



NUTRITION AND FOOD SAFETY PLATFORM



science, technology
& innovation

Department:
Science, Technology and Innovation
REPUBLIC OF SOUTH AFRICA



CSIR

Touching lives through innovation



Our nutrition and food safety platform offers various technologies in food innovation and safety through advanced analytical and prototyping technologies, high-precision contaminant detection and product development support to industry and small, medium and micro enterprises (SMMEs).

Our work bridges the gap between food science, market readiness and localised solutions for a safer, healthier food system. We provide high-throughput, high-precision testing to support research and commercial needs across the food, beverage and flavour industries. In addition, we offer end-to-end food innovation solutions – from product ideation to market readiness.

Our team consists of researchers, food scientists, chemists, microbiologists, chemical engineers and technologists who apply their knowledge to assist enterprises from prototype to pilot-scale production.

NUTRITION AND FOOD SAFETY INFRASTRUCTURE AND CAPABILITIES

Our nutrition and food safety infrastructure comprises state-of-the-art equipment such as a food innovation laboratory, as well as Gas Chromatography.

The food innovation laboratory features a pilot-scale freeze dryer, 3-D food printer and equipment for quality evaluation of food and ingredients. This laboratory is also a dedicated infrastructure for conducting studies on food product development, formulation studies and innovation.

Additional infrastructure includes the capability in food characterisation using physical, chemical and microbial quality analytical methods. The food safety area is equipped with specialised infrastructure for producing multiple high-purity mycotoxin standards, essential for safeguarding food by enabling precise measurement of contamination levels.

GAS CHROMATOGRAPHY LABORATORY

Our gas chromatography laboratory is equipped with a GCxGC-TOFMS system for advanced contaminant detection. It provides fragrance and flavour profiling with rapid turnaround times and high accuracy. The facility addresses a critical gap in South Africa's food safety and quality testing market by offering specialised, locally available analytical services in emerging food toxins and contaminants, pesticides and authentication of edible oils based on chemical profiles of volatile flavours.

FOOD INNOVATION LABORATORY

Our food innovation laboratory provides food and beverage product development support to industry and SMMEs. Our work bridges the gap between food science, market readiness and localised solutions for a safer, healthier food system. The laboratory is equipped with equipment that includes freeze-drying and three-dimensional food printing technologies to support the development of functional foods, personalised nutrition products and visually appealing gourmet products, particularly for premium and niche markets. Research conducted in the food innovation laboratory supports the advancement of food products rooted in indigenous knowledge systems, guiding their development toward meeting regulatory compliance standards.

MICROBIAL QUALITY ASSESSMENTS AND PILOT PRODUCTION OF HIGH-PURITY MYCOTOXIN STANDARDS

Our nutrition and food safety team operates laboratories equipped to assess the microbial quality of food. These facilities also house specialised infrastructure for producing high-purity mycotoxin standards, which play a critical role in ensuring the safety of food, particularly grains destined for both local consumption and international markets.





WORK WITH US:

FOR MORE INFORMATION, PLEASE CONTACT:

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**LET'S COLLABORATE AND TOUCH LIVES
THROUGH INNOVATION.**