s)	35,00
23095	Al	Aluminium	WBBM 2.24.12	1bottle(s)	35,00
23095	As**	Arsenic	DIN EN ISO 11969 D 18	1bottle(s)	45,00
23095	B	Boron	WBBM 2.24.12	1bottle(s)	35,00
23095	Ba	Barium	WBBM 2.24.12	1bottle(s)	35,00
23095	Ca	Calcium	WBBM 2.24.12	1bottle(s)	35,00
23095	Cd**	Cadmium	DIN EN ISO 5961 E19	1bottle(s)	45,00
23095	Cr**	Chromium	DIN EN 1233 1996-08 E 10	1bottle(s)	45,00
23095	Cu	Copper	WBBM 2.24.12	1bottle(s)	35,00
23095	Fe	Iron	WBBM 2.24.12	1bottle(s)	35,00
23095	Hg**	Mercury	DIN EN 12338-E31	1bottle(s)	45,00
23095	K	Potassium	WBBM 2.24.12	1bottle(s)	35,00
23095	Mg	Magnesium	WBBM 2.24.12	1bottle(s)	35,00
23095	Mn	Manganese	WBBM 2.24.12	1bottle(s)	35,00
23095	Na	Sodium	WBBM 2.24.12	1bottle(s)	35,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Wort			
23095	Ni**	Nickel	DIN 38406 E11-2	1bottle(s)	45,00
23095	Pb	Lead	DIN 38406 E6-2 1998-07	1bottle(s)	45,00
23095	Sb**	Antimony	DIN 38405 D32-2	1bottle(s)	45,00
23095	Se**	Selenium	DIN 38405 23-2 1994-10	1bottle(s)	45,00
23095	Si	Silicon	WBBM 2.24.12	1bottle(s)	35,00
23095	Sn	Stannious	WBBM 2.24.12	1bottle(s)	35,00
23095	Tl	Thallium	WBBM 2.24.12	1bottle(s)	35,00
23095	Zn	Zinc	WBBM 2.24.12	1bottle(s)	35,00
23100		Sample preparation	PV AAS030		45,00
23105		Cold break material	WBBM 1.6.3	500ml	63,00
23111		Charge titration method (incl. conducting ability)	PV 23111	2bottle(s)	158,00
23115		Mashing intensity (only incl. malt analysis)	WBBM 1.2.1	500ml	69,00
23120		Lactic acid, D- + L-Lactic acid (enzymatic)	WBBM 2.21.7.1.7	200ml	126,00
23121		Lactic acid	WBBM 2.21.7.2	200ml	65,00
23125		Lactic acid concentration - biological acidification	PV 23120	200ml	19,00
23131		Oxalic acid	WBBM 2.21.7.2	200ml	65,00
23135		pH	WBBM 2.13	200ml	10,00
23140		Polyphenols	WBBM 2.16.1	200ml	56,00
23145		Reduction (spectrophotometric)	WBBM 2.15.1	200ml	22,00
23160		Nitrogen, soluble N	WBBM 2.6.1.1	200ml	20,00
23165		Nitrogen (FAN)	WBBM 2.6.4.1.2	50ml	73,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Wort			
23170		Nitrogen, coagulable	WBBM 2.6.2	500ml	53,00
23171		Nitrogen, coagulable (Na2S2O4)	MEBAK II 1987, 2.7.2	500ml	53,00
23175		Nitrogen, Lundin fractions	P-Sch III/B/14/b	500ml	89,00
23180		Nitrogen, MgSO4-precipitable	WBBM 2.6.3.1	200ml	53,00
23181		Nitrogen, low molecular weight (P-Mo-precipitable)	WBBM 2.6.3.2	400ml	53,00
23190		Nitrogen, precipitable with tannins	P-Sch III/B/14/b	400ml	53,00
23200		Tannoids	MEBAK II 2.17.3 1987	100ml	80,00
23205		Thiobarbituric acid number (TBZ)	WBBM 2.4	200ml	40,00
23210		Titration, acidity	PV 23210	200ml	26,00
23215		Titration, alkalinity	PV 23215	200ml	26,00
23220		Viscosity, calculated to 12 %	Rohstoffb. 3.1.4.4.2	500ml	39,00
23230		Sugar composition	HPLC	200ml	118,00
23240	Package	Extract, pH, final attenuation, total soluble N, coagulable N, Alpha-amino nitrogen, free (FAN)	MEBAK	1l	130,00
23250	Package	Extract, pH, final attenuation, total soluble N, coagulable N, Alpha-amino nitrogen, free (FAN), photometric iodine test	MEBAK	1,5l	158,00
23260	Package	Extract, pH, color, coagulable N, TBZ, DMS	MEBAK	1,5l	206,00
23262	Package	Extract, pH, color, coagulable N, TBZ, DMS-free	MEBAK	1,5l	151,00
23270	Package	Trace elements ICP1 (Ca, Mg, K, Na, Fe, Zn, Cu, Mn, Al)	WBBM 2.24.12	100ml	95,00
23280	Package	Trace elements ICP2 (Si, P, B, Ba, Co, Mo, Sr)	WBBM 2.24.12	100ml	95,00
23300		Alpha-, Beta- and Iso-Alpha-acids	HPLC001	100ml	130,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Wort			
23350		Wort aroma compounds	WBBM 2.23.4	1000ml	190,00
		Beer			
25000		Acetoin	WBBM 2.21.5.4	100ml	80,00
25005	***	Acrylamide	SAV M 356	1bottle(s)	225,00
25010		Alcohol (beer analyzer)	WBBM 2.9.6.3	300ml	17,00
25010	Paar	Alcohol (Alcolyzer)	WBBM 2.9.6.3	300ml	17,00
25015		Alcohol (distillation)	MEBAK	500ml	63,00
25025		Alcohol (GC)	MEBAK III 1.1.1	300ml	62,00
25030		Alpha-amino nitrogen, free (FAN)	WBBM 2.6.4.1.2	100ml	81,00
25032	***	Amines, biogenic	Q-64/003/03	500ml	335,00
25035		Amino acids	WBBM 2.6.4.1.2	100ml	81,00
25040		Ammonia sulfate precipitation limit	WBBM 2.14.2.4	300ml	23,00
25045	Br	Bromide	WBBM 2.22.2	1bottle(s)	65,00
25045	BrO3	Bromate	WBBM 2.22.2	1bottle(s)	65,00
25045	Cl	Chloride	WBBM 2.22.2	1bottle(s)	65,00
25045	H2PO4	Hydrogen phosphate	WBBM 2.22.2	1bottle(s)	65,00
25045	NO3	Nitrate	WBBM 2.22.2	1bottle(s)	65,00
25045	SO4	Sulfate	WBBM 2.22.2	1bottle(s)	65,00
25046	Package	Anions (Br, Cl, J, PO4, NO3, SO4-)	WBBM 2.22.2	1bottle(s)	195,00
25050		Anthocyanogens	WBBM 2.16.2	300ml	65,00
25055		Beta-glucans	WBBM 2.5.2	200ml	80,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Beer			
25056		Beta-glucans and Beta-glucan-gel	WBBM 2.5.5	400ml	142,00
25060		Bittering units	WBBM 2.17.1	300ml	40,00
25065		Bitter compounds, total (Rigby-Bars)	WBBM 2.17.2	300ml	70,00
25081		Chlorinated hydrocarbons	MEBAK/DIN	250ml	120,00
25086		Cyanide	MEBAK III 1996 5.11	500ml	75,00
25087		Chlorophenoles	PV GC015	1bottle(s)	150,00
25088	Package	CMA Analysis	MEBAK	10bottle(s)	155,00
25090		3-chloro-1,2 propanediol (MCPD)	L 52.02-1	1bottle(s)	180,00
25095		Diacetyl total and 2,3-pentanedione total	WBBM 2.21.5.1	1bottle(s)	69,00
25105		Dimethyl sulfide (DMS), free	WBBM 2.23.1.1	1bottle(s)	75,00
25110		Dimethyl sulfide (DMS), free and precursor	WBBM 2.23.1.1/2	1bottle(s)	145,00
25111	Package	DLG analysis (2 samples) (extract, foam, chemical and microbiological shelf life, pH, color, flavor evaluation)	MEBAK	20bottle(s)	247,00
25111	Package	DLG analysis (hazy beer)	MEBAK	20bottle(s)	220,00
25120		Final attenuation	WBBM 2.8.1	500ml	26,00
25150	Paar	Extract	MEBAK	300ml	17,00
25152		Extract (distillation)	MEBAK	500ml	63,00
25155		Flavonoid	EBC 9.12	1bottle(s)	56,00
25160		Color	WBBM 2.12.1	300ml	12,00
25161		Color spectrophotometric	WBBM 2.12.2	300ml	17,00
25163	Package	Coumaric acid and Ferulic acid	WBBM 2.21.3.2	1bottle(s)	125,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Beer			
25164		Low fatty acids (C4-C5)	WBBM 2.21.4	1bottle(s)	149,00
25165	***	Fatty acids spectrum	TMSH-Methode	1bottle(s)	149,00
25167	***	Fatty acids, free long-chain	TMSH-Methode	1bottle(s)	110,00
25170		Fatty acids and fatty acid esters	WBBM 2.23.6	1bottle(s)	140,00
25175		Filterability (Esser test)	WBBM 2.20.1	500ml	58,00
25185		Forced aging test (0/40 °C)	WBBM 2.14.2.1	15bottle(s)	37,00
25185		Forced aging test (0/60 °C)	WBBM 2.14.2.1	15bottle(s)	37,00
25186		Formaldehyde	MEBAK III 3.5	1bottle(s)	140,00
25190		Fermentation by-products (Head-space method)	WBBM 2.21.1/2.21.5.1	1bottle(s)	135,00
25193		Total acids (acidity)	K-B 11.3 1976	200ml	26,00
25194		Hydroxymethylfurfural (HMF)	WBBM 3.2.13.1	1bottle(s)	95,00
25195		Iso-alpha-acids (co-iso, n-iso, ad-iso)	EBC	1bottle(s)	85,00
25197		Reduced iso-alpha-acids (rho, hexa, tetra)	HPLC	1bottle(s)	99,00
25200		Flavor evaluation	MEBAK II 3.17	2bottle(s)	21,00
25205		Flavor evaluation (based on DLG)	MEBAK II 2.34.3	3bottle(s)	53,00
25207		Flavor evaluation (based on DLG), blended drinks	MEBAK II 3.17.1	3bottle(s)	53,00
25210		Flavor evaluation (triangle test)	MEBAK II 2.34.7	bottle(s)/per sample	79,00
25220		Glucose	WBBM 2.10.3.2.2	200ml	49,00
25221		Halogenated carboxylic acids	L 36.00-10	1bottle(s)	191,00
25235		Iodine test photometric	MEBAK II 7.3.2 1978	200ml	35,00
25236		Iodine test photometric (buffer-method)	WBBM 2.3	200ml	35,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Beer			
25245	Ag	Silver	WBBM 2.24.12	1bottle(s)	35,00
25245	Al	Aluminium	WBBM 2.24.12	1bottle(s)	35,00
25245	As**	Arsenic	DIN EN ISO 11969 D 18	1bottle(s)	45,00
25245	B	Boron	WBBM 2.24.12	1bottle(s)	35,00
25245	Ba	Barium	WBBM 2.24.12	1bottle(s)	35,00
25245	Ca	Calcium	WBBM 2.24.12	1bottle(s)	35,00
25245	Cd**	Cadmium	DIN EN ISO 5961 E19	1bottle(s)	45,00
25245	Co	Cobalt	WBBM 2.24.12	1bottle(s)	35,00
25245	Cr**	Chromium	DIN EN 1233 1996-08 E 10	1bottle(s)	45,00
25245	Cu	Copper	WBBM 2.24.12	1bottle(s)	35,00
25245	Fe	Iron	WBBM 2.24.12	1bottle(s)	35,00
25245	Hg**	Mercury	DIN EN 12338-E31	1bottle(s)	45,00
25245	K	Potassium	WBBM 2.24.12	1bottle(s)	35,00
25245	Mg	Magnesium	WBBM 2.24.12	1bottle(s)	35,00
25245	Mn	Manganese	WBBM 2.24.12	1bottle(s)	35,00
25245	Mo	Molybdenum	WBBM 2.24.12	1bottle(s)	35,00
25245	Na	Sodium	WBBM 2.24.12	1bottle(s)	35,00
25245	Ni**	Nickel	DIN 38406 E11-2	1bottle(s)	45,00
25245	P	Phosphorus	WBBM 2.24.12	1bottle(s)	35,00
25245	Pb	Lead	DIN 38406 E6-2 1998-07	1bottle(s)	45,00
25245	Sb**	Antimony	DIN 38405 D32-2	1bottle(s)	45,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Beer			
25245	Se**	Selenium	DIN 38405 23-2 1994-10	1bottle(s)	45,00
25245	Si	Silicon	DIN 38406 E26	1bottle(s)	35,00
25245	Sn	Stannious	WBBM 2.24.12	1bottle(s)	35,00
25245	Sr	Strontium	WBBM 2.24.12	1bottle(s)	35,00
25245	Tl	Thallium	WBBM 2.24.12	1bottle(s)	35,00
25245	Zn	Zinc	WBBM 2.24.12	1bottle(s)	35,00
25250		Sample preparation	PV AAS030		45,00
25255		Carbon dioxide (Blom and Lund)	WBBM 2.26.2	2bottle(s)	61,00
25260		Carbon dioxide (Haffmans)	WBBM 2.26.1.1	2bottle(s)	32,00
25265		Carbon dioxide (Zahm and Nagel)	WBBM 2.26.1.4	2bottle(s)	32,00
25266		Carbon dioxide (Stadler und Zeller)	WBBM 2.26.1.2	2bottle(s)	32,00
25270		Conductivity	DIN EN 27888-C8	50ml	16,00
25276		Charge titration method (incl. conducting ability)	PV 25276	2bottle(s)	158,00
25280		Air in headspace (underwater funnel)	WBBM 2.28.2.1	2bottle(s)	26,00
25285		Air in headspace (Zahm and Nagel)	WBBM 2.28.2.3	2bottle(s)	26,00
25290	Package	Mykotoxins (DON, NIV, ZEA, OTA, ß-ol)	HPLC	2bottle(s)	345,00
25306		Nitrosamine	WBBM 2.6.4.2	1bottle(s)	135,00
25307		Surface tension	PV SON021	1bottle(s)	40,00
25310		Oxalic acid	WBBM 2.21.7.2	10ml	60,00
25315		Oxalate-, Calcium ratio	MEBAK	20ml	95,00
25316		Polycyclic aromatic hydrocarbons (PAK)	DIN 38407-F8	1bottle(s)	125,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Beer			
25318		Particle size distribution	dynamische Lichtstreuung	1bottle(s)	210,00
25320		Pasteurization, determination of	WBBM 2.19	2bottle(s)	46,00
25325		Phenoles (volatile in water vapor)	MEBAK II 2.26	2bottle(s)	74,00
25330		pH	WBBM 2.13	200ml	10,00
25335		Polyphenols	WBBM 2.16.1	200ml	56,00
25336		Radioactivity	PV 5066	2bottle(s)	effort related
25338		Reduction potential (spectrophotometric)	WBBM 2.15.1	200ml	38,00
25340		Maize protein, detection of	Immunchemisch	2bottle(s)	78,00
25340		Adjuncts, detection of	Immunchemisch	2bottle(s)	78,00
25345		Oxygen in headspace (underwaterfunnel-methode with additional burette)	WBBM 2.28.2.2	2bottle(s)	32,00
25350		Oxygen in headspace (Headspace method)	WBBM 2.28.2.4.3	2bottle(s)	32,00
25355		Oxygen, dissolved (in bottle)	WBBM 2.28.1.1.1	2bottle(s)	32,00
25356		Oxygen, total	WBBM 2.28.3	2bottle(s)	42,00
25357		Gases in packages (TPO)	WBBM 2.28.2.4.3	2bottle(s)	effort related
25360		Foam (Ross and Clark)	WBBM 2.18.1	3bottle(s)	34,00
25365		Foam (NIBEM)	WBBM 2.18.2	3bottle(s)	34,00
25366		Foam (SFT-Foamtester)	WBBM 2.18.4	3bottle(s)	34,00
25370		Sulfur dioxide (distillation method)	WBBM 2.21.8.2	1bottle(s)	47,00
25371		Sulfur dioxide (enzymatic method)	WBBM 2.21.8.1	1bottle(s)	47,00
25385		Nitrogen, total soluble	WBBM 2.6.1.1	200ml	20,00
25390		Alpha-amino nitrogen, free (FAN)	WBBM 2.6.4.1.2	50ml	72,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Beer			
25395		Nitrogen, coagulable	WBBM 2.6.2	500ml	53,00
25400		Nitrogen, Lundin fractions	P-Sch III/B/14/b	500ml	89,00
25405		Nitrogen, MgSO4 - precipitable	WBBM 2.6.3.1	200ml	53,00
25415		Nitrogen, precipitable with tannins	P-Sch III/B/14/b	400ml	53,00
25417		Styrole	GC/FID	1bottle(s)	115,00
25425		Tannoids	MEBAK II 2.17.3 1987	1bottle(s)	85,00
25430		Thiobarbituric acid number (TBZ)	WBBM 2.4	200ml	40,00
25431		Triazine derivatives	DIN EN ISO 11369 F12	2bottle(s)	170,00
25435		Turbidity	WBBM 2.14.1.2	2bottle(s)	16,00
25437		Valeric acid	WBBM 2.23.6	1bottle(s)	140,00
25440		Degree of attenuation	WBBM 2.9.6.3	300ml	17,00
25445		Vinyl guaiacol, 4-	WBBM 2.21.3.3	1bottle(s)	120,00
25446		Vinyl guaiacol, 4- (incl. vinyl phenols)	WBBM 2.21.3.3	1bottle(s)	140,00
25450		Viscosity (calculated to 12 %)	Rohstoffb. 3.1.4.4.2	500ml	41,00
25455	**	Sugar composition (fructose, glucose, maltose, maltotriose, saccharose)	HPLC	200ml	112,00
25456		Certificate for export	Country specific	4bottle(s)	effort related
25460	Package	Density, SL 20/20 °C, alcohol, extract, real and apparent extract, degree of attenuation, pH	MEBAK	1bottle(s)	22,00
25461	filtered	Export certificate with the addition health certificate for filtered beer	MEBAK	12bottle(s)	231,00
25461	unfiltered	Export certificate with the addition health certificate for unfiltered beer	MEBAK	12bottle(s)	231,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Beer			
25462	filtered	Export certificate with the addition marketability for filtrated beer	MEBAK	12bottle(s)	273,00
25462	unfiltered	Export certificate with the addition marketability for unfiltrated beer	MEBAK	12bottle(s)	273,00
25470	Package	Density SL 27/20 °C, alcohol, extract, degree of attenuation, final attenuation, pH, color, real and apparent extract	MEBAK	2bottle(s)	50,00
25475	Package	Density SL 27/20 °C, alcohol, extract, degree of attenuation, final attenuation, pH, color, real and apparent extract, microbiological shelf life, flavor evaluation, general evaluation	MEBAK	5bottle(s)	74,00
25476	Package	Code 25475 additional iodine value photometric, bittering units, CO2, forced aging test 0/40 °C, foam SFT, membrane filtration yeast and bacteria	MEBAK	16bottle(s)	273,00
25480	Package	Gas chromatography, total analysis (fermentation by-products, fatty acids C6-C12 and fatty acid esters, DMS (free), Acetoin	MEBAK	2bottle(s)	310,00
25490	Package	Density, alcohol, extract, degree of attenuation, final attenuation, pH, color, real and apparent extract, flavor, general evaluation, SFT-Foamtester, TBZ, coagulable N, DMS free	MEBAK	8bottle(s)	189,00
25500	Package	Calcium-oxalate ratio and iron	MEBAK/DIN	100ml	115,00
25510	Package	Calcium-oxalate ration and Mg, Zn, Fe, K, Na, Mn, Cu, Al	MEBAK/DIN	100ml	145,00
25515	Package	Trace elements ICP1 (Ca, Mg, K, Na, Fe, Cu, Mn, Zn, Al)	WBBM 2.24.12	100ml	95,00
25520	Package	Trace elements ICP2 (Si, P, B, Ba, Co, Mo, Sr)	WBBM 2.24.12	100ml	95,00
25530		Indicator compounds for aging	WBBM 2.23.4	2bottle(s)	185,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Beer			
25530	aged	Indicator compounds for aging	WBBM 2.23.4	2bottle(s)	195,00
25531	Package	Forced aging with flavor evaluation	MEBAK II 2.34.3	6bottle(s)	92,00
25535	A	Organic acids (Formic acid)	WBBM 2.21.7.2	1bottle(s)	65,00
25535	B	Organic acids (Pyruvic acid)	WBBM 2.21.7.2	1bottle(s)	65,00
25535	C	Organic acids (Citric acid)	WBBM 2.21.7.2	1bottle(s)	65,00
25535	E	Organic acids (Acetic acid)	WBBM 2.21.7.2	1bottle(s)	65,00
25535	F	Organic acids (Fumaric acid)	WBBM 2.21.7.2	1bottle(s)	65,00
25535	M	Organic acids (Lactic acid)	WBBM 2.21.7.2	1bottle(s)	65,00
25535	O	Organic acids (Oxalic acid)	WBBM 2.21.7.2	1bottle(s)	60,00
25535	Package	Organic acids (Formic-, Acetic-, Pyruvic-, Lactic-, Oxalic-, Fumaric- and Citric-acid)	WBBM 2.21.7.2	1bottle(s)	199,00
26000	Package	Taste stability test (incl. forwarding costs within Germany)	MEBAK	10bottle(s)	175,00
26010	Package	Taste stability excludes forwardes cost (self delivery)	MEBAK	10bottle(s)	142,00
26100		BIG 8 analysis	MEBAK/LFBG/DIN	12bottle(s)	557,00
26105		BIG 4 analysis	MEBAK/LFBG/DIN	12bottle(s)	296,00
26200	OG	Aromaprofile of top-fermented beer		10bottle(s)	355,00
26200	UG	Aromaprofile of bottom-fermented beer		10bottle(s)	295,00
26205		Aging behaviour		15bottle(s)	375,00
