

# Food and Feed product catalogue 2022 / 2023



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chemical-physical

organoleptic

molecular biological-  
immunological

safety parameters and  
adulterants

## In the fields:

- Milk products / dairy products
- Fruit and vegetable products / egg products

• Beverages

• Meat and fish

• Cereal and cereal products

• Infant formula

other food stuff such as

• Chocolate

• Honey

• Edible fat

• Mustard

• Animal feed

• GMO

• Declaration nutritional values

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**Deutsches Referenzbüro für Ringversuche und Referenzmaterialien GmbH (DRRR GmbH)**



## Proficiency testing provider

The DRRR offers laboratories from the processing industry as well as official and private laboratories all aspects of quality assurance from one single source. Our focus is on food, consumer goods, packaging, building materials, plastics (polymers) and textiles, as well as microbiological analysis in these categories.

**More than 500 PT's in 2021**

## Accreditation ISO/IEC 17043:2010 (A2LA)

The DRRR is an accredited proficiency testing provider by A2LA according to ISO/IEC 17043:2010. The accreditation is only valid for the matrices/parameters listed on the A2LA scope of accreditation certificate [#5494.01].

**Accredited PT-provider**

Whether a proficiency test is covered or not covered by the scope of accreditation by A2LA can be viewed in our online portal (ODIN).



## Accreditation DIN EN ISO/IEC 17043:2010 (DAkkS)

The DRRR is an accredited proficiency testing provider by DAkkS according to DIN EN ISO/IEC 17043:2010. The accreditation is valid only for the scope listed in the annex of the accreditation certificate [D-EP-17063-01-00].

Whether a proficiency test is covered or not covered by the scope of accreditation by DAkkS can be viewed in our online portal (ODIN).

## Reference material producer

We offer many certified reference materials as well as advise on quality matters and quality assurance training in the laboratory and the production.

**High-quality reference material**

## Customer support

We provide advice to our customers in all question of validation of chemical-physical, microbiological, organoleptic and physical-mechanical analysis or statistical questions.

**Any time competent contact persons**

### A2LA-Accreditation (USA)

The DRRR has successfully completed an accreditation audit by A2LA (American Association for Laboratory Accreditation). We are an accredited proficiency testing provider by A2LA according to ISO/IEC 17043:2010. The accreditation is valid only for the scope listed in the annex of the accreditation certificate [#5494.01].

### Metals and elements in foodstuff

Many metals such as zinc, iron, copper and manganese are essential trace elements in our diet. However, there are also metals that are harmful to health, such as cadmium and lead. They get into the environment through industry, sewage sludge and pesticides, where they can accumulate in plants and animals. Other harmful elements such as boron and uranium enter the mineral water via the soil or rock layers. Nickel, which causes allergies, is also frequently contained in food and the total contamination of aluminum in food is also increasing. Therefore we offer this year an extended proficiency testing program for the determination of elements and metals in different foodstuff and in mineral water.

### Nicotine and CBD

Cannabis products, nicotine substitutes and e-cigarettes are becoming more and more popular in society. Therefore it is important that these products are examined comparably. Nicotine belongs to the group of alkaloids and due to its psychoactive effect has a large addiction potential. Cannabidiol (CBD) belongs to the group of cannabinoids found in cannabis. It has an anti-inflammatory and relaxing effect, but is not psychoactive and is therefore not subject to narcotics regulations. The marketability of food containing CBD is currently not given in Germany, but the products, especially CBD oils, are marketed as cosmetic products and are then often taken orally. CBD liquids for e-cigarettes are also sold in Germany. Therefore, this year we are offering besides the proficiency test "Liquids of E-cigarettes", the new proficiency tests "Liquids of CBD cigarettes", "Nicotine replacement products" and "Cannabis oil". Nicotine was also used as a pesticide and disinfectant until 2003 and thus found traces in eggs and egg products. Therefore we offer the parameter nicotine also in the proficiency test "Residues in liquid egg".

### Rheological properties of cereal products

Due to several customer inquiries we are including rheological proficiency tests and the determination of the sedimentation value according to Zeleny in our program this year. The rheological properties of cereals determine the baking characteristics of dough and the sedimentation value is also an important quality-determining feature.

### Returning of ten result sheets

Up to nine additional result sheets can be returned for chemical-physical, microbiological and physical-mechanical proficiency testing rounds for free.

- **Check different methods**
- **Check different lab technicians**
- **Check different testing equipment**

Please note, that the free of charge service is only valid for returning result sheets by ODIN.

## Simply brilliant, your proficiency testing with ODIN (Online Data Information Network).

- Fast and easy online registration / online announcement in our online catalogue
- Direct management and booking of the proficiency testing
- Overview about the registered proficiency testing schemes
- Fast and secure submission of your results via ODIN
- Online access to individual customers reports and certificates
- Supervisor rights available to overview all PTs of a multi-site company
- Saving of costs through booking and submission of your results via ODIN

## Secure payment with IRIS (Internet Remuneration Information Service).

- Easy and safe payment by credit card
- Overview about all invoices
- Fast and secure online access

*You can also pay your invoice via banktransfer or bank check.*



Book Ringtrials Online

> Proficiency testing catalog



Enter Results Online

> Booked proficiency testings



Download Reports and Certificates

> Booked proficiency testings

- A precise planning and organisation of each proficiency testing round

- 2 weeks before we will dispatch the samples you will get an announcement with the proficiency testing details

- According to our requirements, you will receive suitable sample material for the respective proficiency testing scheme.

We reserve the right to have an external subcontractor carry out the sample purchase and any necessary testing.

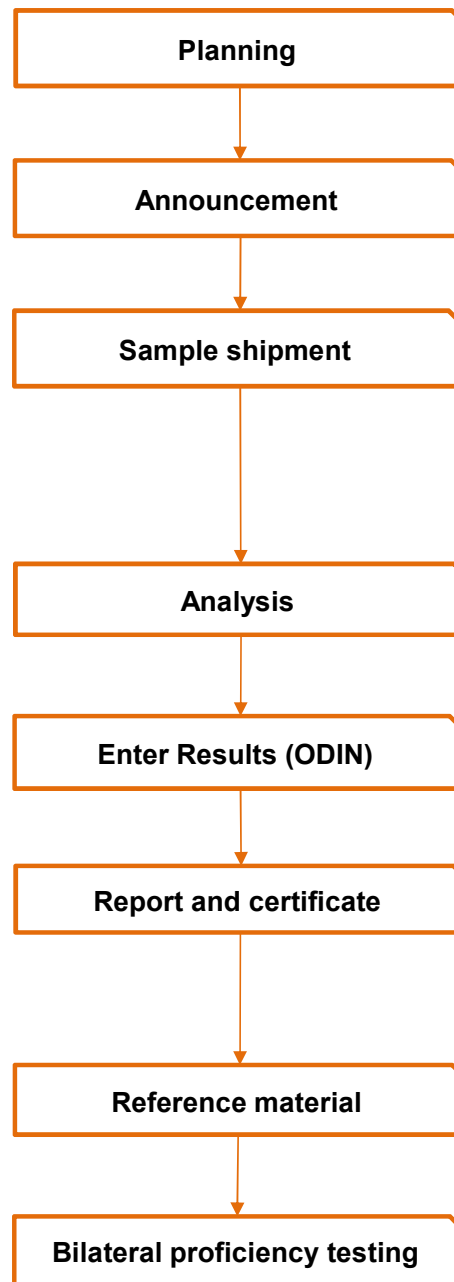
- After receiving the samples you will have a period of 4 weeks for analysing

- Mail back the results via internet by using our result sheets in an Excel file or fill out our result sheets online in ODIN

- At the latest 3 weeks after the deadline you will get the report (optional by login in ODIN, as hardcopy by regular mail or as pdf-file by e-mail) incl. participation certificate with overview of your lab performance

- After the proficiency testing we can offer you reference materials

- Possibility to perform a bilateral proficiency testing (bPT)



## Why take part in proficiency testing?

- Participation in proficiency testing schemes is required by international standards or national facilities, organizations and customers
- Participants can compare, assure and improve their own performance and quality against other laboratories worldwide
- Laboratories can recognize how well they have been completed with the applied method compared to the other laboratories
- Saving on the costs of testing
- Unquestionable lab performance towards customers, authorities and certification authorities
- Saving on the costs of lab development and maintenance
- Saving on the costs of lab development and maintenance
- Saving on production costs by avoiding waste of raw material

## Your benefits in DRRR proficiency testing schemes

- Objective and independent impression of your quality and your performance of your routine testing method compared to the other participating laboratories
- Saving the costs, because you have the opportunity to analyze more samples and more parameters in one proficiency testing
- External demonstration of your performance with the results of the proficiency testing
- Build up of your own external quality assurance system with our statistical tools (contains statistical control charts, MS-Excel evaluation files and reference materials). With these tools incorporated your external quality assurance rays unmatched confidence
- Detailed planning and organization of your proficiency testing and an easier, faster and better communication with us



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**We work according to:**

- ISO Guide 31 / 35
- DIN EN ISO 17034
- DIN EN ISO/IEC 17020 / 17025 / 17043
- ISO 13528

Homogenous and stable sample material

**Laboratory performance:**

by calculation of the following parameters:

- z-score
- z'-score
- CRD-Wert

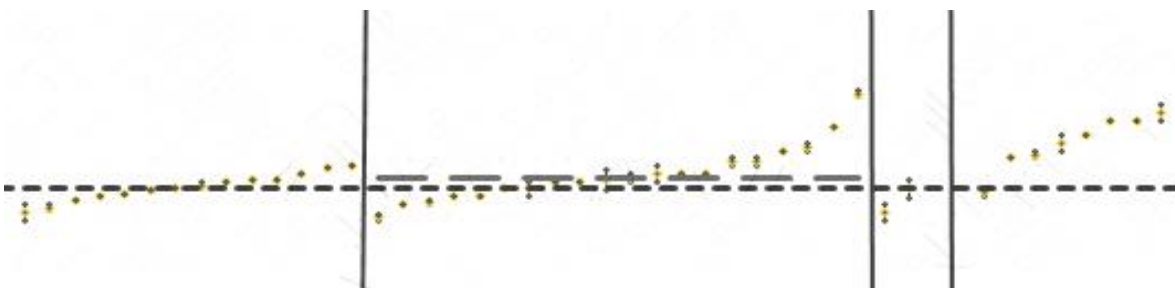
Calculation of precision data acc. to ISO 5725-2 in many proficiency testing schemes

**Statistical models:**

Depending on the type of the distribution of the data, different statistic models are used:

- Conventional statistics (all values)
- Conventional statistics (no outliers)
- Robust statistics (Hampel estimator, Q-method)
- Robust statistics (Median, MAD/nIQR)
- Expert laboratory (expert decision)

Selection of statistical method with the chi<sup>2</sup>-fit test

**Method-specific evaluation according to the reference method (if available)****Additional extended method evaluation (in case data are available)**

**You are not satisfied with your laboratory performance: What can you do?**

Due to your showed laboratory performance you have been asked by the accreditation body, the monitoring authority or your customer to initiate measures to improve your laboratory performance.

These measures are often connected with considerable efforts in the laboratory and you only have a short time frame. In many cases the proof of a successful measure processing, by participation in a new proficiency testing round, is only possible in the following year. Until now it does not exist a possibility for a spontaneous performance review to equalize a previous unsatisfactory proficiency testing result.

**Your terms and conditions:**

Participation in a bPT is open to all laboratories. Prior participation in our regular proficiency tests is not necessary.

The report of this proficiency testing is not older than ten weeks. You register within these ten weeks for the bPT and the performance is confirmed by the DRRR. The testing period is dependent on the technical factors (parameter, matrix etc.) and will be agreed individually\*. When this time is over after the sample shipment and you do not have sent us your results in this time, we can not evaluate your results and issue a certificate for you.

(\* normally not longer than 1 - 2 weeks)

The bPT is not in the scope of accreditation of the DRRR. The realization of the bPT depends on the availability of the material.

**New: The bilateral proficiency testing (bPT)!**

You can book and perform individually and flexibly the bilateral proficiency testing during a determined time period.

You receive a proficiency testing sample for analyzing. You submit the results of the testing. After that you will get your proof of performance as a z'-score calculation in the form of a certificate within 1 - 2 weeks.

The performance evaluation refers to the previous regular proficiency testing, so that you can connect the bPT to the regular proficiency testing round. The used sample material is derived from a previous proficiency testing round and provides the possibility of a comparable performance evaluation with the regular proficiency testing.

**Costs bPT**

The costs are identical to the costs of the respective proficiency test from our standard program (see ODIN) plus shipping costs.

Alternative you can also order reference material.

## Food industry

The DRRR offers in the field of the quality assurance for the chemical analysis a variety of different primary, intermediate and final products for the food and packaging industry.

The laboratories can secure their analytics with the DRRR services as well as main parameters like fat, protein and dry matter and side and trace parameters.

