



Choose certainty.  
Add value.

Food safety services  
食品安全服务



### Your challenges

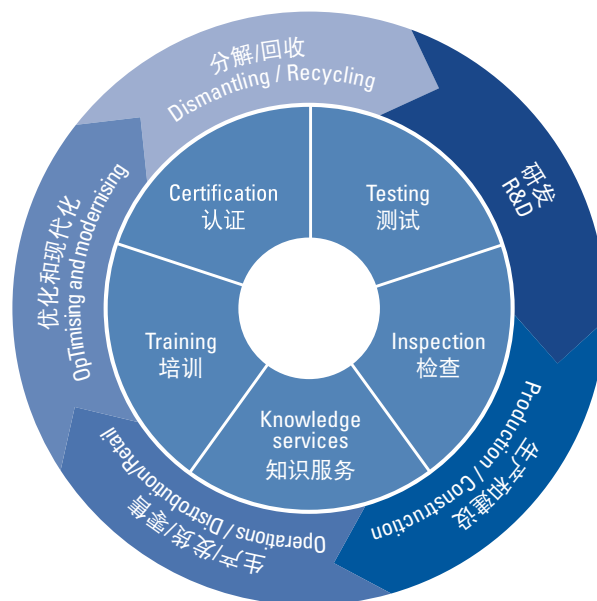
Food and beverage producers, manufacturers, distributors and catering establishments are increasingly under the scrutiny of regulators and consumers. All food manufacturing processes must comply with stringent requirements laid down by food regulators worldwide. It is therefore extremely important that all parties along the food supply chain continually improve and ensure the safety and quality of their chains.

Food recalls cost both manufacturers and exporters millions of dollars and can often cause long-lasting damage to a company's brand reputation. TÜV SÜD has been at the forefront of food safety initiatives, providing a one-stop solution including certification, testing, audit, inspection and training for food-related enterprises.

### 您的挑战

食品饮料生产商、制造商、分销商及餐饮企业越来越多地收到监管者及消费者的监督。在世界各地，食品生产的各个环节都必须符合食品监管部门制定的严格标准。因此，食品供应链上的各方不断改进并确保食品质量及安全，是至关重要的。

食品的召回不仅给食品制造商和出口商造成经济上的巨大损失，更对公司品牌和声誉造成长期的影响。TÜV 南德意志集团一直立足于倡导食品安全的最前沿，为食品相关企业提供了“一站式”的解决方案，包括认证、测试、审核、验货和培训等服务内容。





## Our services

TÜV SÜD FHB laboratories can provide comprehensive test program including but not limited to the following contents:

### Microbiological/ Physical and chemical/ Elemental analysis test

#### Microbiological test

- Pathogenic and non-pathogenic bacteria: total bacterial count, coliforms, E. coli, total mold and yeast, lactic acid bacteria, E. coli O157: H7, Salmonella, Shigella, Staphylococcus aureus, Listeria monocytogenes coli, Vibrio parahaemolyticus, E. sakazakii, Legionella.

#### Physical and chemical testing

- moisture, ash, total soluble solids, pH, conductivity, chromaticity, relative density, acidity, histamine, carbonyl value, urease test, TVBN, peroxide value, caffeine, solvent residue, fluorescent substance, saponification value, nitrite, iodine value, etc.

#### Elemental analysis

- Human health is seriously threatened as heavy metals eventually entering the food chain resulting in human living environment pollution. TÜV SÜD FHB laboratory is equipped with advanced inductively coupled plasma emission spectroscopy mass spectrometer, high-precision atomic fluorescence spectrometer and atomic absorption spectrometer, providing full safety inspection from farm to dinner.

## 我们的服务

TÜV南德意志集团食品、健康与美护实验室的综合测试方案包括但不限于以下内容：

### 微生物/常规理化/元素分析测试

#### 微生物检测

- 非致病菌和致病菌：菌落总数、大肠菌群、大肠杆菌、总霉菌和酵母菌、乳酸菌、大肠杆菌O157:H7、沙门氏菌、志贺氏菌、金黄色葡萄球菌、单增李斯特氏菌、副溶血性弧菌、阪崎肠杆菌、军团菌。

#### 常规理化测试

- 水分、灰分、可溶性固形物、pH值、电导率、色度、相对密度、酸度、组胺、羰基价、脲酶试验、挥发性盐基氮、过氧化值、咖啡因、溶剂残留、荧光物质、皂化值、亚硝酸盐、碘值等。

#### 元素分析

- 随着人类居住环境受到污染，各类重金属进入食物链循环，对人类的健康构成极大威胁。TÜV SÜD FHB实验室配备了先进的电感耦合等离子体发射光谱质谱仪，高精度的原子荧光光谱仪和原子吸收光谱仪，提供从农田到餐桌的全程安全检测。



- Analysis of heavy metals and inorganic elements: lead, cadmium, arsenic, mercury, iron, zinc, copper, selenium, manganese, antimony, nickel, chromium, aluminum, tin, rare earth, etc.

