

# VOLATILE ANALYSIS

## Contract Analytical Services - Case Study

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### Case Study #7 Malodor in High Fructose Corn Syrup

**Internal Reference:** Project Code Number H00231

**Industry:** Food Ingredients

**Commodity:** High Fructose Corn Syrup

**Problem/Goal:** Malodors in the large scale production of high fructose corn syrup characterized as sulfury, ashy, sour and floral.

**Analytical Approach:** SPME headspace collection of volatile odor compounds followed by analysis on the AromaTrax MDGC-O-MS system to identify and rank the importance of the offending odor compounds.

**Findings:** Out of more than 100 volatile compounds in the headspace, the major odor compounds were identified and ranked as to their importance to the product. Sulfur odor compounds dominate followed by aldehydic, earthy and sweet florals.

**Resolution:** The client followed up the initial odor discovery work with a full plant monitoring of 16 points in production to determine where the odor compounds were being created and accumulated. Production parameters were then changed to minimize the odors.

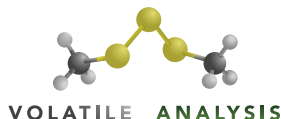
**Comments:** The power of the AromaTrax system to resolve difficult odor / flavor problems was pointed up by this study. Two 'character defining' odorants were located and isolated very quickly; resolving a long standing problem for which other approaches had failed to produce any significant findings.

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### Links for More Information

Aroma and malodor contract services: [www.volatileanalysis.com](http://www.volatileanalysis.com)  
Analytical instrumentation for aroma/malodor analysis: [www.mdgc.com](http://www.mdgc.com)

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