

How to Have Confidence in your Finished Product and Where to Turn When Something Goes Wrong

Your goal is to manufacture a safe product that meets the claims on your label.

How are you ensuring that your finished product will do this?

Proactively, or retroactively?

Putting a proactive plan in place to assess ingredient safety and quality is key to producing finished products that meet all of your quality standards. Having a partnership with an accredited, independent (third-party) laboratory just in case something goes wrong is a must.



Why Assess Ingredient Safety?

Assessing each ingredient, as it comes in, is not only the right thing to do to ensure the safety of your finished product, but it is also a requirement under the Food Safety Modernization Act (FSMA). Creating a testing plan is critical to bolstering product and brand stewardship and your company's reputation.

A proactive plan will increase:

- Product quality, and safety
- Product performance
- Control over your supply chain
- Confirm product label claims
- Enable increased market share
- Mitigate risk in the event of off spec ("non-conforming") ingredient arrival at your facility
- Improve your company's bottom line

In addition to these things, a proactive testing plan will help prevent recalls and detect adulteration or food fraud early on. This will greatly reduce the legal and insurance claims downstream. Not to mention that it will give you and your customer's confidence around what is listed on your product's label which strengthens your brand and industry reputation.

To learn more about designing a testing program for dietary supplements, specifically, read this article by Jeff Stassi, Eurofins Senior Analytical Service Manager: <https://www.eurofinsus.com/food-testing/resources/designing-a-testing-program/>

That's what a proactive plan can achieve... Continue reading to learn the four main areas where issues occur, and dive with us into six case studies where customers just like you faced an issue!

Encountering an Issue!

If you have a proactive plan in place to assess all of your ingredients, you would not expect to encounter a serious issue with your finished product, but sometimes things happen.

As you read these case studies, you will see how a proactive ingredient testing plan could have prevented some of these situations and how working with an independent third party laboratory was helpful for all of them.



Potential Problem #1: Contamination of a supplier-provided raw material, ingredient, or your finished product. A few examples of this are a chemical residue, metal, plastic, glass from equipment or packaging, and bacteria or fungus.

Case Study #1: Off-Odor, Off-Flavor Study of Fruit Juice

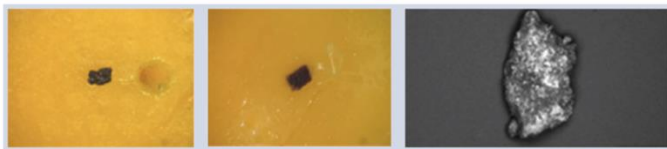


In this situation, the client had extended the production of their fruit juice product. They had no problems at first. As time went on, they started to receive customer complaints about the quality of the juice and that it did not smell right or taste right.

Eurofins analyzed suspect product samples using headspace GC-MS combined with Solid Phase Micro Extraction (SPME) fibers and compared results to a reference sample that did not have the off smell or taste issue.

Results showed a contaminant present in the suspect product. It was a cleaning agent. The client modified the between-batch rinse process to ensure removal of the cleaning agent to mitigate this issue.

Case Study #2: Particulate Material in a Cheese Product



In this situation, the client found small pieces of dark material in their cheese product before packaging. They suspected it was corroded metal or carbon.

Eurofins analyzed the material using non-destructive test methods including SEM-EDXA methodology, and examination of foreign material morphology.

Results showed the metallic element content was very low, and the carbon, oxygen content was high. The material was confirmed to be filter media from the municipal water supplier. The client added a filter to their incoming water feed at the plant along with a daily inspection to prevent this issue in the future.

Potential Problem #2: An ingredient not claimed on the label is present in the product. Could be an allergen, preservative, additive, or adulterant.

Case Study #3: Food Allergen Contamination



In this situation, the client was a caterer and had a legal claim filed against them for crustacean contamination. They had provided food at an event where an attendee required emergency medical treatment after consuming the food. Their insurance company wanted proof of the contamination before settling the claim.

Eurofins followed a custom sample preparation and analysis protocol. The protein in the sample was isolated. Eurofins analyzed the sample using the ELISA method with appropriate controls. Multipoint calibration used for quantitation.

The ELISA results provided specific detection and high-level contamination was found in an ingredient that had been labelled “contains no seafood”. This evidence was provided to the insurance company for the claim settlement.