26210	OG	Aroma profile and aging behaviour (top-fermented beer)		20bottle(s)	685,00
26215	UG	Aroma profile and aging behaviour (top-fermented beer)		20bottle(s)	625,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		High attenuated beer (form. Dietetic beer)			
27000	Package	High attenuated beer - analyse	MEBAK	3bottle(s)	152,00
27005		Nutrition analysis	MEBAK	3bottle(s)	131,00
		Roasted Malt Beer			
29000		Extract	WBBM 2.9.6.3	200ml	27,00
29005		Color	Rohstoffb. 3.2.5.1	200ml	17,00
29007		Color spectrophotometric	Rohstoffb. 3.2.5.2	200ml	17,00
29010		pH	WBBM 2.13	200ml	10,00
		Soft Drinks			
31000		Acesulfame potassium	WBBM 3.2.12.1	1bottle(s)	90,00
31001		Ascorbic acid	WBBM 3.2.7.1.1	1bottle(s)	90,00
31002		Aspartam	WBBM 3.2.12.1	1bottle(s)	90,00
31003		Benzoic acids	WBBM 3.2.12.1	1bottle(s)	90,00
31004		Quinine	WBBM 3.2.11	1bottle(s)	90,00
31005		Caffeine	WBBM 3.2.12.1	1bottle(s)	90,00
31006		Cyclamate	WBBM 3.2.12.1	1bottle(s)	90,00
31007		Saccharin	WBBM 3.2.12.1	1bottle(s)	90,00
31008		Sorbic acid	WBBM 3.2.14.1	1bottle(s)	90,00
31009		Vanillin	HPLC	1bottle(s)	90,00
31010	Package	Benzoic acid and Sorbic acid	WBBM 3.2.12.1	1bottle(s)	140,00
31012		Density	MEBAK	300ml	15,00
31015		Total acids	MEBAK II 3.5	200ml	26,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Soft Drinks			
31020		Flavor evaluation	MEBAK II 3.17	2bottle(s)	21,00
31025		Carbon dioxide (Blom and Lund)	WBBM 2.26.2	2bottle(s)	61,00
31030		Carbon dioxide (Haffmans)	WBBM 2.26.1.1	2bottle(s)	32,00
31035		Carbon dioxide (Zahm und Nagel)	WBBM 2.26.1.4	2bottle(s)	32,00
31050	Package	Organic acids (Formic-, Acetic-, Pyruvic-, Lactic-, Oxalic-, Fumaric- and Citric acid)	WBBM 2.21.7.2	1bottle(s)	199,00
31054		Phosphoric acid		1bottle(s)	53,00
31055		pH	WBBM 2.13	200ml	10,00
31070		Sugar content	MEBAK II 2.10.6.2	200ml	15,00
		Filter Aids and Stabilizing Agents			
33005		Fluoride	WBBM 2.22.2	100g	85,00
33010		Flavors imparted to beer	PV 33010	100g	50,00
33015		Flavor and odor filter aids	MEBAK	100g	50,00
33015		Flavor and odor of filter aids	MEBAK	100g	50,00
33020		Mass difference before and after combustion of filter aids	MEBAK IV 1.1.2.2	100g	26,00
33020		Mass difference before and after combustion of stabilizing agents	MEBAK IV 1.1.2.2	100g	26,00
33026	Package**	Trace elements ICP1 (Al, Ca, Mg, Na, K, Fe, Cu, Mn, Zn)	WBBM 2.24.12	100g	95,00
33027	Package**	Trace elements ICP1 phthalic acid (Al, Ca, Mg, Na, K, Fe, Cu, Mn, Zn)	MEBAK IV 1998 1.1.2.6.1	100g	95,00
33028	Package**	Trace elements ICP2 (B, Ba, Co, Mo, P, Si, Sr)	WBBM 2.24.12	100g	95,00
33036	Ag	Silver soluble in phthalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
2.1.3		**Filter Aids and Stabilizing Agents**			
33036	Al	Aluminium soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	As**	Arsenic soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	45,00
33036	Ba	Barium soluble in phthalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Ca	Calcium soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Cd**	Cadmium soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	45,00
33036	Co	Cobalt soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Cr**	Chromium soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	45,00
33036	Cu	Copper soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Fe	Iron soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Hg**	Mercury soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	45,00
33036	Mg	Magnesium soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Na	Sodium soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Ni**	Nickel soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	45,00
33036	Pb**	Lead soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	45,00
33036	Sb**	Antimony soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	45,00
33036	Se**	Selenium soluble in phtalic acid	MEBAK IV 1998 1.1.2.6.1	100g	45,00
33036	Si	Silicium soluble in phthalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Sn	Tin soluble in phthalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Sr	Strontium soluble in phthalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Tl	Thallium soluble in phthalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00
33036	Zn	Zinc soluble in phthalic acid	MEBAK IV 1998 1.1.2.6.1	100g	35,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Filter Aids and Stabilizing Agents			
33038		Sample preparation	PV AAS030		45,00
33040		Permeability	A-EBC IV 10.9	300g	147,00
33045		pH (filter aids)	MEBAK IV 1.1.2.3	100g	14,00
33045		pH (stabilizing agents)	MEBAK IV 1.1.2.3	100g	14,00
33050		Sedimentation density (filter aids)	MEBAK III 10.1.5 1982	100g	17,00
33050		Sedimentation density (stabilizing agents)	MEBAK III 10.2.12 1982	100g	17,00
33055		Water content (filter aids)	MEBAK IV 1.1.2.1	100g	12,00
33055		Water content (stabilizing agents)	MEBAK IV 1.1.2.1	100g	12,00
33060		Water value (Schenk)	MEBAK III 10.1.6.2 1982	300g	86,00
		Disinfectants			
35000		Disinfectant residue, detection of (see special analysis)	L 36.00-10/MEBAK	200ml	191,00
35005		Surface tension	PV SON021	200ml	40,00
		Refrigerant (Cooling Brine)			
37000		Alkalinity (p-value)	MEBAK III 14.1 1982	500ml	9,00
37005		Ammonia, qualitative	MEBAK III 14.5 1982	200ml	21,00
37010		Density according to Baume (concentration)	P-Sch Dichte m.Pyknom.	200ml	15,00
37015		pH	MEBAK III 14.3 1982	200ml	10,00
37020		Buffer capacity	MEBAK III 14.4 1982	500ml	35,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Boiler Water and Boiler Feed Water			
39000		Alcality (p-value)	Wasserbd. 1.1.11	500ml	10,00
39020		Suitability as feed water (professional evaluation)		500ml	effort related
39030		Total hardness	Wasserbd. 1.1.10.2	100ml	65,00
39035		Residual hardness	PV 39035	100ml	27,00
39036	Ag	Silver	WBBM 2.24.12	100ml	35,00
39036	Al	Aluminium	WBBM 2.24.12	100ml	35,00
39036	As	Arsenic	DIN EN ISO 11969 D 18	100ml	45,00
39036	B	Boron	WBBM 2.24.12	100ml	35,00
39036	Ba	Barium	WBBM 2.24.12	100ml	35,00
39036	Ca	Calcium	WBBM 2.24.12	100ml	35,00
39036	Cd	Cadmium	DIN EN ISO 5961 E19	100ml	45,00
39036	Co	Cobalt	WBBM 2.24.12	100ml	35,00
39036	Cr	Chromium	DIN EN 1233 1996-08 E 10	100ml	45,00
39036	Cu	Copper	WBBM 2.24.12	100ml	35,00
39036	Fe	Iron	WBBM 2.24.12	100ml	35,00
39036	Hg	Mercury	DIN EN 12338-E31	100ml	45,00
39036	K	Potassium	WBBM 2.24.12	100ml	35,00
39036	Mg	Magnesium	WBBM 2.24.12	100ml	35,00
39036	Mn	Manganese	WBBM 2.24.12	100ml	35,00
39036	Mo	Molybdenum	WBBM 2.24.12	100ml	35,00
39036	Na	Natrium	WBBM 2.24.12	100ml	35,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Boiler Water and Boiler Feed Water			
39036	Ni	Nickel	DIN 38406 E11-2	100ml	45,00
39036	P	Phosphorus	WBBM 2.24.12	100ml	35,00
39036	Pb	Lead	DIN 38406 E6-2 1998-07	100ml	45,00
39036	Sb	Antimony	DIN 38405 D32-2	100ml	45,00
39036	Se	Selenium	DIN 38405 23-2 1994-10	100ml	45,00
39036	Si	Silicon	WBBM 2.24.12	100ml	35,00
39036	Sn	Stannious	WBBM 2.24.12	100ml	35,00
39036	Sr	Strontium	WBBM 2.24.12	100ml	35,00
39036	Tl	Thallium	WBBM 2.24.12	100ml	35,00
39036	Zn	Zinc	WBBM 2.24.12	100ml	35,00
39040		Silicic acid	PV 39040	500ml	22,00
39045		KMnO4 test, organic matter	Wasserbd. 1.1.25.1	500ml	22,00
39050		Carbon dioxide, bound	Wasserbd. 1.1.12.1	500ml	16,00
39055		Carbon dioxide, free	Wasserbd. 1.1.12.2	500ml	16,00
39065		Conductivity	DIN EN 27888-C8	100ml	16,00
39070		Sodium sulfite, excess (untreated water required!)	PV 39070	500ml	22,00
39075		Oil, detection of (qualitative)	PV 21225	200ml	10,00
39080		Phosphate, excess	PV 39080	200ml	21,00
39085		pH	Wasserbd. 1.3.1.5.2	200ml	10,00
39090		Oxygen	Wasserbd. 1.3.1.3.2	1l	26,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Waste Water			
41000		Waste water report			effort related
41005		Settleable solids, volumetric	DIN 38409-H1	1l	12,00
41015		Ammonia	DIN 38406-E5-2	500ml	75,00
41030		Chlorine, free	PV SON022	100ml	20,00
41035		Chlorine, total	PV SON022	100ml	20,00
41038		Chloride	DIN EN ISO 10304-2	100ml	65,00
41045		Biochemical oxygen demand (BOD)	DIN EN 1899-1H 51	1l	55,00
41055		Chemical oxygen demand (COD)	DIN ISO 15705 H45	100ml	45,00
41060		Chlorinated hydrocarbons (CKW) (Trichloromethane, 1,1,1-Trichloroethane, Trichloroethene, Tetrachloroethene, Carbon tetrachloride)	DIN EN ISO 10301 F4	250ml	120,00
41065		Dissolved organic carbon (DOC)	DIN EN 1484-H3	250ml	100,00
41075		Ash content	DIN 38409-H1	1l	24,00
41080		Nitrogen, organic bound (Kjeldahl)	DIN EN 25663-H11	250ml	14,00
41085	Ag	Silver	DIN EN ISO 11885 E22	500ml	35,00
41085	Al	Aluminium	DIN EN ISO 11885 E22	500ml	35,00
41085	As	Arsenic	DIN EN ISO 11969 D 18	500ml	45,00
41085	B	Boron	DIN EN ISO 11885 E22	500ml	35,00
41085	Ba	Barium	DIN EN ISO 11885 E22	500ml	35,00
41085	Ca	Calcium	DIN EN ISO 11885 E22	500ml	35,00
41085	Cd	Cadmium	DIN EN ISO 5961 E19	500ml	45,00
41085	Co	Cobalt	DIN EN ISO 11885 E22	500ml	35,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Waste Water			
41085	Cr	Chromium	DIN EN 1233 1996-08 E 10	500ml	45,00
41085	Cu	Copper	DIN EN ISO 11885 E22	500ml	35,00
41085	Fe	Iron	DIN EN ISO 11885 E22	500ml	35,00
41085	Hg	Mercury	DIN EN 12338-E31	500ml	45,00
41085	K	Potassium	DIN EN ISO 11885 E22	500ml	35,00
41085	Mg	Magnesium	DIN EN ISO 11885 E22	500ml	35,00
41085	Mn	Manganese	DIN EN ISO 11885 E22	500ml	35,00
41085	Mo	Molybdenum	DIN EN ISO 11885 E22	500ml	35,00
41085	Na	Sodium	DIN EN ISO 11885 E22	500ml	35,00
41085	Ni	Nickel	DIN 38406 E11-2	500ml	45,00
41085	P	Phosphorus	DIN EN ISO 11885 E22	500ml	35,00
41085	Pb	Lead	DIN 38406 E6-2 1998-07	500ml	45,00
41085	Sb	Antimony	DIN 38405 D32-2	500ml	45,00
41085	Se	Selenium	DIN 38405 23-2 1994-10	500ml	45,00
41085	Si	Silicon	DIN EN ISO 11885 E22	500ml	35,00
41085	Sn	Stannious	DIN EN ISO 11885 E22	500ml	35,00
41085	Sr	Strontium	DIN EN ISO 11885 E22	500ml	35,00
41085	Tl	Thallium	DIN EN ISO 11885 E22	500ml	35,00
41085	Zn	Zinc	DIN EN ISO 11885 E22	500ml	35,00
41086	Package	Trace elements ICP1 (Al, Ca. Mg, Na, K, Fe, Cu, Mn, Zn)	DIN EN ISO 11885 E22	100ml	95,00
41087	Package	Trace elements ICP2 (Si, P, B, Ba, Co, Mo, Sr)	DIN EN ISO 11885 E22	100ml	95,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Waste Water			
41090		Sample preparation	PV AAS030		45,00
41095		KMnO4 test, organic matter	DIN EN ISO 8467-H5	250ml	21,00
41100		Conductivity	DIN EN 27888-C8	100ml	15,00
41105		Solvent (BTXE) (Toluol, Benzol, Chlorobenzol, Ethylbenzol, ortho-, para- and meta-Xylol)	DIN EN ISO 10301 F4	250ml	112,00
41115		Nitrogen as Nitrate	DIN 38405-D9-2	250ml	56,00
41120		Nitrogen as Nitrite	DIN EN 26777-D10	250ml	56,00
41125	***	Pesticides	§35 LMBG L00.00-34	1l	effort related
41130		pH	DIN 38404-C5	100ml	9,00
41135		Phenols (Phenol index)	PV GC015	1l	effort related
41136		Nitrite (Ionic-chromatography)	DIN EN ISO 10304-1	1bottle(s)	65,00
41137		Nitrate (Ionic-chromatography)	DIN EN ISO 10304-1	1bottle(s)	65,00
41140		Phosphate, ortho-	DIN EN ISO 10304-1	250ml	65,00
41150		Sulfate	DIN EN ISO 10304-1	1bottle(s)	65,00
41155		TOC (Total organic carbon)	DIN EN 1484-H3	250ml	79,00
2.1.4		**Special Analysis**			
43000		Ascorbic acid	PV HPLC002	1bottle(s)	90,00
43000		Salicylic acid	PV HPLC003	1bottle(s)	90,00
43005		Formaldehyde	MEBAK III 3.5	2bottle(s)	132,00
43006		Glycol	PV GC	100ml	130,00
43007		Propandiol 1,2	PV GC	100ml	130,00
43010	Package	Halogenated carboxylic acids	L 36.00-10	2bottle(s)	191,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Special Analysis			
43025		Gas chromatography testing			effort related
43035		HPLC testing			effort related
43040		Identification using a mass spectrometer			effort related
43045	***	Pesticide residues	§35 LMBG L00.00-34	500g	effort related
43050		Evaluation of the impact of materials and processing aids on foam and sensory perception			effort related
43065		Detergents and disinfectants, detection of			effort related
43070		Examination of saccharometer			effort related
43075		Concentration of base	MEBAK IV 1.6.1	200ml	17,00
43080		Concentration of acid	MEBAK IV 1.6.1.5	200ml	17,00
43085	***	Lactic acid	PV 43085	20ml	55,00
43090		Density (Pycnometer)	P-Sch. Dichte m. Pyknom.	200ml	15,00
43100		Dry basis	Rohstoffb. 3.1.4.1	100g	12,00
43105		Mass difference before and after combustion of sugar	SZ 3.2.1.4.1	200g	26,00
43110	***	Water content in sugar	SZ 3.2.1.1.2	200ml	26,00
43534	***	Osmolality		1bottle(s)	30,00
43540	***	Vitamin B2 (Riboflavin)		1bottle(s)	120,00
43545	***	Vitamin B3 (Niacin)	Mikrob. (AOAC 944.13)	1bottle(s)	120,00
43551	***	Vitamin B5	HPLC/Mikrob.	1bottle(s)	130,00
43553	***	Vitamin B7	HPLC/Mikrob.	1bottle(s)	130,00
43555	***	Vitamin B9	HPLC/Mikrob.	1bottle(s)	103,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
2.1.5		**Brewhouse Analysis Packages**			
44000	Package	Brewhouse quality control - lauter tun consisting of: Malt code 9321, 9050, 9153, 9170, 9210, 9255, 9285, 9137, 9025, 9026, 9286, 9140 Grist code 15005, 15010 Spent grains code 17000, 17013	MEBAK/EBC	on request	850,00
44200	Package	Complete brewhouse analysis	MEBAK/EBC	on request	780,00
2.2.6		**Pilot brewery**			
44500		Pilot brew			1.200,00
44505		Fermentation (with daily analysis) (Yeast sampling packages on request)			800,00
44510		Filtration			750,00
44515		Filling bottles (without returned empties)			800,00
44520		Filling Keg (without returned empties)			125,00
44525		Brew report			effort related
2.2 / 2.2.1		**Wort**			
45000		Microscopy - initial examination	MEBAK III 10.3	100ml	15,00
45001		Analysis for wort bacteria (aerobic without additional preparation)	MEBAK III 10.3	100ml	18,00
45004		Analysis for beer spoiling bacteria incl. microscopy (anaerobic with sterile beer and enrichment culture)	SAA	100ml	24,00
45005		Analysis for beer spoiling bacteria incl. microscopy (anaerobic with pure yeast culture and enrichment culture)	MEBAK III 10.3	100ml	24,00
45006		Second enrichment culture	MEBAK III 10.3	100ml	15,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Yeast			
47000		Microscopy - initial examination	MEBAK III 10.4	> 3g or ml	15,00
47005		Microscopy - initial examination and enrichment culture for beer spoiling bacteria	MEBAK III 10.4	> 3g or ml	22,00
47010		Second enrichment culture	MEBAK III 10.4	> 3g or ml	15,00
47015		Test for percentage of dead cells	MEBAK III 10.11.3.3	> 3g or ml	16,00
47020		Additional culture media for the analysis of pure yeast cultures	MEBAK III 10.4	> 3g or ml	20,00
47025		37 °C-method (top-fermenting yeast in bottom-fermenting yeast)	SAA 47025	3g or ml	20,00
47030		Enrichment in YM-broth + CuSO4 (enrichment of wild yeasts)	SAA 47030	3g or ml	20,00
47035		Enrichment of bacteria in culture yeast - yeast broth	SAA 47035	3g or ml	20,00
		Beer			
48000		Shelf life (sample reserved for quality control)	MEBAK III 10.5/10.6	1-2bottle(s)	20,00
48005		Young beer with enrichment culture	MEBAK III 10.5	> 50ml	20,00
48010		Lager beer (unfiltered) with enrichment culture	MEBAK III 10.5	> 50ml	20,00
48015		Microscopy - initial examination (sediment)	MEBAK III 10.5	> 1ml	15,00
48020	Package	Microscopy - initial examination and enrichment culture of the sediment	MEBAK III 10.5	1bottle(s)	22,00
48025		Enrichment culture of the entire contents	MEBAK III 10.5	1bottle(s)	20,00
48030	Package	Microscopy - initial examination and enrichment culture of the entire sample volume	MEBAK III 10.5	1bottle(s)	22,00
49000		Shelf life - (sample reserved for quality control) including frequent evaluation over several weeks	MEBAK III 10.5/10.6	1-2bottle(s)	20,00
49001		Shelf life (single end-point evaluation)	MEBAK III 10.6	> 50ml	18,00