- Milk and milk products
- Fruit and fruit juices
- Sweets and pastries
- Food of animal origin
- Meat and egg products
- Animal feed

## Safety parameters and adulterants

For the quality assurance in the field the chemical analysis of safety parameters and adulterants the DRRR offers a variety of different parameter-matrix-combinations.

- Mycotoxins
- Residues
- Allergens

## Statistical evaluation

Take advantage of our statistical evaluation system. The evaluation of the proficiency testing is based on the highest scientific and statistical level. Therefore the participating laboratories have a very precise feedback on their actual performance.

## Laboratory Measurement

By using our market-leading statistical evaluation, additional information such as laboratory uncertainty and various scattering of each laboratories can be presented.

**Market-leading statistical evaluation**

For your registration we recommend to use our online catalogue (ODIN) or the registration forms on our homepage ([www.DRRR.de](http://www.DRRR.de)). You can also use the registration forms on page 35 of this catalogue.

## milk and cream

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010007	UHT milk 1	fat, dry matter, protein, lactose, freezing point, density (3 different levels of fat content in PT round)	Apr-22	<a href="#">Login or register</a>
2010366	UHT milk 2	fat, dry matter, protein, lactose, freezing point, density, lactulose, water activity (3 different levels of fat content in PT round)	Sep-22	
2010368	UHT milk 3	fat, dry matter, protein, lactose, freezing point, density (3 different levels of fat content in PT round)	Dec-22	
2010107	UHT milk (lactose free)	lactose (< 0,1 %)	May-22	
2010015	raw milk 1	fat, dry matter, protein, lactose, freezing point, urea, pH value, casein	Jan-22	
			Jan-23	
2010005	raw milk 2	fat, dry matter, protein, lactose, freezing point, pH value, urea, casein	Jun-22	
2010370	raw milk 3	fat, dry matter, protein, lactose, freezing point, casein, urea	Oct-22	
2010372	goat's milk	fat, protein, freezing point	Aug-22	
2010003	raw cream 1	fat, dry matter, protein	Feb-22	
2010003	raw cream 1		Feb-23	
2010374	raw cream 2		Jul-22	
2010041	evaporated milk	fat, dry matter, protein, ash, phosphorus	Jul-22	
2010624	buttermilk	phosphatides, fat, dry matter, ash, pH value, acidity acc. Soxhlet-Henkel, density in heat serum	Apr-22	
2010702	dairy drinks	fat, dry matter, protein, sucrose, glucose, lactose	May-22	
2010045	milk (residues)	chloramphenicol, aldrin, dieldrin, PCB 101, trichlormethane, aflatoxin M1, streptomycine, tetracycline (minimum 4 of the parameters quantitative)	Apr-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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## cheese

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010011	processed cheese 1	fat, dry matter, protein, lactose, sodium chloride, pH value, nitrate, citric acid	Mar-22	<a href="#">Login or register</a>
			Mar-23	
2010378	processed cheese 3	fat, dry matter, protein, lactose, total phosphorus, ash, sodium chloride, nitrate, pH-value, citric acid, total lactic acid	Sep-22	
2010258	processed cheese	natamycin, aflatoxin M1	May-22	
2010029	fresh cheese 1	fat, dry matter, protein, total lactic acid	Apr-22	
2010164	curd	fat, dry matter, protein, total lactic acid	Oct-22	
2010047	semi hard cheese	fat, dry matter, protein, sodium chloride, nitrate	May-22	
2010031	hard cheese	fat, dry matter, protein, sodium chloride	Feb-22	
			Feb-23	
2010037	soft cheese	fat, dry matter, protein, sodium chloride, pH value	May-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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### other milk products

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010009	butter	solids non-fat, water content, hardness, pH value, cholesterol, fat, optional sodium chloride (depends on the condition of the butter)	Sep-22	<a href="#">Login or register</a>
2010382	butter (fatty acid profile)	fatty acid composition C4-C20	Sep-22	
2010017	yoghurt	fat, dry matter, protein, pH value, total lactic acid	Nov-22	
2010049	whey	fat, dry matter, protein, NPN, lactose, ash, phosphorus, potassium, calcium	Feb-22	
			Feb-23	
2010852	whey concentrate	fat, dry matter, protein, lactose, ash	Jul-22	
2010087	pudding - dessert	fat, dry matter, protein, lactose, pH value	Feb-22	
			Feb-23	
2010091	AMF - anhydrous milk fat	alkalinity, free fatty acids, water content, peroxide value, carotene, butyric acid methyl ester	Apr-22	
3010012	ice-cream	quantitative parameters: fat, milkfat, colouring agent E 124 (cochenille red A), vanillin, vanillic acid, p-hydroxybenzaldehyde, p-hydroxybenzoic acid, lactose qualitative parameters <sup>o</sup> : colouring agent E 100 (curcumin), foreign fat, colouring agent $\beta$ -carotene (E 160) <small><sup>o</sup> The qualitative part of this proficiency testing scheme is not in the scope of accreditation.</small>	Sep-22	
2010170	sour cream - crème fraîche	fat, dry matter, protein, pH value	Apr-22	

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## milk powder

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010027	whole milk powder	fat, free fat, water content, protein, lactose, ash, titratable acidity	Apr-22	<a href="#">Login or register</a>
2010001	skimmed milk powder	fat, water content, protein, lactose, ash, titratable acidity	Sep-22	
2010698	milk powder 3	bulk density after 100 tappings	Sep-22	
2010123	milk powder (lactose reduced)	lactose, dry matter	Dec-22	
2010113	milk powder nitrate - nitrite	nitrate, nitrite	Aug-22	
2010125	milk powder (Vitamin D)	vitamin D	Apr-22	
2010105	milk powder (Vitamin A & C)	vitamin A, vitamin C	Apr-22	
2010023	whey powder	fat, water content, protein, lactose, ash, pH value, titratable acidity	Mar-22	
			Mar-23	
2010099	casein - caseinate	fat, water content, protein, lactose, ash, pH value	Mar-22	
			Mar-23	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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## fruit and vegetables products

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010051	sugar mix (fruit preparation)	sucrose, glucose, fructose, maltose, starch, aspartame, acesulfam K, sorbate, saccharin	Jul-22	<a href="#">Login or register</a>
2010053	fruit preparation	brix-value, pH value, total acid, citric acid, L-malic acid, ash, phosphorus, potassium	Sep-22	
2010384	sauerkraut	ascorbic acid, titratable total acid, volatile acid, lactic acid, pH-value, sodium chloride	Jun-22	
2010386	dried fruits	SO <sub>2</sub> (sulphur dioxide)	Jun-22	
2010388	dry potato product	water, fat, saturated fatty acids, raw protein, ash, total carbohydrates, starch, sucrose, fibre, sodium	Aug-22	
2010390	tomato ketchup 1	pH-value, titratable acid, citric acid, sodium chloride, glucose, fructose, soluble dry matter, dry matter, sorbic acid, benzoic acid, sucrose (anhydrous)	Jul-22	
2010325	tomato ketchup 2	lycopene	Jul-22	
2010704	hot sauce	Capsaicin, dihydrocapsaicin, nordihydrocapsaicin, total capsaicinoids	Jun-22	
2010190	legumes	fat, water content, fibre, nitrogen content, crude protein content	Aug-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)



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## alcoholic beverages

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010408	fruit spirit	relative density 20 °C / 20 °C, alcohol, ethyl carbamate, ferment accompanying substances	Mar-22	<a href="#">Login or register</a>
			Mar-23	
2010133	beer	apparent extract, extract, alcohol content in weight per cent and volume per cent, wort, density, bitterness units, pH value	Jul-22	
2010323	carbonated soft drinks	carbonation (CO <sub>2</sub> content), actual alcohol strength, benzoic acid, sorbic acid, phosphoric acid as PO <sub>4</sub> (2 samples non-alcoholic soda and 2 samples alcoholic soda (Ready-to-Drink))	May-22	
2010617	carbonated soft drinks - spirits	quinine (CAS No 130-95-0) (1 sample non-alcoholic and 1 sample alcoholic)	May-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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## non-alcoholic beverages

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010392	coffee	water, ash, pH-value, acidity, water soluble extract, caffeine, acrylamide	Oct-22	<a href="#">Login or register</a>
2010915	green coffee	loss in mass at 105 °C acc. to ISO 6673	May-22	
2010394	tea	dry matter, ash, water soluble ash, water soluble extract, caffeine, theobromine, theophylline, acid-insoluble ash	Oct-22	
2010139	pyrrolizidine alkaloids in tea	quan. determination of three distinct pyrrolizidine alkaloids, e.g. lycopsamine, echimidine, retrorsine, senecionine, seneciphylline, senkirkine, heliotrine, monocrotaline or lasiocarpine	Oct-22	
2010396	energy drink	pH-value, taurine, caffeine, inosit, sucrose, glucose, fructose	Oct-22	
2010021	vitamin solution	thiamine (vitamin B1), riboflavine (vitamin B2), pyridoxine (vitamin B6), cobalamin (vitamin B12), L-ascorbic acid (vitamin C), $\alpha$ -tocopherol (vitamin E), folic acid (vitamin B11), pantothenic acid (vitamin B5), niacin (vitamin B3)	May-22	
2010398	orange juice 1	total carotenoid + fraction I: carotene + fraction II: cryptoxanthineEster + fraktion III: xanthophyll ester	Aug-22	
2010402	carrot juice	relative density 20 °C / 20 °C, pH-value, titratable acid, sucrose, fructose, glucose, nitrate, $\beta$ -carotene, $\alpha$ -carotene, total carotene	Oct-22	
2010600	fruit juice concentrate 1	brix value, ph value, titratable acidity, citric acid, D-isocitric-acid, L-malic acid, ascorbic acid, lactic acid, citric acid - isocitric acid ration, hesperidin	Mar-22	
			Mar-23	
2010602	fruit juice concentrate 2	brix value, titratable acidity, glucose, fructose, sucrose, total sugar, sugar free extract, glucose-fructose ratio, % sucrose of sugar	Jan-22	
			Jan-23	
2010610	fruit juice concentrate 3	brix value, ph value, titratable acidity, ash, potassium, calcium, magnesium, total phosphorus, sodium, nitrate, copper, iron	Nov-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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## non-alcoholic beverages

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010055	grape juice	sulfur dioxide (SO <sub>2</sub> )	Jun-22	<a href="#">Login or register</a>
2010127	currant juice	lead, cadmium, arsenic, copper, zinc, iron, tin, mercury, aluminium	Aug-22	
2010154	tomato juice	ergosterol	Nov-22	
2010714	orange juice	Carbendazim	Jun-22	
2010165	plant drink (milk alternative)	fat, dry matter, protein, freezing point, density (2 kinds of plant drink on the basis of e.g. soy or almond)	May-22	
2010357	trace elements in mineral water	uranium, vanadium, boron	Aug-22	
2010359	sugar substitutes in food	isomalt, lactite, maltitol, mannitol, sorbitol, xylitol	Aug-22	
2010502	Quinolizidine alkaloids in Lupins Drink	At least 3 different quinolizidine alkaloids quantitatively, e.g. lupanine, lupinin, spartein	May-22	

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## egg products

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010056	egg products	total lipids, dry matter, protein, pH-value, cholesterol, $\alpha$ -linolenic acid, eicosapentaenoic acid, docosahexaenoic acid, salt content (sodium chloride)	Nov-22	<a href="#">Login or register</a>
2010413	egg pasta	water, fat, raw protein, ash, chloride, cholesterol, total sterine, calculation of the egg content, fibre	Nov-22	
2010415	mayonnaise	total acid, water, fat, phosphatid-P205, cholesterol, egg yolk content, sorbic acid, benzoic acid, salt content (sodium chloride)	Jan-22	
			Jan-23	
2010129	residues in liquid egg	fat, nicotine, dioxins, dioxin-like PCBs	May-22	
2010706	antibiotics in liquid egg	quant. determination of one antibiotic each from the substance groups nitrofurans, sulfonamides, tetracycline, chloramphenicol	May-22	
2010155	egg powder	fat, alpha-amylase, ash, pH value, water content, salt content, lactic acid, hydroxybutyric acid	Nov-22	
2010504	Hormons in liquid egg	At least one androgen, at least one estrogen and at least one progestin quantitatively	May-22	

## declaration nutritional values

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	
2010451	declaration nutritional values with 2 different food stuff	energy, protein, carbohydrate, sugar, fat, saturated fatty acids, fibre, sodium	Sep-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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## meat products

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal: <a href="#">Login or register</a>
2010019	boiled sausage 1	fat, water content, ash, protein, collagen, sodium chloride, nitrate, nitrite, diphosphorus pentoxide (P2O5), calcium, aw-value, starch	Feb-22	
			Feb-23	
2010417	boiled sausage 2 (round 1)	non-protein nitrogen (NPN), collagen degradation products, L-glutamin acid, citric acid, sodium acetate, L-lactat, sodium nitrate, sodium nitrite, ascorbic acid, pH value	Feb-22	
			Feb-23	
2010204	boiled sausage 2 (round 2)		Sep-22	
2010214	raw sausage 1	aw-value, pH-value, D- & L-lactic acid, sodium, nitrate, nitrite, sorbic acid, monounsaturated fatty acids, saturated fatty acids, fat	Jun-22	
2010419	raw sausage 2	fat, water content, protein, ash, sodium chloride, hydroxyproline, diphosphorus pentoxide (P2O5), sodium, starch, solubilised milk protein	Jun-22	
2010712	vegetarian sausage substitute	fat, protein, dry matter, sodium chloride, ash, fibre	May-22	
2010169	Detection of soy protein in meat and meat products	soy protein quantitative	Jun-22	

