About us

We understand how important it is for you to produce world-leading brands that are safe, innovative, of the highest quality, and meet the demands of legislation and consumers.

With this in mind, we apply our trusted expertise in analysis, product development, consultancy and training to help you achieve your commercial objectives.

We believe that by continually investing in technology and people, our business maintains its foundation in scientific excellence and offers an advantage over other contract laboratories. Our multi-disciplinary teams work closely with you to provide practical solutions, rapid results, expert personal interpretation and sound advice to proactively accelerate time to market.

By providing a customised and focused approach, we become trusted partners, committed to developing long-lasting, mutually beneficial relationships.

Global analytical emergency response

Rapid Results for Rapid Decisions

Delivering the ultimate in analytical support 24/7

Wherever you are in the world our first class Emergency Response Service is at your fingertips when you need a rapid resolution to product contamination issues. With experience of over 15,000 emergency projects, you can rely on our team of technical specialists to provide you with the right analytical data to help you make critical decisions.

Service excellence

- Priority service for registered customers
- Aiming to provide you with results within 24 hours
- 24/7 response for a range of specified services (membership level dependent)
- A simple out of hours contact strategy

Unrivalled technical expertise

- A multi-disciplinary team of technical specialists
- Trusted and respected skills in resolving a wide range of contamination issues

Customer Focused, Science Driven, Results Led

Quality assured

Quality is at the heart of everything we do, ensuring you can trust and have confidence in the quality of our science and the results we provide you. Our regulatory compliance includes UKAS accreditation and US Food and Drug Administration (FDA) inspected.
Managing allergens can be a constant challenge for any business large or small. Taking the right approach will give consumers the confidence they need in your products. Our industry leading team of technical experts are always available to help guide you with analysis, risk assessment, allergen control and training.

Allergen management, your one stop solution

**Allergen analysis – your options**

Using the very latest analytical techniques we can test for the 14 allergens (and more) listed in EU Directive 2003/89/EC plus amendments using ELISA kits, in-house developed DNA tests and other instrumental techniques. Our customer focused approach ensures that all analysis is relevant and focused on your specific needs.

**Risk assessment, control and management**

Management of allergens is about providing certainty that a product label accurately describes the food that is packaged inside. Risk assessment forms the basis for the best, most practical and useful approach to allergen management.

Our approach to risk assessment ensures that all your risks are considered with scope for practical implementation. We have developed an easy to use and highly effective toolkit which has been adopted by many leading manufacturers.

**Let us help you with:**

- Allergen analysis
- Risk assessment (identifying business critical allergen risks)
- Hazard characterisation (biochemical and physiochemical factors linked to allergenicity)
- Sampling protocols
- Cleaning validation and verification
- Translation of risk assessment into allergen management policy

**Training your most important resource**

People are your greatest asset but they can also be your biggest liability. Bespoke training gives your staff the key knowledge and skills they need to improve their performance. It is important that your workforce is motivated and understand the critical role they play in successful allergen management. Our highly interactive workshops are tailored to your specific requirements so as to be relevant to your manufacturing environment and thereby maximising the learning experience.

**Trust our results**

You can have complete confidence in the results we supply due to our strong commitment to validating every sample matrix for a test. Validation prevents issues of false negative and false positive results which can occur when complex foods interact with the analytical techniques.

We are dedicated to finding the right solution for your particular challenge.

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Solution</th>
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<tbody>
<tr>
<td>Manufacturing ‘free from’ product</td>
<td>Helping you in the design of a due diligence programme to satisfy retailer requirements</td>
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<tr>
<td>Consumer complaint</td>
<td>Assist with crisis management and advice on relevant analysis, 24/7 if required</td>
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<tr>
<td>Managing cross contamination</td>
<td>Risk assessment of your total value chain and subsequent translation to allergen control plan</td>
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<tr>
<td>Validation of allergen control measures</td>
<td>Design, development and delivery of an effective cleaning regime</td>
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“Customer services put RSSL ahead of the alternatives that we have used.”
Investigating your problems, the specialist laboratory of choice

By providing you with the right answers to your product contamination issues we can help you protect the two most important elements of your business – your consumers and your brand.

What is your issue?
- Accidental or deliberate contamination
- Consumer complaint
- Production or processing contamination
- Product substitution or adulteration