* unless performed in conjunction with a test mash, an additional charge of 24,00 EUR will be added | ** Sample preparation necessary | *** Outsourcing to a partner laboratory

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Beer			
49005		Membrane filtration - test for the presence of yeast	MEBAK III 10.6	> 100ml	30,00
49010		Membrane filtration - test for the presence of beer-spoiling bacteria	MEBAK III 10.6	> 100ml	30,00
49015	Package	Membrane filtration - test for the presence of yeast and beer-spoiling bacteria	MEBAK III 10.6	> 100ml	50,00
		Roasted Malt Beer			
50000		Microscopy initial examination	SAA	100ml	15,00
50005		Membrane filtration - test for the presence of yeast	SAA	100ml	30,00
50010		Membrane filtration - test for the presence of bacteria	SAA	100ml	30,00
50015	Package	Membrane filtration - test for the presence of yeast and bacteria	SAA	100ml	50,00
50020		Each culture medium	SAA		20,00
50025		Second enrichment medium	SAA	100ml	15,00
50030		Test for E. coli and coliforms, without differentiation	SAA	100ml	20,00
		Water			
57000		Colony count per ml (2 culture media)	MEBAK III 10.2.2	> 2ml	28,00
57005		Membrane filtration - test for the presence of beer-spoiling bacteria	MEBAK III 10.2.2	500ml	30,00
57006		Membrane filtration - test for presence of yeast	MEBAK III 10.2.2	500ml	30,00
57010	Package	Membrane filtration - test for the presence of beer-spoiling bacteria and yeast	MEBAK III 10.2.2	2 x 500ml	50,00
57015	Package	Colony count per ml and test for the presence of beer-spoiling bacteria	MEBAK III 10.2.2	500ml	40,00
57016	Package	Colony count per ml and test for the presence of yeast	MEBAK III 10.2.2	500ml	40,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Water			
57020	Package	Colony count per ml and test for the presence of yeast and beer-spoiling bacteria	MEBAK III 10.2.2	2 x 500ml	65,00
		Water based on TVO 2001 ****			
57025		Colony count at 20 °C and 36 °C	Anl. 5 Nr. 1 TrinkwV 2001	Sampling set	20,00
57030		Escherichia coli, coliforms	Colilert/IDEXX	Sampling set	20,00
57035		Pseudomonas aeruginosa (finished product to be packaged)	DIN EN ISO 16266	Sampling set	20,00
57040		Enterococci	DIN EN ISO 7899-2:2000	Sampling set	20,00
57045		Clostridium perfringens (Surface water, etc.)	Anl. 5 Nr. 1 TrinkwV 2001	Sampling set	20,00
		Water			
57046	***	Legionella sp.	ISO 11731/-2 u. UBA-Empf	Sampling set	50,00
		Water based on TVO 2001 ****			
57049		Measuring kit rental rate per week			25,00
		Mineral Water			
57050		Colony count per ml at two temperatures	§ 35 LMBG.59.00	1bottle(s)	20,00
57051		E. coli and coliforms in 250 ml	§ 35 LMBG.59.00	1bottle(s)	20,00
57056		E. coli, coliforms - in case of a positive result differentiation necessary	§ 35 LMBG.59.00		20,00
57060		Pseudomonas aeruginosa in 250 ml	§ 35 LMBG.59.00	1bottle(s)	20,00
57061		Pseudomonas aeruginosa - in case of a positive result differentiation necessary	§ 35 LMBG.59.00		20,00
57065		Fecal streptococci in 250 ml	§ 35 LMBG.59.00	1bottle(s)	20,00
57066		Fecal streptococci - in case of a positive result differentiation necessary	§ 35 LMBG.59.00		20,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Mineral Water			
57070		Sulfite-reducing, spore-forming anaerobes in 50 ml	§ 35 LMBG.59.00	1bottle(s)	20,00
57071		Sulfite-reducing, spore-forming anaerobes - in case of a positive result differentiation necessary	§ 35 LMBG.59.00		20,00
57075		Total analysis MTVO (according to mineral-table water regulation)	§ 35 LMBG.59.00	10bottle(s)	100,00
		Soft Drinks			
59000		Finished product - test for the presence of yeast	SAA	1bottle(s)	25,00
59001		Finished product - test for the presence of bacteria	SAA	1bottle(s)	35,00
59005		Finished product - test for the presence of yeast and bacteria	SAA	1bottle(s)	60,00
59010		Beverage base - test for the presence of yeast	SAA	100ml	25,00
59011		Beverage base - test for the presence of bacteria	SAA	100ml	25,00
59015		Beverage base - test of the presence of yeast and bacteria	SAA	100ml	50,00
59020		Soft drink syrup - test for the presence of yeast	SAA	100ml	25,00
59021		Soft drink syrup - test for the presence of bacteria	SAA	100ml	25,00
59025		Soft drink syrup - test for the presence of yeast and bacteria	SAA	100ml	50,00
59030		Water used in soft drink production - test for the presence of yeast	SAA	500ml	25,00
59031		Water used in soft drink production - test for the presence of bacteria	SAA	500ml	35,00
59035		Water used in soft drink production - test for the presence of yeast and bacteria	SAA	500ml	60,00
59040		Sugar syrup - test for the presence of yeast	SAA	100ml	25,00
59041		Sugar syrup - test for the presence of bacteria	SAA	100ml	25,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Soft Drinks			
59045		Sugar syrup - test for the presence of yeast and bacteria	SAA	100ml	50,00
59050		Blended beverages and intermediate products - test for the presence of yeast	SAA	500ml	25,00
59051		Blended beverages and intermediate products - test for the presence of bacteria	SAA	500ml	35,00
59055		Blended beverages and intermediate products - test for the presence of yeast and bacteria	SAA	500ml	60,00
59060		Test for the presence of E. coli and coliforms	SAA	500ml	20,00
59065		Test for the presence of E.coli and coliforms - in case of a positive result differentiation necessary	SAA		20,00
59070		Test for the presence of molds (1 culture medium)	SAA	500ml	20,00
59090		Shelf life - (sample reserved for quality control) including an evaluation over several weeks - soft Drinks	SAA	1bottle(s)	20,00
59100		Detection of Alicyclobacillus for cold-bottled/filled beverages and beverage bases	SAA	500ml	30,00
59101		Detection of Alicyclobacillus for hot bottled/filled beverages	SAA	500ml	20,00
59102		Detection of Alicyclobacillus - differentiation necessary	SAA		40,00
59103		Detection of Alicyclobacillus - detection of Guaiacol necessary	SAA		25,00