## fish and seafood

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	
2010421	fish paste 1	water, fat, raw protein, ash, sodium chloride, arsenic, iodine	Aug-22	
2010423	fish paste 2	fat, sorbic acid, benzoic acid, saccharin, cyclamate, citric acid	Aug-22	
2010506	Nitrosamines in fish	At least 3 nitrosamines quantitatively, e.g. N-nitrosodimethylamine (NDMA), N-nitrososarcosine (NSAR), N-nitrosohydroxyproline (NHPRO)	Aug-22	

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### cereal products

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010069	pastries	fat, protein, dry matter, ash, milk fat, starch, sucrose, propionic acid	Nov-22	<a href="#">Login or register</a>
2010427	flour	moisture content, raw protein, ash, starch, wet gluten content, falling number	Nov-22	
2010429	gluten	Gluten (prolamin contamination) in flour, e.g. oat flour and corn flour	Nov-22	
2010431	butter biscuit	ash, dry matter, raw protein, fat, semimicro butyric acid number, free butyric acid, butyric acid methyl ester, milk fat, starch, cholesterol, sucrose, fibre	Nov-22	
2010207	corn aflatoxin 1	aflatoxin - low level 1.00 ppb - 30.00 ppb (3 samples)	Aug-22	
2010228	corn aflatoxin 2	aflatoxin - high level 15.00 ppb - 100.00 ppb (3 samples)	Aug-22	
2010230	corn DON 1	DON - low level 0.10 ppm - 1.25 ppm (3 samples)	Sep-22	
2010232	corn DON 2	DON - high level 1.00 ppm - 6.00 ppm (3 samples)	Sep-22	
2010234	corn fumonisin 1	fumonisin - low level 0.10 ppm - 1.25 ppm (3 samples)	Oct-22	
2010236	corn fumonisin 2	fumonisin - high level 1.00 ppm - 6.00 ppm (3 samples)	Oct-22	
2010238	corn ochratoxin 1	ochratoxin - low level 1.00 ppb - 20.00 ppb (3 samples)	Nov-22	
2010240	corn ochratoxin 2	ochratoxin - high level 10.00 ppb - 100.00 ppb (3 samples)	Nov-22	
2010242	corn zearalenone	zearalenone 50.00 ppb- 1500.00 ppb (3 samples)	Nov-22	
2010208	wheat DON 1	DON - low level 0.10 ppm - 1.25 ppm (3 samples)	Aug-22	
2010209	wheat DON 2	DON - high level 1.00 ppm - 6.00 ppm (3 samples)	Aug-22	

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### cereal products

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010244	wheat ochratoxin 1	ochratoxin - low level 1.00 ppb - 20.00 ppb (3 samples)	Sep-22	<a href="#">Login or register</a>
2010246	wheat ochratoxin 2	ochratoxin - high level 10.00 ppb - 100.00 ppb (3 samples)	Sep-22	
2010248	barley DON	DON 0.05 ppm - 3.00 ppm (3 samples)	Nov-22	
2010250	brown rice aflatoxin	aflatoxin 1.00 ppb - 20.00 ppb (3 samples)	Nov-22	
2010218	biscuits (soy)	soy in biscuits 3.00 ppm - 30.00 ppm	May-22	
2010716	cereal / cereal products	glyphosat	Jul-22	
2010718	rice	arsenic	May-22	
2010361	determination of the sedimentation index - Zeleny test (ISO 5529)	sedimentation index (ml) - (acc. To Zeleny)	Sep-22	
2010363	determination of alveograph properties of dough - ISO 27971	determination of alveograph properties of dough	Sep-22	
2010367	determination of water absorption and rheological properties using a farinograph - ISO 5530-1	determination of water absorption and rheological properties using a farinograph	Sep-22	
2010369	determination of rheological properties using an extensograph - ISO 5530-2	determination of rheological properties using an extensograph	Sep-22	
2010409	determination of water absorption and rheological properties using a valorigraph - ISO 5530-3	determination of water absorption and rheological properties using a valorigraph	Sep-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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### infant formula

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010435	jar food	fat, protein, ash, moisture, vitamin C	Aug-22	<a href="#">Login or register</a>
2010437	baby porridge powder 1	water, fat, raw protein, ash, sucrose, glucose, fructose	Apr-22	
2010439	baby porridge powder 2	sodium, potassium, magnesium, calcium, iron, zinc, iodine	Apr-22	
2010441	baby porridge powder 3	vitamin B1, vitamin B2, vitamin B6, vitamin B12, vitamin A, vitamin C, vitamin E, folic acid, pantothenic acid, biotin	Apr-22	
2010447	milk powder IMF part 1	fat, protein, ash, moisture, vitamin A (retinol), vitamin C	Aug-22	
2010449	milk powder IMF part 2	sodium, potassium, calcium, magnesium, phosphorus, iron, copper, zinc, manganese	Aug-22	
2010261	milk powder IMF allergens	gliadin, soy, casein, lactose, $\beta$ -lactoglobuline	Oct-22	

### mineral oil in food stuff

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	
2010180	mineral oil in low-fat and starch-rich foodstuff	MOSH C10-C16, MOSH C16-C20, MOSH C20-C25, MOSH C25-C35, MOSH C35-C40, MOSH C40-C50, MOAH C10-C16, MOAH C16-C25, MOAH C25-C35, MOAH C35-C50	May-22	
2010590	mineral oil in cocoa butter and chocolate	MOSH C10-C16, MOSH C16-C20, MOSH C20-C25, MOSH C25-C35, MOSH C35-C40, MOSH C40-C50, MOAH C10-C16, MOAH C16-C25, MOAH C25-C35, MOAH C35-C50	Jul-22	
2010245	mineral oil in cheese and milk powder	MOSH C10-C16, MOSH C16-C20, MOSH C20-C25, MOSH C25-C35, MOSH C35-C40, MOSH C40-C50, MOAH C10-C16, MOAH C16-C25, MOAH C25-C35, MOAH C35-C50	Jul-22	
2010320	mineral oil in edible fat and edible oil	MOSH C16-C25, MOSH C25-C35, MOSH C35-C50, MOAH C16-C25, MOAH C25-C35, MOAH C35-C50	Aug-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)



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### other food matrices

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010453	protein powder	protein, riboflavine (vitamin B2), pyridoxine (vitamin B6), ascorbic acid (vitamin C)	Jun-22	<a href="#">Login or register</a>
2010197	delicatessen salad	benzoic acid, sorbic acid, PHB-ester	Mar-22 Mar-23	
2010025	chocolate	fat, water content, protein, lactose, milk fat, theobromine, sucrose, total alkaloids, caffeine	Feb-22 Feb-23	
2010457	edible fat 1	distribution of fatty acids	Nov-22	
2010710	edible fat 2	iodine, acid, peroxide, saponification, tocopherole, free fatty acids, p-anisidine value, refraction index, water content, total sterols	Nov-22	
2010459	mustard	dry matter, total acid, sodium chloride, allyl mustard oil, SO <sub>2</sub> (sulfur dioxide), fat	Jan-22 Jan-23	
2010157	PAHs in animal and vegetable fats and oils	naphthalene, anthracene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(j)fluoranthene, benzo(e)pyrene, benzo(a)pyrene, dibenz(ah)anthracene (at least 5 of the parameters quantitative) A PAH concentration in the samples of approximately 0,1-5 µg/kg per PAH is to be expected.	Oct-22	
2010161	Determination of natural thickeners	agar, carrageenan, guar, gum arabic, locust bean gum, sodium alginate and pectin	Aug-22	
2010247	aflatoxins in chocolate	aflatoxin B1, B2, G1, G2, total aflatoxin content	Sep-22	
2010249	pesticides in chocolate	quant. determination of several pesticides from the fields of herbicides, insecticides and fungicides	Sep-22	
2010327	sugar free candies	sucrose, glucose, fructose, water content (total sugar content < 0.5%, reference method for sugar: enzymatics)	Jul-22	
2010337	metals in cocoa and chocolate	cadmium, lead, iron, aluminum, copper, zinc, mercury, nickel and arsenic (min. 5 of the metals contained)	Oct-22	
2010339	acrylamide in cocoa and chocolate	acrylamide	Oct-22	

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### other food matrices

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010341	cannabis oil	CAS 13956-29-1 Cannabidiol (CBD)	Aug-22	<a href="#">Login or register</a>
2010343	vegetarian bread spread	fat, protein, dry matter, salt, ashes, pH-value	Oct-22	
2010345	metals in hummus	cadmium, nickel	Oct-22	
2010347	pyrrolizidine alkaloids in spices	quan. determination of three distinct pyrrolizidine alkaloids, e.g. lycopsamine, echimidine, retrorsine, senecionine, seneciophylline, senkirkine, heliotrine, monocrotaline or lasiocarpine	Oct-22	
2010349	nicotine replacement products	Nicotine in nicotine pouches	Aug-22	
2010498	Metals in tobacco	cadmium, lead, iron, aluminum, copper, zinc, mercury, nickel and arsenic (min. 5 of the metals contained)	Aug-22	
2010500	MCPD and glycidol in edible oil	3-Monochlorpropandiol (3-MCPD), 2-Monochlorpropandiol (2-MCPD), Glycidol	Nov-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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## honey and beeswax

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010455	honey 1	diastase activity, proline, HMF, conductivity, pH-value, water, glycerin, ethanol	Aug-22	<a href="#">Login or register</a>
2010708	honey 2	glucose, fructose, maltose, saccharose, turanose, saccharase number, free acids, ash	Aug-22	
2011002	antibiotics in honey	quan. determination of one antibiotic of each of the substance groups sulfonamides and tetracyclines as well as of chloramphenicol and streptomycin.	Jun-22	
2011004	pesticide residues in honey	quan. determination of several plant protection agents out of the fields herbicides, insecticides and fungicides	Jul-22	
2011006	pyrrolizidine alkaloids in honey	quan. determination of three distinct pyrrolizidine alkaloids, e.g. lycopsamine, echimidine, retrorsine, senecionine, seneciophylline, senkirkine, heliotrine, monocrotaline or lasiocarpine	Jun-22	
2011008	veterinary drug residues in honey	quan. determination of three distinct veterinary drugs or their components, e.g. thymol, phenol, naphthalene, cymiazol, coumaphos or amitraz	Jul-22	
2011010	GMOs in honey	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV	Jul-22	
2011012	relative frequency of pollen in honey	relative frequency of pollen	Jun-22	
2011014	falsification honey	rice syrup and sugar beet syrup in honey	Jul-22	
2011016	residues in beeswax	quan. determination of three distinct substances out of the fields varroa veterinary drugs and plant protection agents	Aug-22	
2011018	falsification beeswax	paraffin wax content, stearin content	Aug-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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### animal feed

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010351	metals in animal feed	cadmium, lead, iron, aluminum, copper, zinc, mercury, nickel and arsenic (min. 5 of the metals contained)	Aug-22	<a href="#">Login or register</a>
2010353	ingredients animal feed	moisture content, crude protein content, crude oil, crude ash, crude fiber, sugar, lactose, starch, crude ash	Aug-22	
2010355	animal components in animal feed	qualitative identification of animal components	Aug-22	
2010093	animal feed mycotoxins	OTA, DON, aflatoxin	Mar-22	
			Mar-23	
2010315	Fluoride content in animal feed	fluoride content	Nov-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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### drinking water

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010373	pharmaceutical residues in drinking water	Diclofenac, Ibuprofen	Aug-22	<a href="#">Login or register</a>
2010395	Microplastic in water	particle number	Aug-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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## determination of animal species

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010263	beef, pork, horse	qualitative detection of the animal species beef, pork and horse (participation with protein and DNA based methods possible) and quantitative detection of the relative amount of animal species (only DNA-based methods possible)	Dec-22	<a href="#">Login or register</a>
2010588	porcine and beef DNA in gelatine	Qualitative detection of low amounts of porcine ( <i>sus scrofa</i> ) and beef ( <i>bos taurus</i> ) DNA in highly processed food matrix (gelatin) in this proficiency testing also the DNA of sheep, goat and fish can be requested	Dec-22	
2010313	porcine DNA in Candy	Qualitative detection of low amounts of porcine ( <i>sus scrofa</i> ) DNA in candy (gummy candy)	Dec-22	
2010335	detection of the animal species in milk	animal species qualitative (The animal species can be detected in 3 different milks by isoelectric focusing, ELISA or PCR.)	Dec-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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## GMO

