



Microanalytics

Contract Analytical Services - Case Study

Case Study #14

Off-Flavor in Cereal from Printed Packaging Materials

Internal Reference: Project Code Number A01238

Industry: Food Packaging - Cereal/Grain

Commodity: Breakfast Cereal

Problem/Goal: A breakfast cereal was found by consumers to have an undesirable flavor. The converter did not believe that it was a problem with the package and tried unsuccessfully to identify the off-flavor compound.

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: The off-flavor was found to be due to two sickly sweet isomers of a trace-level oxygenated cyclic compound. The isomers were concentrated and isolated using multidimensional GC. This permitted their identification from the resulting high quality mass spectra.

Resolution: The off-odor compounds were traced to a white ink used in printing the package. This ink was changed to another ink tested to be free of the odor compounds.

Comments: The researcher at the converter's lab who was in charge of solving the problem accompanied the analysis at Microanalytics and left very impressed with our capabilities.

Links for More Information

Aroma and malodor contract services: www.off-odor.com
Analytical instrumentation for aroma/malodor analysis: www.mdgc.com



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