Code Number	Matrix	Method/Measurement	Required Quantity	Price EUR
	Swab Samples			
61000	Swab samples - Analysis with enrichment media	MEBAK III 10.8	1Cotton swab	20,00
	Bottles - Empty			
63000	Rolled bottle culture	MEBAK III 10.7	1bottle(s)	20,00
63005	Test for the presence of beer-spoiling microorganisms	MEBAK III 10.7	1bottle(s)	20,00
	Air			
65000	Compressed air (beer-spoiling microorganisms)	MEBAK III 10.9		effort related
65001	Compressed air - test for the presence of yeast and molds	MEBAK III 10.9		effort related
65002	Compressed air analysis for microbial contamination	MEBAK III 10.9		effort related
65005	Ambient air (beer-spoiling microorganisms)	MEBAK III 10.9		20,00
65006	Ambient air - test for the presence of yeast and molds	MEBAK III 10.9		20,00
65007	Ambient air analysis forf microbial contamination	MEBAK III 10.9		20,00
	Filter Aids and Stabilizing Agents			
67000	Test for the presence of yeast and bacteria, qualitative	SAA		effort related
	Disinfectants			
69000	Colony count	anal. zu MEBAK III 10.2.2	> 2ml	28,00
69005	Effectiveness against brewing culture yeast	MEBAK IV 1.7.4	250ml	110,00
69005	Effectiveness against strains of Lactobacillus	MEBAK IV 1.7.4	250ml	110,00
69005	Effectiveness against Pediococcus	MEBAK IV 1.7.4	250ml	110,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
2.2.2		**Microscopy**			
73000		Microscopy standard analysis	MEBAK III 10.11.3		15,00
73001		Microscopy - intermediate analysis	MEBAK III 10.11.3		15,00
73005		Microscopy - additional analysis (dark-field microscope, light/bright-field microscope, polarisation) - particle microscopy	SAA		90,00
		Membrane Filtration			
73010		Membrane filtration - test for the presence of yeast	MEBAK III 10.11.1.1/4.3	> 100ml	30,00
73015		Membrane filtration - test for the presence of bacteria	MEBAK III 10.11.1.1/4.3	> 100ml	30,00
73018		Membrane filtration - test for the presence of molds	MEBAK III 10.11.1.1/4.3	> 100ml	30,00
73020	Package	Membrane filtration - test for the presence of yeast and bacteria	MEBAK III 10.11.1.1/4.3	> 500ml	50,00
73025	Package	Membrane filtration - test for the presence of yeast, bacteria and molds	MEBAK III 10.11.1.1/4.3	> 500ml	75,00
73026	Package	Membrane filtration (3 culture media)	SAA	> 500ml	75,00
73027	Package	Membrane filtration (2 culture media)	SAA	> 500ml	50,00
		Population Density / Cell Count			
73030		Cell counting chamber	MEBAK III 10.11.4.4	1bottle(s)	40,00
73031		Microbial dilution series	SAA		effort related
73032		Cell count (other methods)	SAA		effort related