<table>
<thead>
<tr>
<th>Your Issue</th>
<th>Our Solution</th>
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</thead>
<tbody>
<tr>
<td>Do I have a serious issue?</td>
<td>Customer consultation to get background information and understand the problem</td>
</tr>
<tr>
<td>What is the contaminant and how much is there?</td>
<td>Assessment of the most appropriate analytical technique and subsequent analysis</td>
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<td>Is it harmful to my consumer?</td>
<td>Toxicological review</td>
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<tr>
<td>How did it get there?</td>
<td>On-site audit/ review of systems, processes and procedures</td>
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<tr>
<td>Why did it happen?</td>
<td>Root cause analysis</td>
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<tr>
<td>How can I stop it happening again?</td>
<td>Corrective actions – training</td>
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By combining a multi-disciplinary scientific approach with extensive experience and expertise we have become the investigative laboratory of choice for many companies. Our dedicated teams provide:
- Identification of taints and off-flavours
- Analysis of complex volatile and semi-volatile mixtures
- Identification of foreign material
- Screening for toxic materials
- Analysis of flavour compounds
- Identification of process, trace and environmental contaminants
- Structural analysis of products
- Particle size, morphology, crystal structure
- Rheology and texture analysis
- Thermal methods

“RSSL went beyond our normal expectations. The additional research has proved invaluable to this investigation. If we had used RSSL as our first lab we would not have had a recall.”

RSSL in action

Tracking down a musty odour
A drinks manufacturer reported several consumer complaints of a musty odour when cans were opened. Analysis of the taint confirmed presence of Tribromoanisole (TBA) and Tribromophenol (TBP). Investigation of the factory site did not reveal the presence of TBA or TBP within the production environment, so the focus was switched to the can manufacturer. Here, investigation of pallets, dividers, top frames and paper stock did reveal traces of TBP and TBA, but not at levels sufficient to produce a taint in the product. This was despite the fact that TBA can cause a detectable taint at levels of only 10 parts per trillion. So the investigation switched to the vessel that had been used to ship the cans from the manufacturer to the drink processor. Analysis of the timber floor of the container revealed elevated levels of TBA, and it was concluded that TBA had leached into the lacquer of the cans and then into the drink once the cans had been filled.

State of the art equipment
- Mass Spectrometry (GC-MS, LC-MS, ICP-MS, ICP-OES)
- High Pressure Liquid Chromatography (HPLC)
- Scanning Electron Microscopy (SEM)
- Fourier Transform Infra-Red Spectroscopy (FT-IR)
- Ion Chromatography
- Nuclear Magnetic Resonance (NMR)
- X-ray Microanalysis and X-ray Microfluorescence
- Differential Scanning Calorimetry (DSC)
- Gas Chromatography (GC)
Technical problems can arise at any time when manufacturing complex food products. Helping you to understand the root cause is one of our areas of expertise. Our world class team can investigate problems, provide answers and work with you to minimise future risk.

Under the microscope

**Foreign material identification at your fingertips**
With our extensive knowledge and state of the art equipment, we can help identify a wide range of foreign material including:
- Glass
- Metal
- Plastic
- Hazes
- Hairs/fibres
- Insects/animals
- And more...

**Microstructure in perspective**
The cause of your problem could be related to the structure of components within a product, which may be caused by ingredients, processing or storage conditions. Understanding the microstructure may assist in troubleshooting or when developing new products. Investigations using light microscopy, scanning electron microscopy, structural image analysis or physico-chemical techniques can help you with product consistency and consumer perceptions.

**RSSL in action**

**Particle behaviour**
In the handling of powders the role of particle shape, size and structure can have implications on their behaviour. A change of supplier can lead to physical changes in the behaviour of a chemically identical material, resulting in significant changes in the manufacturing process and final product.

A customer approached us with a production issue which became apparent when a raw material supplier was changed. Analysis of the raw material by scanning electron microscopy revealed that the nature of the particle structure in the powder was different with the new supplier’s ingredient versus the original. The impact of this change upon various stages of the production process was then understood. The customer was able to mitigate the problems associated with the raw material through tighter control of incoming ingredients and the process.

**High quality analysis to ensure the integrity of your supply chain**
The quality and authenticity of your raw materials is what makes your brand a leader. If either of these are compromised you run the risk of losing your market share. To ensure you are maintaining your high standards and meeting legislative requirements it is very important that you check the authenticity of your raw materials.

Trust our technical specialists to help you with:
- Authenticity of commodity and speciality oils
- Species identification
  - >20 species of meat
  - >40 species of fish
- Basmati rice authenticity
- GMO testing for maize, soya and rice
- Ingredient authenticity

**RSSL in action**

**Meat supply chain authenticity**
Reports emerged in January 2013 that tests on samples of beef products had shown contamination with horse and pig DNA. This sparked the UK food industry to undertake a wide surveillance project on meat products. Our experts were able to detect cross species contamination and substitution at levels as low as 1%.

Using sophisticated techniques, DNA was extracted from the samples, amplified and then recognisable patterns that are species specific for horse and pig were looked for.

“As expected – fully committed in providing a service to the customer that meets their expectation, enabling appropriate business decisions to be made as a result.”
Providing optimal solutions for functional foods and ingredients

Keeping ahead of the game and identifying new opportunities for functional foods is a key driver for the food and drink industry. By consulting with RSSL you will be benefiting from a much wider range of experience and expertise that can help make your innovative product even more commercially successful.