Potential Problem #3: Failures in manufacturing or processing. This could be contamination during manufacturing or packaging, or improper treatment during hot packaging or pasteurization.

Potential Problem #4: Failures with packaging, such as, extracted (leached) compounds, inappropriate material used, leaks, or damage during transport.

Case Study #4: Gas Formation in Bottled Juice



In this situation, the client had a hot-packed juice product. After a few week’s cloudiness and gas formation was noted in the product.

Eurofins completed Yeast and Mold testing, microscopy, and 16S Shotgun Metagenomic Long sequence-based ID testing.

The data showed a fungus contamination in one of the raw materials. The client upgraded their ingredient acceptance criteria to mitigate this. In

addition, they modified their feed process to have an additional online inspection as an added preventative measure.

Case Study #5: Toxic Animal Feed



In this situation, the client had a legal claim filed against them for animals becoming ill and dying after consuming their feed product. The plaintiff alleged poor quality feed components.

Eurofins completed a full scientific review of all allegations. An investigation of the feed storage conditions was completed. In addition, experts reviewed the test results completed at other labs.

The review concluded that the data did not support the allegations of poor quality feed components, but that inappropriate feed storage conditions by the plaintiff were suspected. Eurofins issued a sworn affidavit refuting allegations and the judge dismissed the case.

Case Study #6: Alleged Rodent Contamination of a Bun



In this situation, the client was a major fast food restaurant chain that had a large legal claim filed against them. A consumer claimed rodent contamination (and artifact was evident) in a bun. The client used three different bun suppliers.

Eurofins analyzed each supplier's bun to determine the origin of the suspect bun using microscopy and chemical analysis. Samples were analyzed for protein, starch, organic acid, and preservatives.

Results showed the organic acid and preservative content differed between suppliers. Eurofins compared the results to the suspect sample and identified the correct bun supplier. It was discovered that the bun supplier had poor quality control, which resulted in a favorable outcome for the client and modifications to the fast food company's supply chain for buns.

What processes do you have in place to make sure that you do not end up in a situation like these? If you find yourself in a place where you would like to talk with one of our experts to create an ingredient testing plan, [contact us today!](#)

What if the worst happens?

We all know the goal is to never end up in one of these situations, but if you were to find yourself in one of these situations, who would you turn to?

When an issue like this arises, your in-house quality control laboratory might not be in the best position to be able to uncover the root cause. In house laboratories are excellent for the quality control plans that you have for proactive testing, in general, they have a high throughput for standardized tests. When something out of the ordinary comes up, though, having a third-party independent laboratory that you can call to help investigate with rapid response is ideal.

A third-party independent laboratory will have the capacity, the experience, the specific instrumentation, as well as the methodology needed for your special circumstances. When selecting an independent lab, make sure to think about what you need from them. Is there a specific way that you will need your results reported? Will you need the raw data, or photos, or even a detailed written report of the investigation? How quickly do you need results? Do you need access to the scientists and experts conducting the testing? Look for a lab that is convenient, easy to work with, but also has the capabilities, capacity, technical abilities, as well as quality certifications that you need. Using an independent laboratory for this type of investigation is also helpful to ensure that they are objective, and have no conflict of interests.

The "Right Partner" should be an extension of your Company's Quality Assurance, Quality Control, R&D, Technical Support functions and a Company that YOU CAN TRUST.

Some things to think about when selecting an independent lab:

- Do they have a specialized focus on solving obscure and complex problems?
- Do they have the capability to utilize a wide array of techniques?

- Can they provide customize techniques? For example, special sample preparation, contaminant isolation and extraction, testing focused on an objective investigation, or pertinent information.
- Are they experienced problem solvers? Can they share with you similar situations they have worked through with other clients?
- Make sure they have experience with, and access to, standard methods (AOAC, AOCS, USP, FCC, EP, JEFCA, Etc.)
- Do they have experience with, and access to, custom methods (verification, validation, both qualitative and quantitative abilities, etc.)
- Will they stand behind findings in the event of vendor, insurance or LEGAL claims based on findings?

We hope that you never find yourself in the situation where you need to investigate what went wrong, but if you do, please rest assured that Eurofins is here to help. We have extensive experience with special investigations, the capacity and desire to partner with you and determine what your needs are and how to best meet them. Our scientific experts are the best in the industry, and have access to thousands of methods, and the majority of instrumentation that would be needed.

If you ever need someone to turn to, you can count on Eurofins!