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Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: Butadiene and Styrene in Packaging by Static HS-GC-MS

Method Number: LI-00.063

Scope of Application: Polystyrene (PS), styrene-butadiene block copolymer (SBS), or acrylonitrile-butadiene-styrene polymer (ABS) packaging materials.

Description: This is an in-house validated screening method for the quantitative analysis of 1,3-butadiene, cyclohexane and styrene monomer in polystyrene (PS), styrene-butadiene block copolymer (SBS), or acrylonitrile-butadiene-styrene polymer (ABS) packaging materials. Cyclohexane is not part of the polymer, but is a solvent used to disperse 1,3-butadiene during polymerization for SBS and ABS production. In the original LI it was difficult to detect 1,3-butadiene so cyclohexane was included in this method as a marker compound for 1,3-butadiene presence.

Sample Weight Required: Minimum of a stack of 12 original containers. In the case of samples which do not clearly fall into a container category – 20 g of sample.

Method Reference: *Primary:* LI-00.063 - "Butadiene and Styrene in Packaging by Static HS-GC-MS", Nestec LTD, April 2008
Others: GI-31.008-1 - "Nestlé Policy on Packaging Materials in Contact with Food"
GI-80.104 - "Guide for the Surveillance of Packaging and Auxiliary Materials"
LI-00.063-VF - "Method validation for Butadiene and Styrene in Packaging"

Analytical Platform: Static HS-GC-MS

Special Information: All packaging material should be received wrapped in two layers of aluminum foil to ensure prevention of both loss of analyte and external contamination.



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Analyte Reported	Alias	Unit of Measure	Limit of Quantification	Reproducibility
1,3-Butadiene		mg/kg	0.4	20%
Styrene		mg/kg	50	20%
Cyclohexane		mg/kg	40	20%