Creative, innovative, market focused development
Helping you fast track through the development process our creative team of development technologists have the skills, passion and insight to help you innovate with functional ingredients.

Analysis
Utilising a comprehensive set of analytical methods we can analyse for a wide range of ingredients.
- Functional ingredients
  - Glucosamine, carnitine, choline
- Vitamins and minerals
- Natural products and herbs
  - Echinacea, ginseng, ginkgo and more...
- Colours (natural, artificial and unauthorised)
- Lipid based ingredients (stanols, sterols, omega 3 and 6 fatty acids)
- Sweeteners
- Preservatives

Substantiating your claim
Changes to European legislation on nutrition and health claims means that you must substantiate any claim you wish to make on your product. Claims must be based on generally accepted scientific evidence and be well understood by the consumer. We can help by providing some of the scientific evidence you may need to get your health claim approved.

The natural choice
A food company wanted to replace artificial sweeteners in confectionery and beverage products with a natural ingredient. Using our expertise in high intensity sweeteners and taste masking, our food technologists reformulated the products using Stevia. Analytical methods were then developed and validated for the range of reformulated products. Analysis was conducted to confirm sweetener levels over time.

Energy boost
A range of energy drinks containing vitamin C, vitamin A, vitamin E, B vitamins, ginseng and guarana were developed using different packaging and formulations by our development team. Products were stored over a period of 6 months and the stability of the vitamins and herbal actives were checked using validated HPLC and LC-MS methods.

“Absolutely first class service.”
Enabling you to fast track the product development process, our expert and knowledgeable scientists have the skills and insight to help you. We can support you in aspects of product development, structural and product analysis as well as analytical claim substantiation support.

Product development consultancy
We can help you through the product development lifecycle from concept to commercialisation. Our food technology and ingredient expertise will ensure your product delivers the quality expected of your brands. Our services include:
- Concept ideation
- Product development
- Product and ingredient optimisation
- Nutritional consultancy

Analytical support
Consumers acceptance of food products is complex and inter-disciplinary. The ingredients and structure of components within a product play an important part in determining the quality attributes and sensory characteristics of foods. Products must be carefully designed so that they retain the required properties over the range of conditions they will experience during processing, shelf life, storage and consumption. Analysis can help you understand these interactions and assist in troubleshooting when things go wrong.
Our expertise includes:
- Structural investigations
- Texture and rheological analysis
- Particle size and morphology
- Product microstructure
- Ingredient analysis
- Flavour and aroma analysis
- Method development and validation
- Claim substantiation analytical support

Solving a stability issue
An alcoholic beverage manufacturer reported a potential stability problem with a cream liqueur product. They had received several consumer complaints that the product was separating out. An initial investigation was carried out to look at particle size using a Malvern MasterSizer which identified two discreet particle sizes in the product. Using scanning electron microscopy the larger particles were identified as the fat phase in the product. From these results, the team identified that the emulsion system was unstable. Our development technologists were asked to review a selection of new stabilisers, identify the most appropriate for the emulsion system and to produce a reformulated product which was stable and maintained flavour and texture profiles.

“Your creative approach to product development helped us get a great product to market quickly.”
Training your most important asset

Investing in training is essential to the success of your business and can result in a number of key benefits. These include more productive, motivated, valued and enthusiastic workforces who will utilise their new skills and knowledge in everything they do. Investing in the personal growth of your teams also encourages them to stay with the company longer.

Benefits of bespoke in-house training

Offering a range of bespoke in-house training courses, we work in partnership with you to ensure that training is highly relevant and tailored to the specific needs of your business. Topics include:
- HACCP
- Auditing
- Food safety
- Allergen management
- And more...

Consultancy support beyond analysis

Manufacturing safe food and drink products today can be a challenge. For the majority of the time, you know how to do this but occasionally things may go wrong and you may need to tap into outsourced expertise.

We believe in working with you as a partner to help determine what went wrong, what action to take and what improvements to make. Our highly skilled, knowledgeable team of leading industry experts are responsive to your requirements and tailor activities to suit you. We strive to meet or exceed your expectations and deliver exceptional added value.

Whether it is in response to a recent incident or you have identified an area for improvement, we can help with:
- Food safety
- HACCP including pre-requisites and GMP
- Hygiene
- Quality systems and improvement programmes
- Auditing
- Risk assessment and risk management

Nut protein contamination

A consumer complained that they had experienced a suspected nut allergic reaction to a ready meal which did not carry any precautionary labelling. Analysis was conducted on the complaint sample and it was found to contain residual nut protein. Our customer was not able to identify the likely source of contamination. A site visit was conducted to review the manufacturing process and allergen controls. Our consultant was quickly able to identify the root cause of the problem which stemmed from poor planning during site refurbishment. Procedures and risk assessments were reviewed and improved. Training was conducted with the site HACCP team to raise awareness and minimise the risk of a similar occurrence.
You can trust RSSL