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
2010720	soy (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene soy (construct or event specific methods possible)	Nov-22	<a href="#">Login or register</a>
2011010	GMOs in honey	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV	Jul-22	
2010141	corn (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene corn (construct or event specific methods possible)	Nov-22	
2010143	rice (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene rice (construct or event specific methods possible)	Nov-22	
2010145	canola (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene canola (construct or event specific methods possible)	Dec-22	
2010147	cotton (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene cotton (construct or event specific methods possible)	Dec-22	
2010331	potato (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene potato (construct or event specific methods possible)	Nov-22	
2010333	sugar beet (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene sugar beet (construct or event specific methods possible)	Nov-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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## ranking test

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
3010000	water (ranking test, basic tastes) 1	organoleptic analysis - basic taste (2 basic tastes)	Feb-22	<a href="#">Login or register</a>
			Feb-23	
3010028	water (ranking test, basic tastes) 2	organoleptic analysis - basic taste (2 basic tastes)	Jun-22	
3010030	water (ranking test, basic tastes) 3	organoleptic analysis - basic taste (2 basic tastes)	Nov-22	
3010034	beer (ranking test, Diacetyl)	organoleptic analysis - Diacetyl	Oct-22	
3010037	yoghurt (ranking test, basic tastes)	organoleptic analysis - basic taste (2 basic tastes)	Oct-22	
3010003	yoghurt (ranking test, flavours) 1	organoleptic analysis - flavours (2 flavours)	Feb-22	
			Feb-23	
3010041	yoghurt (ranking test, flavours) 2	organoleptic analysis - flavours (2 flavours)	Nov-22	

<b>possible basic tastes</b>	<b>sweet, sour, bitter, salty</b>
<b>possible flavours (except flavour taint)</b>	<b>strawberry, cherry, vanilla, peach, lemon</b>

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)



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### triangle test

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
3010006	water (triangle test, basic taste)	organoleptic analysis - triangle test basic taste	Jul-22	<a href="#">Login or register</a>
3010032	fruit juice (triangle test, flavour taint)	organoleptic analysis - triangle test flavour taint	Sep-22	
3010020	beer (triangle test, Diacetyl)	organoleptic analysis - triangle test Diacetyl	Oct-22	
3010039	yoghurt (triangle test, basic taste)	organoleptic analysis - triangle test basic taste	Oct-22	
3010043	yoghurt (triangle test, flavour)	organoleptic analysis - triangle test flavour	Feb-22	
			Feb-23	
3010004	tuna (triangle test)	organoleptic analysis - triangle test	Jun-22	
3010054	texture test (triangle test)	organoleptic analysis - triangle test	Apr-22	
3010007	colour check (triangle test)	organoleptic analysis - triangle test	Apr-22	
3010010	apple juice (triangle test, basic taste)	organoleptic analysis - triangle test basic taste	Jun-22	
3010013	milk (triangle test, flavour taint)	organoleptic analysis - triangle test flavour	Apr-22	
3010016	coffee infusion (triangle test, flavour taint)	organoleptic analysis - triangle test flavour	Jul-22	

<b>possible basic tastes</b>	<b>sweet, sour, bitter, salty</b>
<b>possible flavours (except flavour taint)</b>	<b>strawberry, cherry, vanilla, peach, lemon</b>

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

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### threshold value

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	To view pricing information visit our online Portal:
<b>For the following proficiency testing schemes you can not enter your results online:</b>				<a href="#">Login or register</a>
3010008	drinking water (TON, TFN)	water quality according to EN 1622:2006 examination for panels - minimum number of participants: 3 assessors! determination of the threshold odour number (TON) determination of the threshold flavour number (TFN)	Mar-22	
			Mar-23	
3010055	fruit juice (threshold value examination, flavour taint)	organoleptic analysis - threshold value examination of flavour taint	Dec-22	

### descriptive testing

Art. No.	proficiency testing type <sup>[A]</sup>	requested parameters	period	
3010049	chocolate (simple descriptive testing)	examination for panels simple descriptive testing (up to 5 assessors)	Mar-22	
			Mar-23	
3010051	chocolate (profile testing)	examination for panels profile testing (up to 5 assessors)	Jun-22	
3010056	honey (simple descriptive testing)	examination for panels simple descriptive testing (up to 5 assessors)	Jul-22	
3010018	boiled sausage (simple descriptive testing)	examination for panels simple descriptive testing (up to 5 assessors)	Nov-22	
3010021	coffee (simple descriptive testing)	examination for panels simple descriptive testing (up to 5 assessors)	Sep-22	
3010023	coffee (profile testing)	examination for panels profile testing (up to 5 assessors)	Dec-22	

[A] = For accredited and non-accredited status please see [Online portal \(ODIN\)](#)

Article No. / proficiency testing type	period	result release and report online (ODIN)	result release by e-mail / fax; report by e-mail	report by postal delivery	additional sample sets / assessor (organoleptic)

Up to nine additional result sheets can be returned for chemical-physical, microbiological and physical-mechanical proficiency testing rounds are free of charge. As a participant, you benefit from our international recognized proficiency testing schemes. By submitting up to ten result sheets you are now enabled to run international comparisons to check different methods and different lab technicians with one proficiency testing round. Your benefit: Participating in DRRR-proficiency testing services save costs for your quality assurance! If you need additional sample sets, you have the opportunity to order it according to our latest product catalogue.

**Please note, that the free of charge service is only valid for returning result sheets by ODIN. If you send us your results by mail, fax or postal delivery, the additional result sheet will be charged according the latest product catalogue as a sample set equivalent.**

In very rare individual cases an accredited proficiency testing round will not be carried out within the scope of accreditation due to technical or organizational reasons. In these rare cases the DRRR will inform the participants before the start of the proficiency testing round, thus before the sample shipment. An immediately free cancellation for the participants is possible until the date of the sample shipment.

Your registration is an one-time order. It is only valid for one year. Cancellation fees apply when cancelling a registration. If you want to have a permanent-registration please tick the box on the right side.

Please send registration to:  
 fax-no. +49 (0)8 31/960 878-99  
 e-mail: [info@DRRR.de](mailto:info@DRRR.de)  
 online via [www.odin.drrr.de](http://www.odin.drrr.de)

- this registration is permanent-registration and valid until my cancellation
- An offer with the total costs is needed
- A Purchase order from the purchasing department will follow

DRRR-customer number \_\_\_\_\_

company \_\_\_\_\_

company (additional line) \_\_\_\_\_

contact person \_\_\_\_\_

street \_\_\_\_\_

post-code /city \_\_\_\_\_

country (if not Germany) \_\_\_\_\_

fon \_\_\_\_\_

fax \_\_\_\_\_

e-mail \_\_\_\_\_

e-mail for invoices \_\_\_\_\_

VAT-ID-No. (if available) \_\_\_\_\_

With your signature you agree with our general terms and conditions.

\_\_\_\_\_ date

\_\_\_\_\_ signature

### Importance

Reference material is a substance or item with one or more defined (known) characteristics and sufficient homogeneity.

**Description reference material**

### Benefit of using certified reference materials

These materials are suitable for the calibration of equipment, for the quality assurance of testing methods or to analyse derivative reference materials. DRRR-Reference materials are essential for the chemical, physical, microbiological and sensory analytics as well as for the quality assurance. Standards for the accreditation of testing and calibration laboratories demand the using of reference materials.

**Profit with our high quality standards for your lab work**

The use of reference materials (RM) and certified reference materials (CRM) is an important procedure to avoid mistakes in the lab routine.

### Characteristics

- the reference value is developed by the total number of results of the participants of proficiency testing (consensus value)
- DRRR-Reference materials do always refer to a DRRR-Proficiency testing
- reliable reference values according to advanced statistical evaluation
- independent service without influence of societies organisations and federations

**Reference materials meet all requirements of the ISO Guides 31 and 35, but it does not exist any accreditation for reference materials.**

The opportunity to collaborate with the best laboratories for the different requirements assures the high quality of our materials.

### Identification

The reference materials listed on the following pages have specific article numbers to identify the materials. To supply our customers with consistently high quality the DRRR-reference materials will be replaced regularly by corresponding materials during the year. Currently available reference materials and its corresponding reference values will be sent on request. We reserve our right to send you always the latest materials.

**Availability and order request of reference material**



**A brand of DRRR GmbH and LUFA  
Nord-West**

#### **The brand STANDARON®**

The DRRR has concluded a far reaching cooperation with the IfL. The main focus of this cooperation is the development and commercialisation of long term calibration materials for the food economy. The developed materials were merchandised with the name STANDARON® .

**STANDARON® long-term calibration materials (LKM) for raw milk, raw cream and pasteurised milk will be used for the calibration of IR instruments.**

#### **Reference system for raw milk analysis**

With the cooperation arises a range of services that offers not only regional but also national both in North and South Germany a competent reference system for raw milk analysis. Therewith it also offers more advantages and reliabilities for our international customers. The cooperation could already prove its competence at the new introduced STANDARON® raw cream materials. The quality advantage of the materials has been clearly confirmed at linearity, precision and stability. Besides standard materials is a focus of the cooperation to produce tailor-made, customer-oriented materials which are specially designed to cover individual production processes.

**The reference values of STANDARON® materials were defined by selected "reference laboratories". These laboratories are proved the requirements according to DIN EN ISO/IEC 17025:2017.**

#### **Questions about the application**

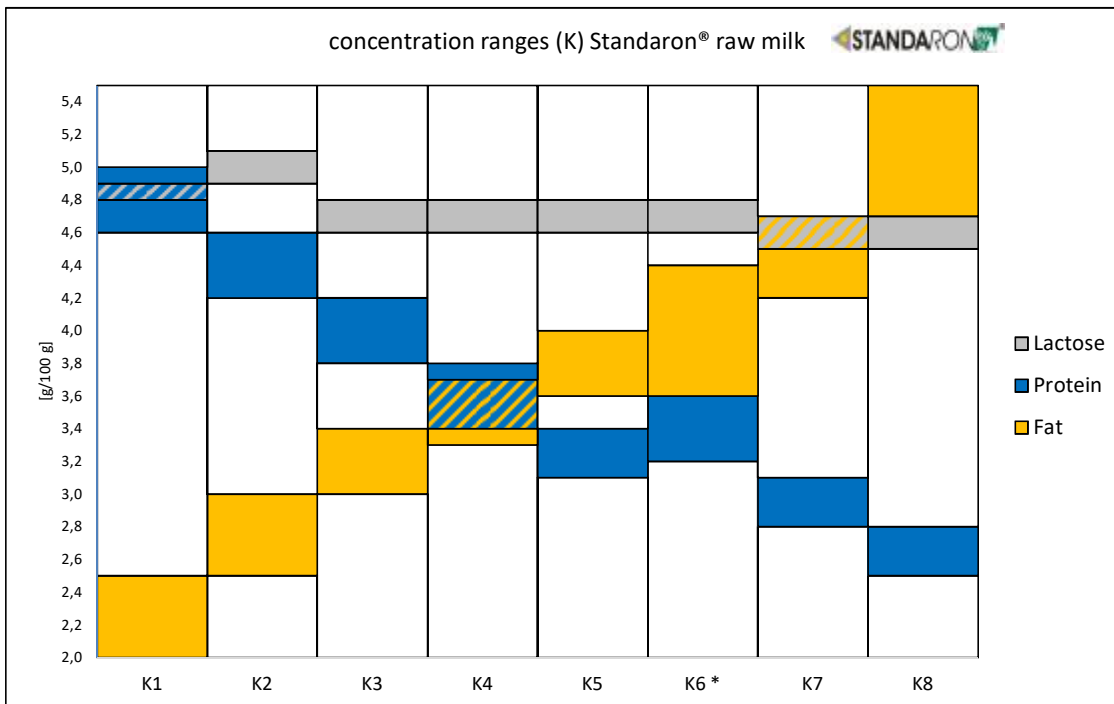
If you need any advice to assure your calibration do not hesitate to contact us.

**Application of the materials**

Please use the order from on page 65.

