



Perry Johnson Registrars Food Safety, Inc.

Odor Identification

Nothing can kill the anticipation of a good meal like an unexpected foul odor or taste. Both are determined by a variety of chemical combinations, and the presence of an off-putting flavor can ring alarm bells for consumers no matter what type of food is in question. Whether the source of the culprit is microbial or chemical contamination, or even spoilage, being vigilant to avoid such issues.

Thousands of different chemicals have thus far been identified as active flavor compounds, combining in various ways to create the unique taste and smell of foods. By analyzing the specific unique combinations found in products, off-odors can be identified in advance – saving lunch *and* a customer's opinion of the company! Identifying the specific chemical signature of a foul flavor through the comparison of a control and compromised sample is key, allowing identification of future deviations.

The most common methods for identifying offensive compounds in food and beverage includes gas chromatography as well as mass spectrometry (GC-MS), as well as solid phase micro-extraction (SPME). SPME, perhaps less widely-known to the public, uses fibers coated in a thin layer of polymer as an extracting phase to allow volatile compounds to be selectively extracted and concentrated. This can be great for more subtle, hard-to-detect chemicals, as SPME fibers come in a range of specialized coatings to cover different chemical classes of compounds.

Once the specific compounds causing the offensive flavor have been positively identified through sample comparisons, it can be determined whether they were caused by production or by some form of contamination. The identification of a contaminant's source may be influenced by the records kept regarding which types of cleaning agents or other foreign chemical sources may have been near the production area. If, for instance, the contaminant in a product is found to be a top ingredient in a sanitizing or degreasing spray used on the line, then the source can be easily identified and a corrective action to avoid future contamination instituted.

Identifying contamination through these methods is only a small part of a robust food safety management system – is yours up to snuff? Certification can help! Call **(248) 519-2523** or visit www.pjrfsi.com to learn more about which standards could best help your business and get a free quote today.