#### Nutrition label/ nutrients determination and label review

##### Nutrition label and nutrients determination

According to GB 28050-2011 National food safety standards General principles on nutrition label of the prepackaged food, Enforced from January 1, 2013, pre-packaged food will be mandatory labeled with “4 + 1” and other more nutrition information including the energy, protein, fat, carbohydrates and sodium, etc. TÜV SÜD FHB has carried out food nutrition testing services for many years and can also provide food nutrition labels testing and design services in compliance with the regulation in US FDA, EU, Australia, Malaysia, Singapore and other regions.

- Energy
- Protein: protein content
- Fat: fat content, saturated fat, unsaturated fat, trans fat, cholesterol
- Carbohydrates: carbohydrate content, total sugar, reducing sugar, sucrose, maltose, lactose
- Dietary fiber: Total dietary fiber, soluble dietary fiber and insoluble dietary fiber
- Minerals: sodium, calcium, iron, magnesium, zinc, manganese, selenium
- Vitamins: vitamin A/B1/B2/B3/B5/B6/C/D/E

##### Label review

TÜV SÜD FHB also provides label review service according to GB 7718-2011 which is enforced on April 20th, 2014.

- 重金属及无机元素分析：铅、镉、砷、汞、铁、锌、铜、硒、锰、锑、镍、铬、铝、锡、稀土等。

#### 营养标签/营养成分测定及标签审核

##### 营养标签和营养成分测定

根据GB 28050-2011《食品安全国家标准 预包装食品营养标签通则》的规定，2013年1月1日起，预包装食品将会按照《预包装食品营养标签通则》强制贴上“4+1”及更多信息的营养标签，这些信息包括能量、蛋白质、脂肪、碳水化合物和钠等。TÜV SÜD FHB食品实验室的食品营养成分检测服务已经开展多年，可提供美国FDA、欧盟、澳大利亚、马来西亚、新加坡等国家或区域的商品营养标签测试及设计服务。

- 能量
- 蛋白质：蛋白质含量
- 脂肪：脂肪含量、饱和脂肪、不饱和脂肪、反式脂肪酸、胆固醇
- 碳水化合物：碳水化合物含量、总糖、还原糖、蔗糖、麦芽糖、乳糖、果糖、葡萄糖
- 膳食纤维：总膳食纤维、可溶性膳食纤维、不溶性膳食纤维
- 矿物质：钠、钙、铁、镁、锌、锰、硒
- 维生素：维生素A、维生素B1、维生素B2、维生素B3、维生素B5、维生素B6、维生素C、维生素D、维生素E

##### 标签审核

GB 7718-2011《食品安全国家标准 预包装食品标签通则》于2014年4月20日起强制实施，TÜV SÜD FHB食品实验室可依据GB 7718-2011对食品标签进行审核。



## Pesticide/ veterinary drug residue detection

### Pesticide residue detection

Nowadays pesticide residues pose a serious threat to the earth's environment and human health due to mass production and large-scale use. TÜV SÜD FHB laboratory can screening and quantitatively detecting the pesticide residues in food using various means such as GC-MS, LC-MS.etc

- Pesticide residue detection in fruit, vegetables, cereal grains, tea, honey, fruit juice, fruit wine, animal muscles.

### Veterinary drug residue detection

Veterinary drug residues is refers to veterinary parent compound and (or) its metabolites and impurities associated with veterinary drugs containing in any edible portion of animal origin products, such as fish and meat and eggs, dairy products, bee products and other products. The veterinary drugs which easily lead to excessive residues in animal source foods are mainly antibiotics, sulfonamides, furans, anti-parasitic and steroids drugs. TÜV SÜD FHB laboratory quantitatively detects the veterinary drug residues in food using liquid chromatography-mass spectrometry.

- Fluoroquinolones: enoxacin, ofloxacin, norfloxacin, pefloxacin, ciprofloxacin, lomefloxacin, danofloxacin, enrofloxacin, sarafloxacin, difloxacin, sparfloxacin
- Sulfonamides: sulfacetamide (SCP), sulfamethizole (SMT), sulfisoxazole (SIZ), etc.
- Nitrofurans metabolites: AOZ, AMOZ, AHD, SEM
- Tetracycline: aureomycin, terramycin, tetracycline, doxycycline
- Else: abamectin, ivermectin, doramectin, ceftiofur, tilmicosin

## 农药/兽药残留测试

### 农药残留检测

随着农药的批量生产和大面积使用，农药残留问题越来越突出，对地球环境和人体健康造成了严重威胁。TÜV SÜD FHB实验室采用气质联用、液质联用等先进手段，对食品中的农药残留进行筛选和定量。