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Differentiation of Yeast (brewing/wild yeast)			
73035		Differentiation of yeast, using crystal violet and lysine agar	MEBAK III 10.4.2.1/2		75,00
73045		Differentiation of yeast, using dextrin fermentation	SAA		20,00
73051		Top/bottom fermenting characteristics (melibiose and raffinose tests)	MEBAK III 10.4.5		40,00
		Special Analysis			
73055		Detection using special culture media	Anreicherung, Mikroskopie		40,00
73060		Isolation of cells for further differentiation	MEBAK III 10.11.1		20,00
73065		Cytochrome oxidase test	MEBAK III 10.11.2.8		12,00
73070		Catalase test	MEBAK III 10.11.2.7		10,00
73074		Gram analysis (rapid method)	SAA	1CFU	10,00
73075		Gram staining	MEBAK III 10.11.3.1		25,00
73080		Rapid test for the general differentiation of lactic acid bacteria	MEBAK III 10.11.2.1/2		30,00
73085		Test with api CH (sugar spectrum of lactic acid bacteria)	API/bioMérieux		50,00
73090		Test with api 20 E (Enterobacteria)	API/bioMérieux		40,00
73095		Test for the beer-spoiling potential of gram-negative anaerobic bacteria	MEBAK		22,00
73100		Test for the viability of beer-spoiling microorganisms	MEBAK III 10.11.1		20,00
73115		Enrichment of yeast in fermented acidified wort	SAA 73115	3g or ml	20,00
73120		Detection of Enterobacteriaceae (quantitative)	SAA	500ml	30,00
73125		Detection of E.coli and coliforms (Chromocult-agar, quantitative)	SAA	100ml	30,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Special Analysis			
73200		Enrichment culture	MEBAK		20,00
73300		Microbial dilution series	SAA		effort related
73400		Digital photo macroscopical (for example bottles, kegs, culture media, etc.)			20,00
73410		Digital photo microscopic (for example microorganism, particles, etc.)			40,00
73500		Product/beverage spoilage test - 1 microbial strain per 1 product/beverage	SAA		95,00
2.2.3		**Culture Media - Available For Sale**			
75000		Pure yeast culture for wort testing			effort related
75005		Beer - slightly hopped (S-Bier)			effort related
75010		Wort gelatine 50 ml			effort related
75015		NH3 fermentation test medium			effort related
75020		Other culture media			effort related
2.2.4		**PCR Analysis**			
90000		PCR Screening of beer-spoiling and potential beer-spoiling bacteria	PCR	5ml	50,00
90001		PCR Identification of beer-spoiling and potential beer-spoiling bacteria after screening	PCR	5ml	60,00
90005		Identification beer-spoiling and potential beer-spoiling bacterias	PCR	5ml	100,00
90009		PCR Identification Lactobacillus acetotolerans	PCR	5ml	80,00
90010		PCR Identification Lactobacillus brevis	PCR	5ml	80,00
90011		PCR Identification Lactobacillus buchneri/parabuchneri	PCR	5ml	80,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		PCR Analysis			
90012		PCR Identification Lactobacillus casei/paracasei	PCR	5ml	80,00
90013		PCR Identification Lactobacillus collinoides/paracollinoides	PCR	5ml	80,00
90014		PCR Identification Lactobacillus coryniformis	PCR	5ml	80,00
90015		PCR Identification Lactobacillus lindneri	PCR	5ml	80,00
90016		PCR Identification Lactobacillus perolens	PCR	5ml	80,00
90017		PCR Identification Lactobacillus plantarum/paraplantarum/pentosus	PCR	5ml	80,00
90018		PCR Identification Lactobacillus rossiae	SAA	5ml	80,00
90020		PCR Identification Pediococcus damnosus	PCR	5ml	80,00
90025		PCR Screening Pectinatus spp./Megasphaera spp./Selenomonas spp.	PCR	5ml	80,00
90030		PCR Identification Lactococcus lactis	PCR	5ml	80,00
90040		PCR Identification Leuconostoc mesenteroides	PCR	5ml	80,00
90050		PCR Identification acetic acid bacteria	PCR	5ml	80,00
90060		PCR Identification Alicyclobacillus	PCR	5ml	120,00
91000		PCR Screening beverage relevant yeasts	PCR	5ml	80,00
91001		PCR Screening Saccharomyces cerevisiae/pastorianus/paradoxus/cariocanus	PCR	5ml	80,00
91002		PCR Screening Saccharomyces cerevisiae/pastorianus	PCR	5ml	80,00
91003		PCR Screening Saccharomyces bayanus/pastorianus	PCR	5ml	80,00
91010		PCR Identification Saccharomyces cerevisiae	PCR	5ml	80,00
91011		PCR Identification Saccharomyces pastorianus	PCR	5ml	80,00