LKM-type	Art. No.	fat	protein	lactose	dry matter	freezing point	urea	packaging unit	prices
		<i>Röse-Gottlieb</i>	<i>Kjeldahl</i>	<i>enzym.</i>	102 °C	<i>cryoscopy</i>	<i>enzym.</i>		
		g/100g	g/100g	g/100g	g/100g	m°C	mg/kg		
LKM RO K1	1141021	2,0 - 2,5 %	4,6 - 5,0 %	4,8 - 4,9 %	available reference material and the corresponding reference values are available on request	50 ml			
LKM RO K2	1141022	2,5 - 3,0 %	4,2 - 4,6 %	4,9 - 5,1 %					
LKM RO K3	1141023	3,0 - 3,4 %	3,8 - 4,2 %	4,6 - 4,8 %					
LKM RO K4	1141024	3,3 - 3,7 %	3,4 - 3,8 %	4,6 - 4,8 %					
LKM RO K5	1141025	3,6 - 4,0 %	3,1 - 3,4 %	4,6 - 4,8 %					
LKM RO K6*	1141026	3,6 - 4,4 %	3,2 - 3,6 %	4,6 - 4,8 %					
LKM RO K7	1141027	4,2 - 4,7 %	2,8 - 3,1 %	4,5 - 4,7 %					
LKM RO K8	1141028	4,7 - 5,5 %	2,5 - 2,8 %	4,5 - 4,7 %					

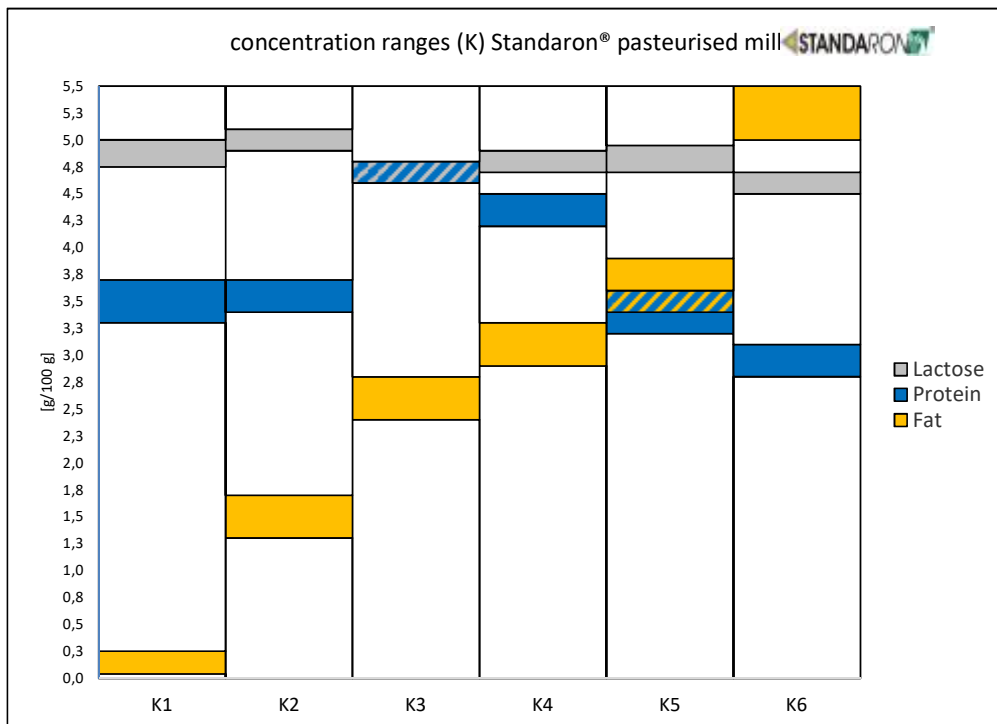
\* unmodified raw milk, higher variances possible



# STANDARON® - overview pasteurized milk

Please use the order from on page 65.

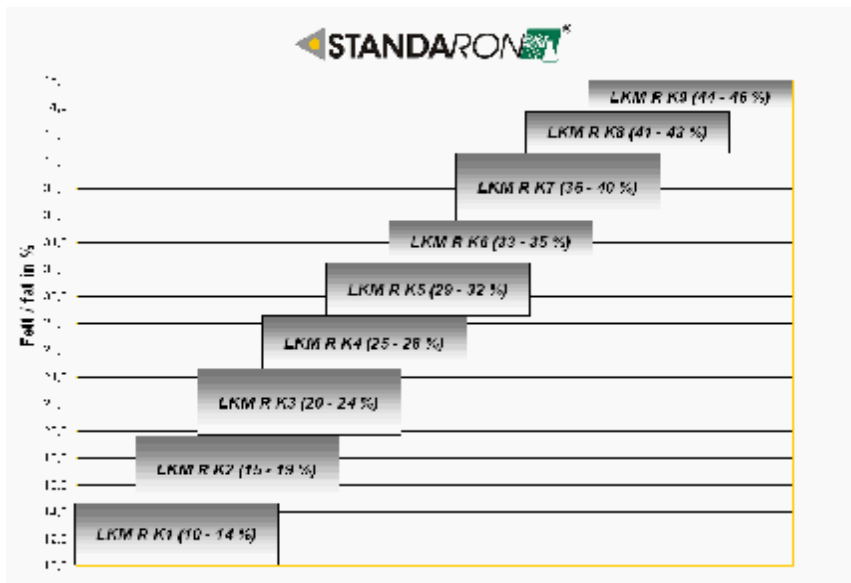
LKM-type	Art. No.	fat	protein	lactose mono-hydrate	dry matter	freezing point	packaging unit	prices
		<i>Röse-Gottlieb</i>	<i>Kjeldahl</i>	<i>enzym.</i>	102 °C	<i>cryos-copy</i>		
		g/100g	g/100g	g/100g	g/100g	°C		
LKM PAM K1	1141001	0,04 - 0,25 %	3,3 - 3,7 %	4,75 - 5,0 %	available reference material and the corresponding reference values are available on request	50 ml		
LKM PAM K2	1141002	1,3 - 1,7 %	3,4 - 3,7 %	4,9 - 5,1 %				
LKM PAM K3	1141003	2,4 - 2,8 %	4,6 - 4,8 %	4,6 - 4,8 %				
LKM PAM K4	1141004	2,9 - 3,3 %	4,2 - 4,5 %	4,7 - 4,9 %				
LKM PAM K5	1141005	3,4 - 3,9 %	3,2 - 3,6 %	4,7 - 4,95 %				
LKM PAM K6	1141006	5,0 - 5,5 %	2,8 - 3,1 %	4,5 - 4,7 %				



# STANDARON® - overview raw cream

Please use the order from on page 65.

LKM-type	Art. No.	fat	protein	dry matter	packaging unit	prices
		<i>Röse-Gottlieb</i>	<i>Kjeldahl</i>	102 °C		
		g/100g	g/100g	g/100g		
LKM R K1	1141011	10 - 14 %	available reference material and the corresponding reference values are available on request	50 ml		
LKM R K2	1141012	15 - 19 %				
LKM R K3	1141013	20 - 24 %				
LKM R K4	1141014	25 - 28 %				
LKM R K5	1141015	29 - 32 %				
LKM R K6	1141016	33 - 35 %				
LKM R K7	1141017	36 - 40 %				
LKM R K8	1141018	41 - 43 %				
LKM R K9	1141019	44 - 46 %				





Please use the order form on page 65.

LKM-type	Art. No.	fat	protein	lactose mono-hydrate	dry matter	ash	packaging unit	prices
		<i>Röse-Gottlieb</i>	<i>Kjeldahl</i>	<i>enzym.</i>	<i>102 °C</i>	<i>cryos-copy</i>		
		g/100g	g/100g	g/100g	g/100g	°C		
sweet whey	1141031	available reference material and the corresponding reference values are available on request					50 ml	
sour whey	1141032						50 ml	
whey concentrate	1141033						50 ml	

Your contact persons at DRRR GmbH, Kempten: Team Reference Materials Dr. Ulrich Leist	+49 (0)8 31/960 878-0
Your contact persons at LUFA NORD-WEST, Oldenburg Sarah Pietsch	+49 (0)4 41/97 352-152

Please use the order from on page 65.

## milk and cream

Art. No.	material description	parameter *	additional information	packaging unit	prices
1101001	UHT milk	fat, dry matter, protein, lactose, freezing point, density, lactulose, water activity	UHT skimmed milk 1,5 % fat 3,5 % fat	200 ml - 1 l (can vary)	
1101002	UHT milk (lactose free)	lactose (< 0.1 %)	1,5 % fat 3,5 % fat	1 l	
1101003	raw milk	fat, dry matter, protein, lactose, freezing point, urea, pH value, casein	-	50 ml	
1101004	goat's milk	fat, protein, freezing point	-	on request	
1101005	raw cream	fat, protein, dry matter	-	50 ml	
1101007	evaporeated milk	fat, dry matter, protein, ash, phosphorus	4 % fat 8 % fat	170 g	
1101027	butter milk	phosphatides, fat, dry matter, ash, pH value, acidity acc. Soxhlet-Henkel, density in heat serum	-	500 ml	
1121064	dairy drinks	fat, dry matter, protein, sucrose, glucose, lactose	-	50 ml	
1101025	residues in milk	chloramphenicol, aldrin, dieldrin, PCB 101, trichlormethane, aflatoxin M1, streptomycine, tetracycline	-	230 ml	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order from on page 65.

## cheese

Art. No.	material description	parameter *	additional information	packaging unit	prices
1111001	processed cheese	fat, dry matter, protein, lactose, sodium chloride, pH value, nitrate, citric acid, phosphorus, ash, total lactic acid	11 - 20 % fat 21 - 30 % fat	100 g	
1111012	processed cheese	natamycin, aflatoxin M1	-	50 g	
1111002	fresh cheese	fat, dry matter, protein, total lactic acid	6 - 10 % fat 21 - 25 % fat	175 g	
1111003	curd	fat, dry matter, protein, total lactic acid	-	250 g	
1111004	semi hard cheese	fat, dry matter, protein, sodium chloride	20 - 25 % fat 26 - 29 % fat 30 - 35 % fat	100 g	
1111005	hard cheese	fat, dry matter, protein, sodium chloride	20 - 25 % fat 26 - 29 % fat 30 - 35 % fat	100 g	
1111006	soft cheese	fat, dry matter, protein, sodium chloride, pH value	20 - 25 % fat	125 g	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order from on page 65.

### other milk products

Art. No.	material description	parameter *	additional information	packaging unit	prices
1111007	butter type 1	soldis non-fat, water content, pH value, cholesterol, fat, sodium chloride	sweet cream butter mild soured butter salted butter	250 g	
1111008	butter type 2	fatty acid composition C4-C20	-	250 g	
1111009	yoghurt	fat, dry matter, protein, total lactic acid, pH-value	-	500 g	
1101008	whey	dry matter, protein, NPN, lactose, ash, phosphorus, potassium, calcium	sweet whey sour whey	50 ml	
1111010	pudding/dessert	fat, dry matter, protein, lactose, pH-value	-	250 g	
1111011	AMF - anhydrous milk fat	alkalinity, free fatty acids, water content, peroxide value, carotene, butyric acid methyl ester	-	200 ml	
1121001	ice-cream	quantitative parameters: fat, milkfat, colouring agent E 124 (cochenille red A), vanillin, vanillic acid, p-hydroxybenzaldehyde, p-hydroxybenzoic acid, lactose qualitative parameters: colouring agent E 100 (curcumin), foreign fat, colouring agent $\beta$ -carotene (E 160)	-	100 g	
1101006	sour cream - crème fraîche	fat, dry matter, protein, pH value	-	200 g	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order form on page 65.

## milk powder

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121002	milk powder type 1	fat, dry matter, protein, lactose, ash, free fat, nitrate, titratable acidity	skimmed milk powder whole milk powder	app. 80 - 110 g	
1121063	milk powder type 2	bulk density after 100 tappings	-	> 110 g	
1121003	skimmed milk powder	WPNI (whey-protein-nitrogen-index)	-	sample set 3 x 20 g	
1121004	milk powder (lactose reduced)	lactose, dry matter	-	50 g	
1121005	milk powder nitrate - nitrite	nitrate, nitrite	-	20 - 30 g	
1121006	milk powder vitamin	vitamin D or vitamin A & C	-	20 - 30 g	
1121007	whey powder	fat, dry matter, protein, lactose, ash, pH value, titratable acidity	sweet whey powder sour whey powder	app. 80 - 110 g	
1121008	casein	fat, water content, protein, lactose, ash, pH value	-	app. 110 g	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order from on page 65.

## fruit and vegetables products

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121009	sugar-mix	glucose, fructose, sucrose, maltose, starch, aspartame, acesulfame K, sorbate, saccharin	several materials available	100 g	
1121010	fruit preparation	brix value, pH value, total acid, citric acid, L-malic acid, ash, phosphorous, potassium	several materials available	100 g	
1121011	sauerkraut	ascorbic acid, titratable acid, total acid, volatile acid, lactic acid, pH value, sodium chloride	-	on request	
1121012	dried fruits	fat, water content, SO <sub>2</sub> (sulphur dioxide)	-	100 g	
1121013	dry potato product	water, fat, saturated fatty acids, raw protein, ash, total carbohydrates, starch, sucrose, fibre, sodium	-	250 g	
1121014	tomat ketchup type 1	pH-value, titratable acid, citric acid, sodium chloride, glucose, fructose, soluble dry matter, dry matter, sorbic acid, benzoic acid, sucrose (anhydrous)	-	200 g	
1121099	tomat ketchup type 2	lycopene	-	200 g	
1121065	hot sauce	Capsaicin	-	50 g	
1121091	legumes	fat, water content, fibre, nitrogen content, crude protein content	-	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order form on page 65.