- 农药残留检测：水果，蔬菜，粮谷，茶叶，蜂蜜，果汁，果酒，动物肌肉

### 兽药残留检测

兽药残留是指肉类和鱼类及蛋、奶制品、蜂制品等动物源产品的任何可食部分所含兽药的母体化合物及（或）其代谢物，以及与兽药有关的杂质。在动物源食品中易引起兽药残留量超标的兽药主要有抗生素类、磺胺类、呋喃类、抗寄生虫类和激素类药物。TÜV SÜD FHB实验室采用液质联用等先进手段，对食品中的兽药残留进行定量检测。

- 氟喹诺酮类：伊诺沙星、氧氟沙星、诺氟沙星、培氟沙星、环丙沙星、洛美沙星、丹诺沙星、恩诺沙星、沙拉沙星、双氟沙星、司帕沙星
- 磺胺类：磺胺醋酰、磺胺甲噁二唑、磺胺二甲异噁唑、磺胺氯噻嗪、磺胺嘧啶、磺胺甲基异噁唑、磺胺噻唑、磺胺-6-甲氧嘧啶、磺胺甲基嘧啶、磺胺邻二甲氧嘧啶、磺胺吡啶、磺胺对甲氧嘧啶、磺胺甲氧噻嗪、磺胺二甲嘧啶、磺胺苯吡唑、磺胺间二甲氧嘧啶
- 硝基呋喃代谢物：呋喃它酮、呋喃西林、呋喃妥因、呋喃唑酮
- 四环素类：四环素、土霉素、金霉素、强力霉素
- 其他：盐酸克伦特罗、莱克多巴胺、沙丁胺醇、卡巴氧、孔雀石绿、结晶紫、甲硝唑、唑乙醇、唑乙醇代谢物(3-甲基咪唑-2-羧酸)、己烯雌酚、阿维菌素、依维菌素、多拉菌素、头孢噻吩、氯丙嗪、替米考星



## Food additives/ detection of chemical pollutants and toxins

### Food additives detection

Compounds or natural extracts added in the food to improve food color, smell, taste and other quality or for the preservation or processing needs are collectively known as food additives, including acidity regulators, anti-caking agents, defoamers, anti-oxidants, bleach, leavening agents, coloring agents, color agents, enzymes, flavor enhancers, nutritional supplements, sweeteners, preservatives, thickeners, perfumes, etc. Gas chromatography, liquid chromatography and other advanced means are used in TÜV SÜD FHB laboratory for quantitative determination of food additives content.

- Bleach: sulfur dioxide, benzoyl peroxide and bromate
- Organic acids: citric acid, fumaric acid, lactic acid
- Preservatives: sorbic acid, benzoic acid, propionic acid salt
- Pigment: amaranth, sunset yellow, carmine, citric yellow, erythrosine, bright red, quinoline yellow, indigo blue, temptation, the new red
- Sweetener: saccharin sodium, cyclamate, xylitol, mannitol and sorbitol
- Antioxidants: BHA, BHT, TBHQ

### Detection of chemical pollutants and toxins

TÜV SÜD FHB laboratory has implemented state of the art technology for screening and determination of chemical pollutants and toxins such as LC-MS, GC-MS.etc

- Plasticizer, melamine, aflatoxin B1, B2, G1, G2, such as dioxin and its analogues

## 食品添加剂/化学污染物及毒素检测

### 食品添加剂检测

为改善食品色、香、味等品质以及为防腐和加工工艺的需要而加入食品中的化学物质或者天然物质统称为食品添加剂，其包括酸度调节剂、抗结剂、消泡剂、抗氧化剂、漂白剂、膨松剂、着色剂、护色剂、酶制剂、增味剂、营养强化剂、甜味剂、防腐剂、增稠剂、香料等。TÜV南德意志集团FHB实验室采用气相色谱、液相色谱等先进手段，对食品添加剂的含量进行定量测定。

- 漂白剂：二氧化硫、过氧化苯甲酰、溴酸盐
- 有机酸：柠檬酸、富马酸、乳酸
- 防腐剂：山梨酸、苯甲酸、丙酸盐
- 色素：苋菜红、日落黄、胭脂红、柠檬黄、赤藓红、亮蓝、诱惑红、喹啉黄、靛蓝、新红
- 甜味剂：糖精钠、甜蜜素、木糖醇、甘露醇、山梨糖醇
- 抗氧化剂：叔丁基羟基茴香醚（BHA）、二叔丁基对甲酚（BHT）、特丁基对苯二酚（TBHQ）

### 化学污染物及毒素检测

TÜV南德意志集团FHB实验室采用液质联用及气质联用等先进手段，对食品中的化学污染物及毒素进行定量检测。

- 塑化剂、三聚氰胺、黄曲霉毒素B1,B2,G1,G2、二噁英及其类似物等



### GMO, animal derived ingredients and food allergen identification test

With the popularity of genetically modified foods and appearance of meat in uncertain origin, TÜV SÜD FHB laboratory can test the genetically modified ingredients, animal-derived ingredients in molecular level quickly and accurately via PCR technology, effectively ensure the quality and safety of the entire food chain.

