

# VOLATILE ANALYSIS

## Contract Analytical Services - Case Study

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### Case Study #10 Odors in Personal Bedding Materials

**Internal Reference:** Project Code Number K02234

**Industry:** Mattress and Upholstery

**Commodity:** Polyurethane Foam Products

**Problem/Goal:** Consumer complaints about the odor of mattresses.

**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:** All significant odors were identified and ranked as to their importance in numerous polyurethane foam samples. In the most offensive samples, a single intense odorant was found at extreme trace levels. This compound was positively identified.

**Resolution:** The most important odors were related back to raw materials for polyurethane production. Based on this work, elimination of the most intense odorants from raw materials was achieved.

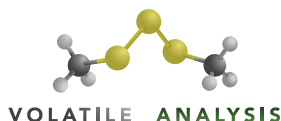
**Comments:** This initial work led to an on-going analysis of polyurethane foam products and raw materials from many of the leading producers here and abroad. This area is a prime candidate for the implication of our QC-Trax methodology and we are developing an instrument specific for the analysis.

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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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