## alcoholic beverages

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121024	fruit spirit	relative density 20 °C / 20 °C, alcohol, ethyl carbamate, ferment accompanying substance	-	on request	
1121026	beer	apparent extract, extract, alcohol content in weight per cent and volume per cent, wort, density, bitterness units, pH value	-	200 ml	
1121098	carbonated soft drinks	carbonation (CO <sub>2</sub> content), actual alcohol strength, benzoic acid, sorbic acid, phosphoric acid as PO <sub>4</sub>	different varieties available (non-alcoholic and alcoholic)	300 - 375 ml	
1121128	carbonated soft drinks - spirits	quinine (CAS No 130-95-0)	different varieties available (non-alcoholic and alcoholic)	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order from on page 65.

## non-alcoholic beverages

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121015	coffee	water, ash, pH-value, acidity, water soluble extract, caffeine, acrylamide	-	150 g	
1121129	green coffee	loss in mass at 105 °C acc. to ISO 6673	-	on request	
1121016	tea	dry matter, ash, water soluble ash, water soluble extract, caffeine, theobromine, theophylline, acid-insoluble ash	-	120 g	
1121083	pyrrolizidine alkaloids in tea	quant. determination of three distinct pyrrolizidine alkaloids, e.g. lycopsamine, echimidine, retrorsine, senecionine, seneciphylline, senkirkinine, heliotrine, monocrotaline or lasiocarpine	-	2 x 1 g	
1121017	energiedrink	pH-value, taurine, caffeine, inosit, sucrose, glucose, fructose	-	500 ml	
1121018	vitamin solution	thiamine (vitamin B1), riboflavine (vitamin B2), pyridoxine (vitamin B6), cobalamin (vitamin B12), L-ascorbic acid (vitamin C), $\alpha$ -tocopherol (vitamin E), folic acid (vitamin B11), pantothenic acid (vitamin B5), niacin (vitamin B3)	-	4 g	
1121019	orange juice type 1	total carotenoid, fraction I: carotenoid, fraction II: cryptoxanthinester, fraction III: xanthophyllester	-	100 g	
1121021	carrot juice	relative density 20 °C / 20 °C, pH-value, titratable acid, sucrose, fructose, glucose, nitrate, $\beta$ -carotene, $\alpha$ -carotene, total carotene	-	300 ml	
1121058	fruit juice concentrate type 1	brix value, ph value, titratable acidity, citric acid, D-isocitric-acid, L-malic acid, ascorbic acid, lactic acid, citric acid - isocitric acid ration, hesperidin	-	100 g	
1121059	fruit juice concentrate type 2	brix value, titratable acidity, glucose, fructose, sucrose, total sugar, sugar free extract, glucose-fructose ration, % sucrose of sugar	-	100 g	
1121062	fruit juice concentrate type 3	brix value, ph value, titratable acidity, ash, potassium, calcium, magnesium, total phosphorus, sodium, nitrate, copper, iron	-	100 g	
1121053	grape juice	sulphur dioxide (SO <sub>2</sub> )	several concentrations of SO <sub>2</sub>	80 ml	
1121054	currant juice	lead, cadmium, arsenic, copper, zinc, iron, tin, mercury, aluminium	-	100 ml	

\* in individual cases it can happen that there is no reference value available for a listed parameter



Please use the order form on page 65.

## non-alcoholic beverages

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121055	tomato juice	ergosterol	-	50 ml	
1121070	orange juice	Carbendazim	-	on request	
1121092	plant drink (milk alternative)	fat, dry matter, protein, freezing point, density	-	on request	
1121114	trace elements in mineral water	uranium, vanadium, boron	-	on request	
1121115	sugar substitutes in food	isomalt, lactite, maltitol, mannitol, sorbitol, xylitol	-	on request	
1121125	Quinolizidine alkaloids in Lupins Drink	At least 3 different quinolizidine alkaloids quantitatively, e.g. lupanine, lupinin, spartein	-	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order from on page 65.

## egg products

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121028	egg products	total lipids, dry matter, protein, pH-value, cholesterol, $\alpha$ -linolenic acid, eicosapentaenoic acid, docosahexaenoic acid, salt content (sodium chloride)	-	100 g	
1121029	egg pasta	water, fat, raw protein, ash, chloride, cholesterol, total sterine, egg content, fibre	-	300 g	
1121030	mayonnaise	total acid, dry matter, fat, phosphatid-P205, cholesterol, egg yolk content, sorbic acid, benzoic acid, salt content (sodium chloride)	-	150 g	
1121027	residues in liquid egg	fat, nicotine, dioxins, dioxin-like PCBs	-	100 g	
1121066	antibiotics in liquid egg	quant. determination of one antibiotic each from the substance groups nitrofurans, sulfonamides, tetracycline, chloramphenicol	-	100 g	
1121088	egg powder	fat, alpha-amylase, ash, pH value, water content, salt content, lactic acid, hydroxybutyric acid	-	100 g	
1121126	Hormons in liquid egg	At least one androgen, at least one estrogen and at least one progestin quantitatively	-	on request	

## declaration nutritional values

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121044	declaration nutritional values with 2 different food stuff	energy, protein, carbohydrate, sugar, fat, saturated fatty acids, fibre, sodium	-	125 g	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order form on page 65.

## meat products

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121031	boiled sausage type 1	fat, water content, ash, protein, collagen, sodium chloride, nitrate, diphosphorus pentoxide (P2O5), calcium, nitrite, aw-value, starch	-	125 g	
1121032	boiled sausage type 2	non-protein nitrogen (NPN), collagen degradation products, L-glutamic acid, citric acid, sodium acetate, L-lactat, sodium nitrate, sodium nitrite, ascorbic acid, pH value	-	250 g	
1121033	raw sausage type 1	aw-value, pH-value, D- & L-lactic acid, sodium, nitrate, nitrite, sorbic acid, monounsaturated fatty acids, saturated fatty acids, fat	-	200 g	
1121060	raw sausage type 2	fat, water content, protein, ash, sodium chloride, hydroxyproline, diphosphorus pentoxide (P2O5), sodium, starch, solubilised milk protein	-	200 g	
1121069	vegetarian sausage substitute	fat, protein, dry matter, sodium chloride, ash, fibre	-	150 g	
1121093	Detection of soy protein in meat and meat products	soy protein quantitative	-	on request	

## fish and seafood

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121034	fish paste type 1	water, fat, raw protein, ash, sodium chloride, arsenic, iodine	-	100 g	
1121035	fish paste type 2	fat, sorbic acid, benzoic acid, saccharin, cyclamate, citric acid	-	100 g	
1121127	Nitrosamines in fish	At least 3 nitrosamines quantitatively, e.g. N-nitrosodimethylamine (NDMA), N-nitrososarcosine (NSAR), N-nitrosohydroxyproline (NHPRO)	-	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order form on page 65.

## cereal products

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121037	pastries (baking mix)	fat, dry matter, protein, ash, milk fat, starch, sucrose	-	200 g	
1121061	pastries (bread)	propionic acid	-	50 g	
1121038	flour	moisture content, raw protein, ash, starch, wet gluten content, falling number	-	300 g	
1121039	gluten	Gluten (prolamin contamination) in flour, e.g. oat flour and corn flour	-	on request	
1121040	butter biscuit	ash, dry matter, raw protein, fat, semimicro butyric acid number, free butyric acid, butyric acid methyl ester, milk fat, starch, cholesterol, sucrose, fibre	-	250 g	
1101012	corn aflatoxin	aflatoxin	1.00 ppb - 30.00 ppb 15.00 ppb - 100.00 ppb	50 g	
1101013	corn DON	DON	0.10 ppm - 1.25 ppm 1.00 ppm - 6.00 ppm	50 g	
1101014	corn fumonisin	fumonisin	0.10 ppm - 1.25 ppm 1.00 ppm - 6.00 ppm	50 g	
1101015	corn ochratoxin	ochratoxin	1.00 ppb - 30.00 ppb 15.00 ppb - 100.00 ppb	50 g	
1101016	corn zearalenone	zearalenone	50.00 ppb - 1500.00 ppb	50 g	
1101017	wheat DON	DON	0.10 ppm - 1.25 ppm 1.00 ppm - 6.00 ppm	50 g	
1101018	wheat ochratoxin	ochratoxin	1.00 ppb - 30.00 ppb 15.00 ppb - 100.00 ppb	50 g	
1101019	barley DON	DON	0.05 ppm - 3.00 ppm	50 g	
1101020	brown rice aflatoxin	aflatoxin	1.00 ppb - 20.00 ppb	50 g	
1101021	biscuits (soy)	soy in biscuits	3.00 ppm - 30.00 ppm	6 g	
1121071	cereal / cereal products	glyphosat	-	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order from on page 65.

### cereal products

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121072	rice	arsenic	-	on request	
1121116	determination of the sedimentation index - Zeleny test (ISO 5529)	sedimentation index (ml) - (acc. To Zeleny)	-	on request	
1121117	determination of alveograph properties of dough - ISO 27971	determination of alveograph properties of dough	-	on request	
1121118	determination of water absorption and rheological properties using a farinograph - ISO 5530-1	determination of water absorption and rheological properties using a farinograph	-	on request	
1121119	determination of rheological properties using an extensograph - ISO 5530-2	determination of rheological properties using an extensograph	-	on request	
1121120	determination of water absorption and rheological properties using a valorigraph - ISO 5530-3	determination of water absorption and rheological properties using a valorigraph	-	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order from on page 65.

### infant formula

Art. No.	material description	parameter *	additional information	packaging unit	prices
1101009	jar food	fat, protein, ash, moisture, vitamin C	-	on request	
1121041	baby porridge powder type 1	water, fat, raw protein, ash, sucrose, glucose, fructose	-	100 g	
1121042	baby porridge powder type 2	sodium, potassium, magnesium, calcium, iron, zinc, iodine	-	100 g	
1121043	baby porridge powder type 3	vitamin B1, vitamin B2, vitamin B6, vitamin B12, vitamin A, vitamin C, vitamin E, folic acid, pantothenic acid, biotin	-	200 g	
1101010	milk powder IMF type 1	fat, protein, ash, moisture, vitamin A (retinol), vitamin C	-	100 g	
1101011	milk powder IMF type 2	sodium, potassium, calcium, magnesium, phosphorus, iron, copper, zinc, manganese	-	on request	
1101026	milk powder IMF allergens	gliadin, soy, casein, lactose, $\beta$ -lactoglobuline	-	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order form on page 65.

### other food matrices

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121045	protein powder	protein, riboflavine (vitamin B2), pyridoxine (vitamin B6), ascorbic acid (vitamin C)	-	100 g	
1121046	delicatessen salad	benzoic acid, sorbic acid, PHB-ester	-	50 g	
1121048	chocolate	fat, water content, protein, lactose, milk fat, theobromine, sucrose, total alkaloids, caffeine	chocolate bitter-sweet whole milk chocolate	100 g	
1121049	edible fat type 1	distribution of fatty	-	200 ml	
1121068	edible fat type 2	iodine, acid, peroxide, saponification, tocopherole, free fatty acids, p-anisidine value, refraction index, water content, total sterols	-	200 ml	
1121050	mustard	dry matter, total acid, sodium chloride, allyl mustard oil, SO2 (sulphur dioxide), fat	-	300 g	
1121089	PAHs in animal and vegetable fats and oils	naphthalene, anthracene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(j)fluoranthene, benzo(e)pyrene, benzo(a)pyrene, dibenz(ah)anthracene (at least 5 of the parameters quantitative)	A PAH concentration in the samples of approximately 0,1-5 µg/kg per PAH is to be expected.	50 g	
1121090	Determination of natural thickeners	agar, carrageenan, guar, gum arabic, locust bean gum, sodium alginate and pectin		on request	
1121094	aflatoxins in chocolate	aflatoxin B1, B2, G1, G2, total aflatoxin content		on request	
1121095	pesticides in chocolate	quant. determination of several pesticides from the fields of herbicides, insecticides and fungicides		on request	
1121100	sugar free candies	sucrose, glucose, fructose, water content	total sugar content < 0.5%, reference method for sugar: enzymatics	on request	
1121104	metals in cocoa and chocolate	cadmium, lead, iron, aluminum, copper, zinc, mercury, nickel and arsenic (min. 5 of the metals contained)	-	on request	
1121105	acrylamide in cocoa and chocolate	acrylamide	-	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order form on page 65.

