

**1. Microbiological food testing**

The listed methods are exemplary. Testing of not listed methods can be installed in short-term. Please do not hesitate to ask us. Benefit from our great experience.

Parameter	Method
Aerobic mesophilic Colony count	§ 64 LFGB L 00.00-88 ISO 4833
Enterobacteriaceae	§ 64 LFGB L 05.00-5 ISO 21528 -1, -2
Coliforms	§ 64 LFGB L 01.00-3 § 64 LFGB L 01.00-2 (MPN)
Escherichia coli	§ 64 LFGB L 01.00-25 (MPN) ISO 16649-2
Shigatoxin-producing Escherichia coli (EHEC, VTEC, STEC)	DIN CEN ISO/TS 13136 (PCR)
Enterococci	§ 64 LFGB L 06.00-32 Slanetz-Bartley 48 h, 37°C
Sulphite reducing clostridia	§ 64 LFGB L 06.00-39 ISO 15213
Clostridium perfringens	§ 64 LFGB L 06.00-39 00.00-57, ISO 7937, ISO 15213 rCAMP-Test
Coagulase positive staphylococci	§ 64 LFGB L 00.00-55 ISO 6888-1
Staphylococcus aureus	§ 64 LFGB L 00.00-55, -100 ISO 6888-1, -2, -3
Bacillus cereus	§ 64 LFGB L 00.00-33 ISO 7932
Yeasts	§ 64 LFGB L 01.00-37 ISO 21527-1, -2
Moulds	§ 64 LFGB L 01.00-37 ISO 21527-1, -2
Pseudomonas spp.	§ 64 LFGB L 06.00-43 ISO 13720
Lactic acid bacteria	§ 64 LFGB L 06.00-35 ISO 15214
Aerobic or anaerobic mesophilic sporeformers	Heat treatment 80°C 10 min, PC-Agar 72 h, 30°C aerobic or anaerobic
Aerobic or anaerobic thermophilic sporeformers	Heat treatment 80°C 10 min, GCP-Agar 72 h, 55°C aerobic or anaerobic
Salmonella	§ 64 LFGB L 00.00-20 ISO 6579, ISO 20838 (PCR) AFNOR Certificate Salmonella QUA 18/3-11/02, PCR
Listeria monocytogenes	§ 64 LFGB L 00.00-22 § 64 LFGB L 00.00-32 ISO 11290, PCR

Campylobacter jejuni	ISO 10272
Cronobacter sakazakii	ISO 22964, PCR
Clostridium botulinum	§ 64 LFGB L 06.00-26

## 2. Sterility and aseptical testing

Parameter	Method
Sterility testing for mesophilic germs, aerobic and anaerobic	FDA / BAM
Sterility testing for thermophilic germs, aerobic and anaerobic	FDA / BAM
Testing for yeasts, moulds and lactic acid bacteria in products with pH < 4,5	FDA / BAM

## 3. Hygiene testing

Parameter	Method
Determination of the germ content of surfaces (Quantitative swap method)	DIN 10113-1
Determination of the germ content of surfaces (Semiquantitative swap method)	DIN 10113-2
Determination of the germ content of surfaces (Contactplate method)	DIN 10113-3

## 4. Water testing

Parameter	Methode
Colony count at 22 °C	TrinkwV 2001 (2011) Anl. 5 I d) bb
Colony count at 36 °C	TrinkwV 2001 (2011) Anl. 5 I d) bb
Coliforms	DIN EN ISO 9308-1 (2014)

Escherichia coli	DIN EN ISO 9308-1 (2014)
Intestinale Enterococci	DIN EN ISO 7899-2
Legionellen spp.	DIN EN ISO 11731-2

### **5. Testing with PCR**

Salmonella, Listeria spp., Listeria monocytogenes, Shigatoxin-producing Escherichia coli (EHEC, VTEC, STEC), Cronobacter sakazakii, Staphylococcus aureus, yeasts and moulds.

### **6. More testings**

- NMKL – Methods (Nordic Committee on Food Analysis)
- BAM (Bacteriological Analytical Manual of the U.S. Food and Drug Administration)
- Harmonized European Pharmacopeia (European Pharmacopeia, Japanese Pharmacopeia, United States Pharmacopeia)
- Challenge-Tests
- Contract research

### **7. Special testing and identifying of germs**

We have very good connections to german referenz laboratories. Therefore we are able to send them samples for special testings we are not carrying out in our laboratory:

- Toxins of staphylococcus aureus or bacillus cereus, shigatoxine
- Identifying of sporeformers and all other germs
- Salmonella-serotyping

### **8. Chemical testing**

The core business of Novum Analytik is microbiological food testing. We don't carry out chemical food testing. In this case we cooperate closely with accredited service laboratories in Germany.

### **9. Services and consulting**

- Consultation in all questions of food-microbiology and hygiene
- Support with microbiological problems, troubleshooting and fixing of required measures
- Line-checks. We have a lot of examples of exclusively successful accomplished line-checks with salmonella, coagulase positive staphylococci, sulphite reducing clostridia, thermophilic sporeformers or Bacillus cereus
- Consultation in HACCP and quality-assurance
- Hygiene controls and hygiene training
- Support with sampling and testing plans

## 10. Accreditations, authorisations

- The laboratory owns a **flexible accreditation** of category I. This means all official methods according ISO, § 64 LFGB, DIN or other norms are accredited according to **DIN EN ISO/IEC 17025**. The methods listed in the certificate of accreditation are exemplary.
- Listed methods for water testing are accredited according DIN EN ISO/IEC 17025 too.
- Novum Analytik has the authorisation to work with pathogens. In Germany you are only allowed to work with pathogens if you meet the requirements according **§ 44 Infektionsschutzgesetz (IfSG)**.
- Reinhold Gruss has been authorized by the Regional Council in Stuttgart as **microbiological expert** for testing official left samples according to § 43 LFGB (Lebensmittel- und Futtermittelgesetzbuch, German food and feed legislation).

## 11. Committees

Since 1996 Reinhold Gruss has been an active member of the working group "Microbiological Limits" of the professional group "Food microbiology and hygiene" of the "German association for Hygiene and Microbiology" (Deutsche Gesellschaft für Hygiene und Mikrobiologie, DGHM).

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