Consumer Claims Tested under the Microscope

Waiter there's a fly in my soup! It happens every day: a consumer sits down to eat and finds something unexpected. Soon after begins a process that can lead to swift resolution or extended litigation.

Often the consumer is certain of what they found: a hair, a staple or even a rodent dropping. While it is one thing for a consumer to base a claim on a hunch (experience has shown that these are often wrong), it is quite another for a food company, facing potential litigation, to proceed without knowing exactly what they are dealing with.

To illustrate this point, our laboratory was called upon to perform a detailed comparative analysis of a glass fragment central to a prolonged legal dispute. This particular fragment had already been examined by two other labs. To our surprise, the “glass” fragment began to dissolve as it was washed in preparation for analysis. The subsequent analysis proved the “glass” was, in fact, a fragment of hard candy – a fact that neither of the previous analyses had discovered. This single, irrefutable fact, resolved the case and illustrates the power that documented factual information brings to an investigation.

The sample. The process of establishing facts begins with obtaining the best possible sample. Often a consumer (or their attorney) is reluctant to release their evidence to a manufacturer, fearing interference with results. A qualified third party laboratory offers an independent solution that is generally agreeable to all parties. A true forensic laboratory will also help to ensure that chain of custody is maintained, provide critical sample documentation, and work with the client to ensure that the ensuing analysis addresses the relevant questions.

Targeted Analyses. In many cases, the questions that arise are straightforward. For example, what is the object and is it foreign to the product? In others, identification is only the start. The most common follow-up question is, “When was the object introduced to the product?” This is often more difficult to prove, but the answer is typically of high importance, especially when tampering is suspected. While this question cannot always be answered definitively, more often than not, a competent scientific analysis can provide irrefutable facts that will answer or help to answer this question. The sidebar describes a case where analysis established that a mouse had been only recently introduced to a jar of vinegar.

These few examples, from among many in our files, illustrate some of the benefits that a dedicated food forensics laboratory that specializes in identification and attribution provides: independent results, familiarity with legal requirements associated with evidence and its analysis, the ability to develop and implement successful approaches to the investigation of non-routine samples, and experienced expert witness support. These capabilities are rarely available at in-house laboratories, whose primary role is quality control and product development.

Companies do not need to understand the technical aspects of a forensic analysis, but it is essential they understand the resources available and the benefits a rigorous scientific analysis can provide. RQA Food Forensics, supported by the forensic analytical expertise of Microtrace LLC, is specifically equipped to handle such issues on both a routine and non-routine basis.

A Question of Attribution

Many food incidents are eventually reduced to the question, “When was the foreign matter introduced?” In the course of reviewing many laboratory reports pertaining to food complaints over the years, we find that while they are often reported with the utmost confidence, they are often supported with no more evidence than an intuitive hunch might yield and without any scientific proof whatsoever.

While such answers may placate consumers in less serious matters, they do not stand up to scientific scrutiny in legal proceedings since they offer no demonstrable proof to support the conclusion stated.

Source attribution is often difficult to determine with certainty. Each case is different and an appropriate approach must be designed so that any conclusions drawn are supported by scientific fact and documentation that can be presented as proof.

The photo below of a mouse floating in a bottle of vinegar, illustrates how scientific facts interpreted by logical inference prove that the mouse had been introduced to the vinegar only after it was opened. The sample arrived on a Friday, at which time the mouse was buoyant and with all of its hair intact. By Sunday the mouse had sunk to the bottom and had lost more than half of its hair. By Monday all of the hair had been lost. A microscopical examination of its tear ducts showed that they were irritated, which could only have occurred while it was alive. Such rapid and significant physical change would not have occurred so suddenly if the mouse had been in the bottle since bottling. Based on these findings, we reported that the mouse had only recently been introduced to the bottle, after it had been opened.

Although this answer may seem trivial when all the facts are known, it is only through critical analysis and proper documentation that such questions can be consistently answered in a manner that can withstand the most aggressive legal scrutiny.
### Food and Drug Administration Recalls (www.fda.gov)

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<tr>
<th>Product</th>
<th>Possible Health Risk</th>
<th>Incident</th>
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<tr>
<td><strong>LED Flashlight Sets</strong></td>
<td><strong>Hazard—Fire and Burn</strong></td>
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<tr>
<td><strong>Portable Electric Heaters</strong></td>
<td><strong>Hazard—Burn</strong></td>
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**Product:**
A Minneapolis, MN importer is voluntarily recalling about 55,000 6-pc. LED flashlight sets sold nationwide from October 2010 through December 2011. The LED flashlight sets were manufactured in China and are made of silver plastic with black rubber around the handle and light base. When the flashlights are turned on, the flashlights can heat up, smoke or melt, posing fire and burn hazards. They were sold in sets of six, including two small flashlights measuring 3 in. long, two medium flashlights 6 in. long and two large flashlights 7 1/2 in. long. The importer has received reports of four incidents with the flashlights, including two minor burn injuries to consumer’s hands. Consumers should immediately stop using the recalled flashlights and return them to the retailer for a full refund. For additional information, consumers are asked to contact the company or visit the company’s website.