### other food matrices

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121106	cannabis oil	CAS 13956-29-1 Cannabidiol (CBD)	-	on request	
1121107	vegetarian bread spread	fat, protein, dry matter, salt, ashes, pH-value	-	on request	
1121108	metals in hummus	cadmium, nickel	-	on request	
1121109	pyrrolizidine alkaloids in spices	quan. determination of three distinct pyrrolizidine alkaloids, e.g. lycopsamine, echimidine, retrorsine, senecionine, seneciphylline, senkirkine, heliotrine, monocrotaline or lasiocarpine	-	on request	
1121110	nicotine replacement products	Nicotine in nicotine pouches	-	on request	
1121123	Metals in tobacco	cadmium, lead, iron, aluminum, copper, zinc, mercury, nickel and arsenic (min. 5 of the metals contained)	-	on request	
1121124	MCPD and glycidol in edible oil	3-Monochlorpropandiol (3-MCPD), 2-Monochlorpropandiol (2-MCPD), Glycidol	-	on request	

### mineral oil in food stuff

Art. No.	material description	parameter *	additional information	packaging unit	prices
1151016	mineral oil in low-fat and starch-rich foodstuff	MOSH C10-C16, MOSH C16-C20, MOSH C20-C25, MOSH C25-C35, MOSH C35-C40, MOSH C40-C50, MOAH C10-C16, MOAH C16-C25, MOAH C25-C35, MOAH C35-C50	-	50 g	
1151053	mineral oil in cocoa butter and chocolate	MOSH C10-C16, MOSH C16-C20, MOSH C20-C25, MOSH C25-C35, MOSH C35-C40, MOSH C40-C50, MOAH C10-C16, MOAH C16-C25, MOAH C25-C35, MOAH C35-C50	-	50 g	
1151104	mineral oil in cheese and milk powder	MOSH C10-C16, MOSH C16-C20, MOSH C20-C25, MOSH C25-C35, MOSH C35-C40, MOSH C40-C50, MOAH C10-C16, MOAH C16-C25, MOAH C25-C35, MOAH C35-C50	-	on request	
1151017	mineral oil in edible fat and edible oil	MOSH C16-C25, MOSH C25-C35, MOSH C35-C50, MOAH C16-C25, MOAH C25-C35, MOAH C35-C50	-	15 g	

\* in individual cases it can happen that there is no reference value available for a listed parameter



Please use the order form on page 65.

## honey and beeswax

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121047	honey type 1	diastase activity, proline, HMF, conductivity, pH-value, water, glycerin, ethanol	-	250 g	
1121067	honey type 2	glucose, fructose, maltose, saccharose, turanose, saccharase number, free acids, ash	-	250 g	
1121074	antibiotics in honey	quan. determination of one antibiotic of each of the substance groups sulfonamides and tetracyclines as well as of chloramphenicol and streptomycin	-	125 ml	
1121075	pesticide residues in honey	quan. determination of several plant protection agents out of the fields herbicides, insecticides and fungicides	-	on request	
1121076	pyrrolizidine alkaloids in honey	quan. determination of three distinct pyrrolizidine alkaloids, e.g. lycopsamine, echimidine, retrorsine, senecionine, seneciphylline, senkirkine, heliotrine, monocrotaline or lasiocarpine	-	100 g	
1121077	veterinary drug residues in honey	quan. determination of three distinct veterinary drugs or their components, e.g. thymol, phenol, naphthalene, cymiazol, coumaphos or amitraz	-	on request	
1121078	GMOs in honey	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV	-	100 g	
1121079	relative frequency of pollen in honey	relative frequency of pollen	-	on request	
1121080	falsification honey	rice syrup and sugar beet syrup in honey	-	on request	
1121081	residues in beeswax	quan. determination of three distinct substances out of the fields varroa veterinary drugs and plant protection agents	-	on request	
1121082	falsification beeswax	paraffin wax content, stearin content	-	app. 100 g	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order form on page 65.

### animal feed

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121111	metals in animal feed	cadmium, lead, iron, aluminum, copper, zinc, mercury, nickel and arsenic (min. 5 of the metals contained)	-	on request	
1121112	ingredients animal feed	moisture content, crude protein content, crude oil, crude ash, crude fiber, sugar, lactose, starch, crude ash	-	on request	
1121113	animal components in animal feed	qualitative identification of animal components	-	on request	
1121052	animal feed mycotoxins	OTA, DON, aflatoxin	-	on request	
1121097	Fluoride content in animal feed	fluoride content	-	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order from on page 65.

### drinking water

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121121	pharmaceutical residues in drinking water	Diclofenac, Ibuprofen	-	on request	
1121122	Microplastic in water	particle number	-	on request	

*\* in individual cases it can happen that there is no reference value available for a listed parameter*

Please use the order form on page 65.

## determination of animal species

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121056	beef, pork, horse	qualitative detection of the animal species beef, pork and horse (participation with protein and DNA based methods possible) and quantitative detection of the relative amount of animal species (only DNA-based methods possible)	-	50 g	
1121057	porcine and beef DNA in gelatine	Qualitative detection of low amounts of porcine ( <i>sus scrofa</i> ) and beef ( <i>bos taurus</i> ) DNA in highly processed food matrix (gelatin) in this proficiency testing also the DNA of sheep, goat and fish can be requested	3 different samples (1 x negative, 2 x positive)	3 x 1 g	
1121057	porcine and beef DNA in gelatine	Qualitative detection of low amounts of porcine ( <i>sus scrofa</i> ) and beef ( <i>bos taurus</i> ) DNA in highly processed food matrix (gelatin) in this proficiency testing also the DNA of sheep, goat and fish can be requested	1 material (positive or negative)	1 g	
1121096	porcine DNA in Candy	Qualitative detection of low amounts of porcine ( <i>sus scrofa</i> ) DNA in candy (gummy candy)	3 different samples	2 g	
1121103	detection of the animal species in milk	animal species qualitative	The animal species can be detected in 3 different milks by isoelectric focusing, ELISA or PCR.	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order form on page 65.

## GMO

Art. No.	material description	parameter *	additional information	packaging unit	prices
1121073	soy (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene soy (construct or event specific methods possible)	-	10 g	
1121078	GMOs in honey	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV	-	100 g	
1121084	corn (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene corn (construct or event specific methods possible)	-	on request	
1121085	rice (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene rice (construct or event specific methods possible)	-	on request	
1121086	canola (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene canola (construct or event specific methods possible)	-	on request	
1121087	cotton (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene cotton (construct or event specific methods possible)	-	on request	
1121101	potato (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene potato (construct or event specific methods possible)	-	on request	
1121102	sugar beet (GMO)	qualitative detection of different screening elements, e.g. P-35S, T-NOS and P-FMV as well as the quantitative detection of the relative amount of transgene sugar beet (construct or event specific methods possible)	-	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order from on page 65.

## ranking test

Art. No.	material description	parameter *	additional information	packaging unit	prices
3301001	water with basic taste (ranking test)	4 samples with different concentrations (sufficient for 5 assessors)	bitter, sweet, sour or salty	sample sets 4 x 500 ml	
3301002	beer (ranking test, Diacetyl)	4 samples with different concentrations (sufficient for 5 assessors)	Diacetyl	sample sets 4 x 500 ml	
3301003	yoghurt with basic taste (ranking test)	4 samples with different concentrations (sufficient for 5 assessors)	sweet sour salty	sample sets 4 x 500 ml	
3301004	yoghurt with flavours (ranking test)	4 samples with different concentrations (sufficient for 5 assessors)	strawberry, cherry, vanilla, peach, lemon	sample sets 4 x 500 ml	

## triangle test

Art. No.	material description	parameter *	additional information	packaging unit	prices
3311001	water with basic taste (triangle test)	3 coded samples sets - triads (sufficient for 5 assessors)	bitter, sweet, sour or salty	3 coded sample sets - triads	
3311002	fruit juice (triangle test, flavour taint)	3 coded samples sets - triads (sufficient for 3 assessors)	flavour taint	3 coded sample sets - triads	
3311003	beer (triangle test, Diacetyl)	3 coded samples sets - triads (sufficient for 5 assessors)	Diacetyl	3 coded sample sets - triads	
3311004	yoghurt with basic taste (triangle test)	3 coded samples sets - triads (sufficient for 5 assessors)	sweet sour salty	3 coded sample sets - triads	
3311005	yoghurt with flavours (triangle test)	3 coded samples sets - triads (sufficient for 5 assessors)	strawberry, cherry, vanilla, peach, lemon	3 coded sample sets - triads	
3311007	tuna (triangle test)	3 coded samples sets - triads (sufficient for 5 assessors)	-	sample set 9 x 200g	
3311008	texture test (triangle test)	3 coded samples sets - triads (sufficient for 5 assessors)	-	on request	
3311009	colour check (triangle test)	3 coded samples sets - triads (sufficient for 5 assessors)	-	on request	
3311011	apple juice (triangle test, basic taste)	3 coded samples sets - triads (sufficient for 5 assessors)	-	on request	
3311012	milk (triangle test, flavour taint)	3 coded samples sets - triads (sufficient for 5 assessors)	-	on request	
3311013	coffee infusion (triangle test, flavour taint)	3 coded samples sets - triads (sufficient for 5 assessors)	-	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order form on page 65.

### threshold value

Art. No.	material description	parameter *	additional information	packaging unit	prices
3321001	drinking water TON acc. to EN 1622	sample set (raw material + instruction) for the threshold odour number determination	characteristic off-flavour in drinking water	sample set for a panel (with 3 assessors)	
3321002	drinking water TFN acc. to EN 1622	sample set (raw material + instruction) for the threshold flavour number determination	characteristic off-flavour in drinking water	sample set for a panel (with 3 assessors)	
3321007	fruit juice (threshold value examination, flavour taint)	sample set (raw material + instruction) for the threshold value determination	off-flavour	sample set for one assessor	

### descriptive testing

Art. No.	material description	parameter *	additional information	packaging unit	prices
3321005	chocolate (simple descriptive testing)	examination for panels simple descriptive testing	up to 5 assessors	200 g	
3321006	chocolate (profile testing)	examination for panels profile testing	up to 5 assessors	200 g	
3321008	honey (simple descriptive testing)	examination for panels simple descriptive testing	up to 5 assessors	on request	
3321009	boiled sausage (simple descriptive testing)	examination for panels simple descriptive testing	up to 5 assessors	on request	
3321010	coffee (simple descriptive testing)	examination for panels simple descriptive testing	up to 5 assessors	on request	
3321011	coffee (profile testing)	examination for panels profile testing	up to 5 assessors	on request	

\* in individual cases it can happen that there is no reference value available for a listed parameter

Please use the order form on page 65.

	material description	description	additional information	packaging unit	price
	ADR- security certified DRRR- freezing packaging system  RM-ADR VP 1	<b>Our certified packagings fulfill the requirements of ADR especially of the dangerous goods directive GGVSE and GGVSee. These systems are also convenient for the shipping of pathogenic bacteria of risk group 2.</b>	guaranteed temperature assurance: 24 hours	VP 1 app. 310 x 250 x 190 mm	
	ADR- security certified DRRR- freezing packaging system  RM-ADR VP 2	<b>Our certified packagings fulfill the requirements of ADR especially of the dangerous goods directive GGVSE and GGVSee. These systems are also convenient for the shipping of pathogenic bacteria of risk group 2.</b>	guaranteed temperature assurance: 48 hours	VP 2 app. 350 x 350 x 300 mm	
	Excel-Sheets lab own's measurement uncertainty	<b>These systems are convenient for the calculation of your lab own's measurement uncertainty.</b>	Licence contract between customer and DRRR GmbH required.	-	



quantity	material type / material description / article no.	notes (e.g. time period for regular delivery)

Please notice that we process orders only at a minimum order value of 50 €.

Please send order form to:  
fax-no. +49 (0)8 31/960 878-99  
or  
e-mail: [info@DRRR.de](mailto:info@DRRR.de)

- An offer with the total costs is needed
- A Purchase order from the purchasing department will follow

**DRRR-customer number** \_\_\_\_\_

**company** \_\_\_\_\_

**company (additional line)** \_\_\_\_\_

**contact person** \_\_\_\_\_

**street** \_\_\_\_\_

**post-code /city** \_\_\_\_\_

**country (if not Germany)** \_\_\_\_\_

**fon** \_\_\_\_\_

**fax** \_\_\_\_\_

**e-mail** \_\_\_\_\_

**e-mail for invoices** \_\_\_\_\_

**VAT-ID-No. (if available)** \_\_\_\_\_

With your signature you agree with our general terms and conditions.

\_\_\_\_\_ date

\_\_\_\_\_ signature

We have collected wide experience in building up and operating process orientated quality management systems. Our experience is based on an intensive quality management qualification (DQG –EOQ quality manager). Feedback of our costumers gives us a wide overview about the various requirements that companies have to pass at audit situations.

As a qualified and examined auditor (DGQ-EOQ auditor quality, TGA) we are capable to estimate a company from different perspectives if quality management system is fit for audit and following we can show potentials for improvement.

**On the basis of our international activities we also have experience in building up and implementation of quality management systems in developing countries. We place our services at your disposal for international questions.**

We offer assistance for the following questions:

- building up process orientated quality management
- building up of a secure testing agent system
- assessment of quality systems in preparation for audits
- advice in operating effective quality management systems

With our expertise in interpreting ISO 9001 over IFS to DIN 17025 we serve companies of food economy and laboratories.

### IR-Seminar

The IR-seminar explains how to analyze different kind of food by IR spectroscopy. Furthermore specific peculiarities for the IR calibration of selected food will be discussed. The specific peculiarities of the calibration will be explained intensify. How to calibrate? When you have to update the calibration? What is the cause of measurement problems?

**The seminar will be complemented by theoretical exercises on IR spectroscopy. In the practical exercise calibration data sets will be testes for suitability and critical data sets will be identified.**

### Sensory seminar

The importance of the sensory in the food stuff industry will be explained and clarified in practice. The current state of new tastes is presented. Furthermore the participant will be enabling to apply the sensory testing methods. The use of sensory methods will be explained and on the basis of various sensory materials implemented.