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		PCR Analysis			
91012		PCR Identification Saccharomyces cerevisiae var. diastaticus	PCR	5ml	80,00
91013		PCR Identification Saccharomyces kudriavzevii	PCR	5ml	80,00
91014		PCR Identification Saccharomyces mikatae	PCR	5ml	80,00
91015		PCR Identification Saccharomyces paradoxus	PCR	5ml	80,00
91020		PCR Identification Saccharomycodes ludwigii	PCR	5ml	80,00
91030		PCR Identification Brettanomyces custersianus	PCR	5ml	80,00
91031		PCR Identification Brettanomyces naardenensis	PCR	5ml	80,00
91032		PCR Identification Candida intermedia	PCR	5ml	80,00
91033		PCR Identification Candida parapsilosis	PCR	5ml	80,00
91034		PCR Identification Candida sake	PCR	5ml	80,00
91035		PCR Identification Candida tropicalis	PCR	5ml	80,00
91036		PCR Identification Debaryomyces hansenii	PCR	5ml	80,00
91037		PCR Identification Dekkera anomala	PCR	5ml	80,00
91038		PCR Identification Dekkera bruxellensis	PCR	5ml	80,00
91039		PCR Identification Hanseniaspora uvarum	PCR	5ml	80,00
91040		PCR Identification Issatchenkia orientalis	PCR	5ml	80,00
91041		PCR Identification Kazachstania exigua	PCR	5ml	80,00
91042		PCR Identification Kazachstania servazzii	PCR	5ml	80,00
91043		PCR Identification Kazachstania unispora	PCR	5ml	80,00
91044		PCR Identification Kregervanrija delftensis	PCR	5ml	80,00
91045		PCR Identification Lachancea kluyveri	PCR	5ml	80,00

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Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		PCR Analysis			
91046		PCR Identification Naumovia dairenensis	PCR	5ml	80,00
91047		PCR Identification Pichia membranifaciens	PCR	5ml	80,00
91048		PCR Identification Pichia fermentans	PCR	5ml	80,00
91049		PCR Identification Pichia guilliermondii	PCR	5ml	80,00
91050		PCR Identification Torulaspora delbrueckii	PCR	5ml	80,00
91051		PCR Identification Wickerhamomyces anomalus	PCR	5ml	80,00
91052		PCR Identification Zygosaccharomyces bailii	PCR	5ml	80,00
91053		PCR Identification Zygosaccharomyces rouxii	PCR	5ml	80,00
91100	Package	PCR Identification Saccharomyces yeasts	PCR	5ml	300,00
91200	Package	PCR Identification wild yeasts	PCR	5ml	effort related
92000		Membrane filtration before PCR	PCR	>100ml	25,00
92001		Enrichment before PCR	PCR	10ml	15,00
		Other Services			
92500		Preparation of a pure culture	MEBAK III		effort related
92505		Preparation of a pure bottom-fermenting yeast culture	MEBAK III		effort related
92510		Preparation of a pure top-fermenting yeast culture	MEBAK III		effort related
92515		Identification of microorganisms	div. Methoden	5ml	effort related
92520		Identification MO using FT-IR-Spectroscopy	FTIR-Spektroskopie	5ml	effort related
92525		Identification MO using PCR-sequencing	PCR	5ml	effort related
92530		Identification/Differentiation of microorganisms on basis of strain	SAA	5ml	effort related

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3. Yeast Center Weihenstephan