**Product:**
A Southborough, MA distributor in cooperation with the CPSC is recalling approximately 19,000 units of portable electric heaters manufactured in China. The heaters are black or white cylinders with a handle on top. The recalled heater’s internal housing, including the fan, heating element and circuitry can detach, posing a burn hazard to consumers. So far no incidents or injuries have been reported. The portable electric heaters were sold at three major retailers nationwide from July - December 2011. Consumers should immediately unplug and stop using the recalled heaters and contact the distributor for full refund. For more details, consumers are asked to contact the company or visit the company’s website.

### United States Department of Agriculture Recalls (www.usda.gov)

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<td><strong>Sliced Herring Fillet in Oil (Forelka)</strong></td>
<td><strong>Listeria monocytogenes</strong></td>
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<td><strong>Marinated Beef and Chicken Products</strong></td>
<td><strong>Undeclared Allergen</strong></td>
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**Product:**
A Forest City, NC establishment has recalled approximately 3,104 pounds of seasoned diced beef products that may contain foreign materials. The products subject to recall include cases containing four 8-lb. vacuum-sealed 10x22 inch pouches of seasoned cooked diced beef. The products subject to recall were produced on Dec. 9, 2011 and shipped to institutions for further distribution to schools in SC, TN and WA as part of the USDA’s National School Lunch Program. So far, FSIS has not received any consumer complaints or reports of illness. The problem occurred as a result of a conveyor belt being damaged during production. FSIS determined that the products produced may have contained small pieces of the belt and that those products were detained per FSIS instructions but were inadvertently shipped to commerce later. Consumers and media with questions about the recall should contact the company directly.

**Product:**
A Phoenix, AZ establishment is recalling approximately 7,500 pounds of marinated beef and marinated chicken products. The marinated beef product contains soybeans, wheat and sulfites and the marinated chicken product contains wheat, milk and sulfites which are all known allergens. These allergens are not declared on the label for either product. The products subject to recall include cases containing two 10-lb. packages per case of beef or chicken. The recalled products were produced from Dec. 1, 2011 through Dec. 29, 2011 and were shipped to food service institutions in Arizona. The problem was discovered by FSIS personnel during a routine inspection. There have not been any reports of adverse reactions due to consumption of these products. Individuals concerned about an allergic reaction should contact a physician. Consumers and media with questions about the recall should contact the company directly.

### Consumer Product Safety Commission Recalls (www.cpsc.gov)

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<td><strong>Foreign Material</strong></td>
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<td><strong>Listeria monocytogenes</strong></td>
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**Product:**
A Buffalo, NY firm has announced a voluntarily recall of their 1/4 (quarter) sheet vanilla flavored pre-soaked sponge cake because small plastic fragments from the packaging were found on top of the product. The size of the fragments range from 1/4 to 3/4 inches. So far, no injuries connected with these recalled products have been reported. The product was produced by the company in Ocoyoacac, Mexico and imported into the US. The cake was not prepackaged for retail distribution and is sold by the case primarily to in-store bakeries nationwide. The problem was caused by a change in the resin used by the supplier of the plastic packaging. The company was not aware of the change and is working closely with the supplier to ensure that all defective packaging is removed from distribution. Distributors and consumers who have purchased these products should remove and destroy the recalled products. Anyone with questions should contact the company for more details.

**Product:**
A Edison, NJ firm has issued a recall of 330 g. and 600 g. plastic containers of sliced herring fillet (Forelka) imported from Ukraine because it may be contaminated with *Listeria monocytogenes*. *Listeria monocytogenes* is an organism that can cause serious and sometimes fatal infections in young children, frail or elderly people, and others with weakened immune systems. To date, no illnesses related to this recall have been reported. The recall was initiated as the result of a routine sampling by the New York State Department of Agriculture and Markets Food Inspectors with subsequent analysis of the product by food laboratory personnel which found these products to be positive for the bacteria. The product was sold in the New York metropolitan area. Consumers who have purchased the affected products should not consume it and should return it to the place of purchase. Anyone with questions should contact the company directly.

**Product:**
A Minneapolis, MN importer is voluntarily recalling about 55,000 6 in. long and two large flashlights 7 1/2 in. long. The importer rubber around the handle and light base. When the flashlights are turned on, the light sets sold nationwide from October 2010 through December 2011. The LED flashlight sets were manufactured in China and are made of silver plastic with black rubber around the handle and light base. When the flashlights are turned on, the flashlights can heat up, smoke or melt, posing fire and burn hazards. They were sold in sets of six, including two small flashlights measuring 3 in. long, two medium flashlights 6 in. long and two large flashlights 7 1/2 in. long. The importer has received reports of four incidents with the flashlights, including two minor burn injuries to consumer’s hands. Consumers should immediately stop using the recalled flashlights and return them to the retailer for a full refund. For additional information, consumers are asked to contact the company or visit the company’s website.