**The sensory measurement uncertainty of each participant will be determined at a practical example.**

### User-Workshop

Typical questions in the chemical and microbiological analysis of food, especially dairy products are presented and possible solutions will be demonstrated.

**A lot of space for the exchanging of knowledge and experience is provided at the User-Workshop. Therefore some experts are available as contact persons.**

Furthermore efficient ways to increase the laboratory quality will be presented. The seminar is accompanied by the practical experience of users.

### Statistics seminar for beginners

This seminar presents the Binomial-, Poisson- and Normal distribution and the application of them. Problem cases and the classis misinterpretation due to a false outlier treatment by the application of the Normal distribution are shown.

**The seminar is complemented by practical exercises with the notebook.**

### Statistics seminar for advanced learners

This seminar presents the Shapiro-Wilk-Test,  $q_{i^2}$ -adaptation test, Median and MAD (Median absolute deviation) and their application. Furthermore the participants will be informed about the robust standard deviation after Q-method and the robust average after Hampel.

**The seminar is complemented by practical exercises with the notebook.**

### Implementation of DIN EN ISO/IEC 17025 in food laboratories

The participants will learn all items to implement a successful internal audit. Furthermore typical errors of the implementation of the audit will be targeted and avoidance strategies are communicated. The reliable identification of the deviation in audits and their successful processing in the form of measures will be trained.

### Inhouse-Training

We consider lectures, training and seminars as in important duty. Not primary concerning commercial possibilities but by reason that the knowledge transfer is the most important item in every department of our society.

- Seminar and training (one-day) of handling and implementation of proficiency testing
- Seminar and training (one-day) of operating control charts
- Seminar and training of sensory (customised product sensory)

**You will benefit of the extensive experience of the DRRR, because the DRRR go through the audit situation in a perspective of 360 ° as an auditor, as an audited person and as a neutral expert.**

**For special requirements we also offer customised training programmes.**

**For questions about contents and conditions do no hesitate to contact us.**

## Terms of payment

Our prices are net prices (plus 19% value added tax). Customers from European countries can provide us with their EU-VAT-Identification number, then they will be exempt from German value added tax.

Terms of payment: 8 days net, without deduction

Fees for specially required customs documents such as import permits or similar will be invoiced according to time and effort.

Our bank details:

Raiffeisenbank in Allgäuer Land / bank code 733 692 64

Account 102350 / IBAN DE 94733692640000102350

BIC code: GENO DEF1DTA

Sales tax ID no. DE254613132

tax number 127/124/32207

## Terms of delivery

Shipping costs for reference materials and proficiency tests will be invoiced according to time and effort. All samples and packaging materials are the property of the DRRR. Samples that are used for non-destructive testing and are therefore not subject to destruction in the course of the proficiency test can be reclaimed by the DRRR upon request. The DRRR shall bear the shipping costs for the return transport if the materials are reclaimed.

Proficiency tests or reference materials marked “frozen” are shipped with our ADR safety tested frozen packaging system. A packaging fee is charged for the polystyrene box including cooling accumulators and air bubble film as well as the protective outer packaging. Frozen materials are shipped by express service. With the delivery of reference materials, you will receive a quality certificate with the details of the respective reference values as well as associated uncertainties.

## Terms of delivery (risk group 1, 2 and 3)

Proficiency tests or reference materials marked with “Risk Group 1” are not subject to any participation restrictions according to § 44 IfSG (Infektionsschutzgesetz).

For proficiency tests or reference materials marked with “risk group 2, or risk group 3\*\*\*”, we need a permission from your laboratory according to § 44 IfSG (Infektionsschutzgesetz) or similar. Please enclose a copy of the permission with your registration or order.

Our general terms and conditions (Allgemeine Geschäftsbedingungen) are valid!

**The German reference office for proficiency testing and reference materials GmbH (hereinafter referred to as DRRR) for freely agreed services, in particular testing, training and expert activities as well as reference materials.**

## § 1 General terms and conditions

The client acknowledges the General Terms and Conditions and price lists valid at the time of placing the order. Deviating terms and conditions of individual clients cannot be accepted.

Collateral agreements, promises and other declarations by the employees of the DRRR are only binding if they are expressly confirmed in writing by the DRRR. This shall also apply to amendments to this clause.

If individual regulations within this contract or its components are ineffective, this does not affect the validity of the remaining regulations. The contracting parties shall have a duty, acting in accordance with the principles of good faith, to replace any invalid provision by one which is valid and which produces the same economic outcome as that intended by the invalid provision and providing that such replacement does not result in any change to the content of the contract; the same shall also apply analogously to any matter which requires regulation but for which no provision is made in these Terms and Conditions.

## § 2 Execution of the order

The orders accepted by the DRRR shall be carried out or expert opinions shall be prepared in accordance with the recognized rules of technology and – unless otherwise agreed in writing – in the manner customary at the DRRR. No responsibility shall be assumed for the correctness of the safety programs or safety regulations on which the tests are based, unless expressly agreed otherwise in writing.

The scope of the DRRR's work shall be specified in writing when the order is placed. If the proper execution of the order results in changes or extensions to the specified scope of the order, such changes or extensions shall be agreed in writing prior to execution. If the Customer can no longer be reasonably expected to adhere to the contract with regard to the changes or extensions, the Customer shall in this case be entitled to withdraw from the contract. However, according to § 649 BGB, the client must pay the agreed remuneration or, in the absence of an agreement, an appropriate remuneration.

The contractual services of the DRRR are deemed to have been rendered upon preparation of the respective final reports or expert reports.

A seminar registration can be cancelled free of charge for up to 6 weeks, after which the customer will be invoiced for the costs of the participants depending on the time and effort involved.

The following cancellation conditions apply to the cancellation of a proficiency testing:

<b>Cancelation notification period:</b>	Permanent registration (D)
	single (one-time) registration (E)
up to 3 months before the proficiency testing	no costs (D)
	50,00 € (E)
3 months before the proficiency testing start	50,00 € (D)
	half proficiency testing price (E)
sample shipment – deadline of the results	complete price of the proficiency testing and any further incurred costs (D & E)

## § 3 Deadlines

The order deadlines specified by the DRRR shall not be binding unless their binding nature has been expressly agreed in written form.

## § 4 Warranty and liability

The integrity of the sample material to a defined condition is only guaranteed until the first border crossing in the case of foreign shipments.

Safety note: When sending materials of risk group 2, the DRRR must receive a letter from the recipient stating that the recipient is authorized to handle hazardous materials (e.g. pathogenic germs).

The DRRR's warranty only covers the services expressly commissioned to it pursuant to Section 2.

No warranty is thereby assumed for the correctness and functioning of the relevant overall system, measuring instruments or materials to which the examined or tested samples belong; in particular, the DRRR bears no responsibility for packaging, material selection and construction of the examined systems, measuring instruments or assemblies, unless these issues are expressly the subject of the order.

Even in the latter case, the warranty obligation and legal responsibility of the manufacturer are neither limited nor assumed.

The warranty obligation of the DRRR is limited to the rectification of an error or defect or, in the absence of a warranted characteristic, to the achievement of this characteristic within a reasonable period of time. If the rectification or creation of the characteristic fails, i.e. if it becomes impossible or unreasonable for the Customer or is refused or unduly delayed by the DRRR, the Customer shall be entitled to demand a reduction in the remuneration or rescission of the contract, at its discretion.

The DRRR shall not be liable for any work performed by the Customer in the event of incorrect proficiency tests or reference materials.

The DRRR only assumes liability for certain properties, in particular for the fact that the service is suitable for the purposes of the Customer, if a corresponding assurance of the properties in question has been given. Any liability for consequential damages from positive breach of contract due to warranted characteristics is excluded, unless the warranty was intended to protect against such consequential damages. Claims for damages of the client from §§ 463, 635 BGB due to the lack of assured characteristics remain unaffected.

If an error or defect that does not represent the absence of a warranted characteristic is due to a circumstance for which the DRRR is responsible, the DRRR shall only be liable for any damage incurred by the Customer as a result thereof per order up to a maximum amount that corresponds to the value of the order agreed in accordance with Section 2.

The materials may only be used for the corresponding scientific purpose by trained qualified personnel. The DRRR is in no case responsible and liable for used, unused or unusable samples.

The samples are intended for analytical purposes only. The DRRR assumes no liability if the samples are not used for the intended analytical purposes.

All materials are definitely not suitable for human consumption unless they are sensory materials. Oral ingestion of materials not intended for sensory purposes can be harmful to health.

In the case of sensory materials, it is the responsibility of the test persons themselves to check whether they can test the materials with regard to allergies. The ingredients of the sensory materials are declared.

All samples and packaging materials are the property of the DRRR. Samples that are used for non-destructive testing and are therefore not subject to destruction in the course of the interlaboratory comparison can be reclaimed by the DRRR upon request. The DRRR will bear the shipping costs for the return transport, if the materials are reclaimed.

The analytical properties of the material can only be guaranteed if the transport, storage and use conditions specified by the DRRR are observed.

For frozen samples, the DRRR only guarantees that the samples will be treated in accordance with the material properties stated in the data sheet. For frozen samples delivered to countries outside the EU, we can only guarantee the sample properties up to the first customs clearance point at the respective EU border.

## § 5 Exclusion of further liability and claims

The risk (transport and remuneration risk) shall pass to the Customer as soon as the goods have left the DRRR, regardless of whether the goods are transported by the Customer's own or third-party means of transport.

Claims for damages by the client are excluded. This does not apply to intent, gross negligence, breach of essential contractual obligations of the DRRR or the lack of properties guaranteed in writing.

All further claims of the client for direct and indirect damage – for whatever legal reason – in particular claims for damages due to positive breach of contract or from tort and for compensation for damage that did not occur on the object of the order itself are excluded. Irrespective of this, the client is obliged to take out the usual insurance against direct and indirect damage.

## § 6 Remuneration and payment terms

Unless otherwise stated, the prices are in euros and do not include value added tax. This will be invoiced separately at the currently applicable rate in accordance with the applicable tax regulations.

The goods remain the property of DRRR until they have been paid for in full by the customer.

The fees according to the DRRR's currently valid List of Services shall apply to the calculation of the services unless a fixed price or another basis of assessment has been expressly agreed in writing. In the absence of a valid specification of services, individual contractual arrangements shall be made in each case.

Advances on costs can be requested. Partial invoices can also be issued in accordance with the services rendered. Partial invoices need not be marked as such. The receipt of an invoice does not mean that the DRRR has fully invoiced the order.

The fees are due for payment immediately after invoicing, at the latest by the date printed on the invoice (8 days net, without deduction). Unless another arrangement has been made. If payment is made at a later date, default interest of 2% above EURIBOR will be charged on the outstanding invoice amount for the period between the due date and receipt of payment.

Objections to the invoices of the DRRR must be notified in writing within a preclusive period of 14 days after receipt of the invoice, stating reasons.

## § 7 Confidentiality and copyright

The DRRR reserves the copyrights to the expert opinions, test results, calculations, etc. prepared by it.

The DRRR and its employees may not unauthorizedly disclose or exploit business and operating relationships that come to their knowledge in the course of their work.

The DRRR may take copies for its files of written documents that have been made available to the DRRR for inspection and that are of importance for the performance of the assignment.

If the proficiency test report and the laboratory code are sent by e-mail, no guarantee can be given that confidentiality will be ensured.

## § 8 Place of jurisdiction, place of performance, applicable law

The place of jurisdiction for the assertion of claims for both parties to the contract is Kempten, provided that the conditions according to § 38 of the German Code of Civil Procedure are met. This applies in particular to dunning proceedings.

The place of performance for all obligations arising from the contract is Kempten, the contractor's registered office.

The contractual relationship and all legal relationships are subject exclusively to the law of the Federal Republic of Germany applicable between domestic contracting parties, excluding the Uniform Law on the Sale of Goods and the United Nations Convention on Contracts for the International Sale of Goods.

## § 9 Guarantee of services and goods from cooperation partners

For reference materials sold on behalf of our cooperation partners, the following conditions apply with regard to liability and warranty:

The liability of our cooperation partners, their legal representatives and vicarious agents is limited to cases of intent, gross negligence, absence of a warranted characteristic and breach of an obligation, the non-compliance of which would endanger the purpose of the contract. The liability for proven damages due to grossly negligent conduct is limited to the amount of the contractual remuneration; no liability is assumed for consequential damages. Liability is limited to the use of the reference materials for the purposes described in the respective certificate.

Our cooperation partners guarantee the application of scientific diligence as well as compliance with the recognized rules of technology.

Our cooperation partners are entitled to rectify any defects that occur. If the rectification of defects fails, the client is entitled to demand a reduction of the remuneration or cancellation of the contract at his discretion. Further warranty claims are excluded.

The warranty is limited to the stated expiration date of the reference materials.

This applies to: ieLab, TGZ AQS Baden-Württemberg