- Genetically modified plants ingredients: soybeans, corn, rapeseed, edible fungus, tobacco
- Animal-derived ingredients identification: pigs, cattle, sheep, horses, chickens
- Food allergens detection: peanuts, almonds, celery, mustard, gluten, sesame, shrimp, soy

### Drinking water quality testing

- Standard GB 5749-2006 Drinking Water Quality: color, turbidity, total dissolved solids, total hardness, oxygen consumption, chloroform, carbon tetrachloride, aluminum, iron, copper...
- COUNCIL DIRECTIVE 98/83/EC Drinking Water Quality: acrylamide, benzo (  $\alpha$  ) pyrene, cyanide, fluoride, nitrate, polycyclic aromatic hydrocarbons...
- Bottle water testing according to GB 19298-2014, GB 17324-2003, GB 17323-1998, etc.
- Knowledge consulting and label review for bottle water.

### 转基因、动物源性成分鉴定及食品过敏源测试

随着转基因食品的普及和真假莫辨的肉制品出现，TÜV南德意志集团FHB实验室采用先进的PCR技术，能够从分子水平上测试食品中的转基因成分，能迅速准确地鉴定肉制品中是否含有其他动物源性成分，能有效确保整个食品产业链的质量和安​​全，切实保障消费者的安全健康。

- 转基因植物成分：大豆、玉米、油菜籽、食用菌、烟草
- 动物源性成分鉴定：猪、牛、羊、马、鸡
- 食品过敏源测试：花生、杏仁、芹菜、芥末、麸质、芝麻、虾、大豆

### 饮用水水质测试及服务

- 国标GB 5749-2006饮用水水质——例如色度、浑浊度、溶解性总固体、总硬度、耗氧量、三氯甲烷、四氯化碳、铝、铁、铜等指标
- 欧盟COUNCIL DIRECTIVE 98/83/EC饮用水水质——例如丙烯酰胺、苯并(  $\alpha$  )芘、氰化物、氟化物、硝酸盐、多环芳烃等等指标
- 国内包装成品饮用水——测试标准例如：  
GB 19298-2014《食品安全国家标准 包装饮用水》、  
GB 17324-2003《瓶(桶)装饮用纯净水卫生标准》、  
GB 17323-1998《瓶装饮用纯净水》等
- 国内外水质标准咨询服务、包装饮用水标签审核等



## Choose certainty. Add value.

TÜV SÜD is a premium quality, safety and sustainability solutions provider that specialises in testing, inspection, auditing, certification, training and knowledge services. Represented in over 850 locations worldwide, we hold accreditations in Europe, the Americas, the Middle East, Asia and Africa. By delivering objective solutions to our customers, we add tangible value to businesses, consumers and the environment.

## Why choose TÜV SÜD?

TÜV SÜD as the world's leading third-party testing safety expert is specializing in the product safety testing in the product chain. We provide comprehensive testing, certification, inspection and consulting services for the whole chain from raw materials to end products. TÜV SÜD has state-of-the-art laboratories in many countries and regions of the world equipped with delicate equipment as well as experienced technical experts in product safety, and the reports issued by TÜV SÜD enjoy international recognition.

## 权威认证，创享价值

TÜV南德意志集团是一家优质、安全和可持续发展的专业测试、检验、审核、认证，培训和知识服务解决方案提供商。我们在世界各地拥有超过850个办事处，在欧洲、美洲、中东、亚洲和非洲备受盛誉。通过为客户提供客观的解决方案，公司为企业、消费者和环境增添有形价值。

## 为什么选择TÜV南德意志集团?

TÜV南德意志集团作为全球知名的第三方测试安全专家，专注于产品链中产品安全的检测、认证、审核及知识服务。从最初的原材料开始，经过生产、加工到最终成品，整个环节，均能提供权威的安全检测和咨询服务。TÜV南德意志集团在全球多个国家和地区拥有技术完备的实验室，并配备尖端的仪器设备和经验丰富的产品安全技术专家，其报告在国际范围内均获得认可。

\* Some of the services listed are provided due to local regulations only and may not be available in other regions. Please contact us for further details.

\* 上述部分服务可能由于当地法规的原因而无法在您的地区提供。欢迎您与我们联系咨询。

## Our branch companies or offices in Greater China:

我们在大中华区的分公司及办事处:

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