Beer Yeast

Bottom Fermenting Brewing Yeast

Code	Strain	Beer Type	Species	Price EUR excl. Freightcosts WK[1]	SA[2]	FK[3]
95000	TUM 34/70	Pilsner, Lager, Export	*Saccharomyces pastorianus ssp. carlsbergensis*	80,00	85,00	110,00
95002	TUM 34/78	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95003	TUM 44	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95005	TUM 59	Lager, Export, Strong Beer	- " -	80,00	85,00	110,00
95006	TUM 69	Lager, Export, Strong Beer	- " -	80,00	85,00	110,00
95007	TUM 84	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95008	TUM 105	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95009	TUM 120	Lager, Export, Dark Beer	- " -	80,00	85,00	110,00
95010	TUM 128	Pilsner, Lager, unmalted grain	- " -	80,00	85,00	110,00
95011	TUM 168	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95018	TUM 193	P./L./E. enforced SO_2 production	- " -	80,00	85,00	110,00
95019	TUM 194	resistand to high pressure conditions	- " -	80,00	85,00	110,00
95020	TUM 195	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95021	TUM 199	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95022	TUM 202	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95023	TUM 206	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95038	TUM 224	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95039	TUM 234	Pilsner, Lager, Export	- " -	80,00	85,00	110,00

WK[1] = approx. 10 ml pure cultue yeast on cotton ball | SA[2] = pure culture yeast on agar slant | FK[3] = approx. 500 ml pure culture yeast

Bottom Fermenting Powdery Yeast

Code	Strain	Beer Type	Species	Price EUR excl. Freightcosts WK[1]	SA[2]	FK[3]
95025	TUM 66/70	Pilsner, Lager, Export	*Saccharomyces pastorianus ssp. carlsbergensis*	80,00	85,00	110,00
95027	TUM 92	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95034	TUM 170	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95035	TUM 182	Pilsner, Lager, Export	- " -	80,00	85,00	110,00
95037	TUM 204	Pilsner, Lager, Export	- " -	80,00	85,00	110,00

Top Fermenting Beer Yeast

Code	Strain	Beer Type	Species	Price EUR excl. Freightcosts WK[1]	SA[2]	FK[3]
95052	TUM 68	Wheat Beer	*Saccharomyces cerevisiae*	80,00	85,00	110,00
95053	TUM 127	Wheat Beer	- " -	80,00	85,00	110,00
95054	TUM 149	Wheat Beer	- " -	80,00	85,00	110,00
95055	TUM 175	Wheat Beer	- " -	80,00	85,00	110,00
95056	TUM 205	Wheat Beer	- " -	80,00	85,00	110,00
95057	TUM 214	Wheat Beer	- " -	80,00	85,00	110,00
95060	TUM 220	Wheat Beer	- " -	80,00	85,00	110,00
95092	TUM 505	Wheat Beer	- " -	80,00	85,00	110,00
95062	TUM 177	Kölsch	- " -	80,00	85,00	110,00
95061	TUM 165	Kölsch/German Alt	- " -	80,00	85,00	110,00
95063	TUM 148	German Alt	- " -	80,00	85,00	110,00
95064	TUM 174	German Alt	- " -	80,00	85,00	110,00

Top Fermenting Beer Yeast

Code	Strain	Beer Type	Species	Price EUR excl. Freightcosts WK[1]	SA[2]	FK[3]
95065	TUM 184	German Alt	*Saccharomyces cerevisiae*	80,00	85,00	110,00
95066	TUM 192	German Alt	- " -	80,00	85,00	110,00
95067	TUM 308	German Alt	- " -	80,00	85,00	110,00
95068	TUM 338	German Alt	- " -	80,00	85,00	110,00
95069	TUM 341	German Alt	- " -	80,00	85,00	110,00
95070	TUM 210	Ale / Stout	- " -	80,00	85,00	110,00
95071	TUM 211	Ale / Stout	- " -	80,00	85,00	110,00
95072	TUM 213	Ale / Stout	- " -	80,00	85,00	110,00
95063	TUM 306	Ale	- " -	80,00	85,00	110,00
95041	TUM 503	Ale - American style	- " -	80,00	85,00	110,00
95042	TUM 506	Ale - British style	- " -	80,00	85,00	110,00
95043	TUM 507	Ale / Weizen - high fermenting	- " -	80,00	85,00	110,00
95044	TUM 508	Ale - Irish style	- " -	80,00	85,00	110,00
95045	TUM 510	Ale - British style	- " -	80,00	85,00	110,00
95046	TUM 511	Ale - American style	- " -	80,00	85,00	110,00
95047	TUM 513	Ale - American style	- " -	80,00	85,00	110,00
95075	TUM 378	Belgian Witbier	- " -	80,00	85,00	110,00
95077	TUM 380	Belgian Lambic	- " -	80,00	85,00	110,00
95048	TUM 509	Belgian Style	- " -	80,00	85,00	110,00

WK[1] = approx. 10 ml pure cultue yeast on cotton ball | SA[2] = pure culture yeast on agar slant | FK[3] = approx. 500 ml pure culture yeast

Wine Yeast

Code	Strain	Beer Type	Species	Price EUR excl. Freightcosts WK[1]	SA[2]	FK[3]
95078	TUM V1	Bordeaux Wine yeast	*Saccharomyces cerevisiae*	80,00	85,00	110,00
95079	TUM V2	Bingen Wine yeast	- " -	80,00	85,00	110,00
95249	TUM V6	Wilsbach Wine-low temp. Ferm.	- " -	80,00	85,00	110,00
95080	TUM V8	Laureiro Portwine yeast	- " -	80,00	85,00	110,00
95081	TUM V9	Wädensvil Wine-low temp. Ferm.	- " -	80,00	85,00	110,00
95081	TUM V12	Stein Wine yeast	- " -	80,00	85,00	110,00
95083	TUM V15	Epernay Wine yeast	- " -	80,00	85,00	110,00
95250	TUM 516	Satho Rice Wine - Thailand	- " -	80,00	85,00	110,00
95251	TUM 517	Satho Rice Wine - Thailand	- " -	80,00	85,00	110,00
95252	TUM 518	Banana Wine - Costa Rica	- " -	80,00	85,00	110,00
95253	TUM 519	Banana Wine - Costa Rica	- " -	80,00	85,00	110,00
95254	TUM 520	Chicha Maize Wine - Costa Rica	- " -	80,00	85,00	110,00
95255	TUM 521	Chicha Maize Wine - Costa Rica	- " -	80,00	85,00	110,00

Sparkling Wine Yeast

Code	Strain	Beer Type	Species	Price EUR excl. Freightcosts WK[1]	SA[2]	FK[3]
95086	TUM S1	Sparkling WIne yeast	*Saccharomyces cerevisiae*	80,00	85,00	110,00
95087	TUM S2	Sparkling WIne yeast	- " -	80,00	85,00	110,00
95088	TUM S3	Sparkling WIne yeast	- " -	80,00	85,00	110,00

Distiller's Yeast

Code	Strain	Beer Type	Species	Price EUR excl. Freightcosts WK[1]	SA[2]	FK[3]
95084	TUM D2	Distiller's yeast	*Saccharomyces cerevisiae*	80,00	85,00	110,00
95085	TUM D4	Distiller's yeast	- " -	80,00	85,00	110,00

Special Yeast

Code	Strain	Beer Type	Species	Price EUR excl. Freightcosts WK[1]	SA[2]	FK[3]
95670	TUM SL17	Low alcoholic beer	*Saccharomycodes ludwigii*	80,00	85,00	110,00
95671	TUM 522	Banana Wine - Costa Rica	*Hanseniaspora guilliermondi*	80,00	85,00	110,00
95672	TUM 523	Banana Wine - Costa Rica	*Hanseniaspora uvarum*	80,00	85,00	110,00
95673	TUM 524	Banana Wine - Costa Rica	*Hanseniaspora uvarum*	80,00	85,00	110,00
95674	TUM 524	Satho Rice Wine - Thailand	*Saccharomycopsis fibuligera*	80,00	85,00	110,00
95675	TUM 535	Satho Rice Wine - Thailand	*Saccharomycopsis malanga*	80,00	85,00	110,00
95676	TUM 536	African Style	*Schizosaccharomyces pombe*	80,00	85,00	110,00
95361		other yeast strains	on request			

Bacteria

Code	Strain	Beer Type	Species	Price EUR excl. Freightcosts SK[4]	FK[3]
95302	TUM L1	Wort acidification / alt. beverages	*Lactobacillus amylolyticus*	85,00	110,00
95303	TUM L2	Wort acidification / alt. beverages	*Lactobacillus amylovorus*	85,00	110,00

				WK[1]	SA[2]	FK[3]
	TUM G1	alternative beverages	*Gluconobacter oxydans*	80,00	85,00	110,00
95360		other Bacterias	on request			

WK[1] = approx. 10 ml pure cultue yeast on cotton ball | SA[2] = pure culture yeast on agar slant | FK[3] = approx. 500 ml pure culture yeast | SK[4] = stitch culture

4. Hygienic Design

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Hygienic Design test methods			
99000		Valves, inside diameter DN 15 - DN 80 EHEDG cleanability test	EHEDG		effort related
99005		Sensors for fitting in pipes EHEDG cleanability test	EHEDG		effort related
99010		Pumps, inside diameter DN 15 - DN 80 EHEDG cleanability test	EHEDG		effort related
99015		Other components and equipment EHEDG cleanability test	EHEDG		effort related
99020		Valves, inside diameter DN 8 - DN 50 EHEDG sterilisability test	EHEDG		effort related
99025		Sensors for fitting in pipes EHEDG sterilisability test	EHEDG		effort related
99030		Pumps, inside diameter DN 8 - DN 50 EHEDG sterilisability test	EHEDG		effort related

Code Number		Matrix	Method/Measurement	Required Quantity	Price EUR
		Hygienic Design test methods			
99035		Other components and equipment EHEDG sterilisability test	EHEDG		effort related
99040		Valves, inside diameter DN 8 - DN 50 EHEDG bacteria thightness test	EHEDG		effort related
99045		Sensors for fitting in pipes EHEDG bacteria thightness test	EHEDG		effort related
99050		Pumps, inside diameter DN 8 - DN 50 EHEDG bacteria thightness test	EHEDG		effort related
99055		Other components and equipment EHEDG bacteria thightness test	EHEDG		effort related
		Hygienic Design certifications			
99100		Components with passed EHEDG cleanability test	Type EL Class I		1.300,00
99105		Components which do not have to be tested	Type EL Class I		effort related
99110		Components and equipment	Type EL Class II		effort related
99115		Components with passed EHEDG cleanability test, sterilisability test and bacteria thightness test	Type EL Aseptic Class I		1.300,00
99120		Components with passed EHEDG sterilisability test and bacteria thightness test	Type EL Aseptic Class II		1.300,00
99125		All components and equipment	Type ED		effort related

Notes:

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General terms and conditions of business

Effective 01.01.2007

Research Centre Weihenstephan for Brewing and Food Quality (Abbr.: BLQ)

Convenience Translation

I. GENERAL

(1) For all our business activities the following Terms and Conditions apply exclusively. Conflicting or unusual conditions shall not be recognized by us, unless we have explicitly agreed to their validity in writing. In addition, all legal provisions, especially the regulations governing contracts of services, apply. No other Terms and Conditions („Allgemeine Geschäftsbedingungen" as defined in §305 of the BGB [German Civil Code]) used by the client shall be applicable. Our Terms and Conditions also apply, if we, although aware of the client's conflicting or unusual conditions, unconditionally execute an order.

(2) The terms of payment and delivery stipulated in our Terms and Conditions for quotes, consulting and other services provided by the Research Center for Brewing and Food Quality (hereafter: BLQ) exclusively apply without restrictions.

(3) By submitting samples for analysis or through placing a request for services, the client agrees to the validity of our Terms and Conditions in its entirety.

(4) This document is a translation from the original German, which the customer may obtain from the BLQ upon request. If the English translation should conflict with the meaning of the original German in any way, the German version takes precedence.

II. THE SCOPE AND EXECUTION OF TESTING

(1) Sending samples in for analysis/evaluation creates an implicit request for services without a written agreement, provided that the sender/client has clearly defined the scope and type of analyses to be performed, that they are found in the BLQ's directory of services and that the amounts of the samples are sufficient and suitable for executing the analyses. In case of doubt, the BLQ will notify the sender.

(2) In the case of a special request for services, the scope of the analysis shall be defined by the BLQ with the permission of the client, and the client will then be notified as to what the scope of the analysis is to be.

(3) The BLQ shall perform the analyses in the request for services as quickly as possible. Requests for services are processed strictly in the order they are received.

(4) The BLQ reserves the right, if necessary, to contract out services for evaluations/analyses or parts thereof to qualified subcontractors. This information will be disclosed upon request.

(5) Oral agreements shall be effective only if confirmed in writing. Information that is orally provided shall not be binding.

III. THE SCOPE OF CONSULTING AND RELATED SERVICES

(1) For consulting and related services, the services to be rendered are defined in the BLQ's quote. All quotes from the BLQ are non-binding. The BLQ is bound to the quoted prices for consulting and related services for a duration of sixty (60) days after submission of the quote. If a request for services is received by the BLQ within this time period, then the services shall be performed according to the stipulations of the quote. In such cases, the BLQ does not, as a rule, send out a confirmation.

(2) If the BLQ receives a request for services without first issuing a quote, a contract only ensues after the BLQ issues a confirmation of the request for services in writing, within two (2) weeks of having received the request.

(3) The BLQ excludes itself from the liability for bringing about any anticipated outcomes, unless otherwise specifically stipulated beforehand in writing.

(4) Altering, supplementing, or enhancing the scope of services requires a separate, written agreement. A waiver of such a written agreement may only be submitted in writing.

(5) Oral agreements shall be effective only if confirmed in writing. Information that is orally provided shall not be binding.

IV. EXECUTION OF REQUESTS FOR CONSULTING AND RELATED SERVICES

(1) The client shall support the BLQ in any way possible and to the best of his/her ability, especially by providing necessary and relevant information. Furthermore, the client shall provide employees at no additional cost as contacts or as project members for support and, if need be, a suitable workspace.

(2) The BLQ shall perform the consigned tasks as quickly as possible. Previously agreed upon deadlines shall be extended for the duration of unforeseeable, temporary hindrances to the performance of services. The same applies, if the client does not meet the aforementioned requirements in a timely manner or has not fulfilled necessary prerequisites to performing the requested services in due time. Exceeding a deadline of no more than four (4) weeks set for consulting services and of no more than two (2) weeks for related services is, in every case, no consequence.

(3) If circumstances are brought about by the client, which make it impossible for the BLQ to perform its services in an orderly and timely manner, the BLQ reserves the right to compensation for its additional time expenditure according to the rates in effect at the time.

(4) The BLQ is authorized to issue subcontracts to competent third parties in execution of a service request, if the subcontractor fulfills all the stipulations in the original contract with the BLQ.

(5) Should the rendering of consulting and related services not be performed by the BLQ within the previously agreed upon time period, the client may stipulate in writing a respite of an additional two (2) weeks, within which the BLQ must act. Only after these two (2) weeks have past can the client withdraw from the contract or demand compensation.

(6) A claim for compensation shall be is limited to the damages brought about by a deliberate or a wantonly negligent breach of contractual obligations on the part of the BLQ or its associates.

(7) In the case of operational disruptions, force majeure, natural catastrophes, unrest, the threat of conflict or open war in the client's country/region or other hindrances for which the BLQ is not responsible, the BLQ reserves the right to withdraw from the contract. The client is barred from seeking recourse in such a case. Partial compliance is permissible.

V. PRICES AND PAYMENT CONDITIONS

(1) Prices for analyses are invoiced at the rates found in the catalogue of services valid at the time the service request is received.

(2) The approximate costs of analyses, for which the prices must be determined on the basis of their required time and materials, will be made known to the client in writing before being performed, if a request is received by the BLQ to do so beforehand.

(3) Compensation may be freely agreed upon for consulting and related services. If compensation is not agreed upon before the services performed, the compensation will be billed according to the hourly rate found in the catalogue of services valid at that time.

(4) Any request for services may be, in principle, be accompanied by an agreed upon advance payment.

(5) The BLQ may require, in writing, an advance payment on a request for services from clients in foreign countries, including those within the EU. If the request for services consists solely of laboratory analyses, the advance payment may amount to 100% of the value of the requested services and is to be paid at the time the request for services is received. For consulting and related services, the advance payment shall amount to a minimum of 50% of the value of the requested services, plus expected travel costs. The advance payment is to be paid to a bank account provided by the BLQ a minimum of ten (10) days before the fulfillment of a request for services begins.

(6) With the completion of a request for services the accompanying travel costs shall be paid according to the Bavarian law governing travel costs. Flights shall be booked according to price of a ticket in business class. Direct compensation either in full or in part by the client is possible. Otherwise, after services are rendered, the travel costs and associated expenses shall be paid upon documentary verification of the amount.

(7) Invoices from the BLQ are due net within a grace period of four (4) week of the billing date to a bank account provided by the BLQ. The BLQ reserves the right to withhold further services until clients in arrears have paid invoiced services in full. The BLQ or a higher legal authority can demand interest on late payments after expiration of the grace period according to § 288 of the BGB.

(8) The invoiced amount plus all applicable taxes and fees is to be paid in full. Payments shall be made exclusively in EUR.

(9) Setting off against counter-claims by the client is only admissible with uncontested or legally-binding, well-established claims. The client is barred from retaining payments for compensation of demands from other contractual relationships.

VI. DATA PROTECTION AND PRIVACY

(1) The client's data shall be processed and stored to the extent that it is necessary for conducting business. According to the Federal Data Protection Act, the BLQ is entitled to process, store and evaluate the client's data, which is related to performance of the requested services. This serves as a notice in writing according to § 26, paragraph 1 of the Federal Data Protection Act.

(2) All of the client's information gleaned through laboratory analyses, consulting and related services shall remain undisclosed by the BLQ. Results and concepts, which are developed in conjunction with performing services for the client, shall be made available only to the client and shall not be made available to a third party or published without the client's consent.

(3) The client receives an analysis report for each laboratory analysis performed. All results correspond only to the samples analyzed. Making copies the analysis results is only permissible with the consent of the BLQ.

(4) Dissemination of the analysis results to a third party without the consent of the BLQ is only permissible within the framework of the legal notification period.

(5) The BLQ shall be entitled to use the results for scientific evaluations and publications. The BLQ is commited to neutralizing the results and omitting every trace of the client and his/her interests. In publications where the client is to be named, the client's consent shall always be solicited beforehand.

(6) The transmission of test results and reports by means of fax or over the internet as email shall take place only with the approval of the client. The liability for the protection of the test results ends when the BLQ dispatches them.

VII. GUARANTEE

(1) The BLQ shall perform the assigned tasks with great care. If shortcomings regarding the execution of requested services result from unclear descriptions or from faulty or insufficient sampling by the client, or from incorrect information about samples from the client, the BLQ takes no responsibility and therefore shall not provide a guarantee.

(2) Should the BLQ decline to accept responsibility for performing a particular aspect of a service desired by the client, the client is entitled to perform this aspect himself/herself or seek out a third party to do so. In this case, the BLQ would be released from providing a guarantee for this aspect of the service.

VIII. ACCOUNTABILITY

(1) The BLQ is accountable for only culpably breaching fundamental contractual obligations, provided that premeditation or wanton negligence did not occur or guaranteed provisions were absent. In these cases, compensation for the client is limited to direct losses foreseeable and typical for this type of contract.

(2) Accountability for other losses incurred, especially, consequential losses, indirect losses or losses of profit, are excluded. Compensation is also excluded, when, in a single case, it exceeds the value of the requested services.

IX. APPLICABLE LAW, JURISDICTION AND PLACE OF FULFILLMENT

(1) Only the laws of the Republic of Germany apply to the business relationships between the BLQ and its clients.
(2) The area of legal jurisdiction is Freising, as far as is permissible.
(3) The place of fulfillment for all payments is Freising.

X. PROVISO

If one of the conditions of the contract entered into between the BLQ and the client or one of the conditions of these be or become ineffective, this shall not affect the validity of the remaining contract regulations or the General Terms and Conditions of Business.

Technische Universität München

Competence from **A - Z**

for the Brewing and Food Industry

FROM ANALYSES TILL CERTIFICATIONS

Forschungszentrum Weihenstephan für Brau- und Lebensmittelqualität
TECHNISCHE UNIVERSITÄT MÜNCHEN