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Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: Residual Solvents in Packaging by GC-MS/HS

Method Number: LI-80.010

Scope of Application: Method for the quantitative determination of 29 residual solvents by static headspace chromatography in flexible packaging films, which may cause an off-odor during their use with food. The results can be used to confirm solvent type odors detected by the olfactory check of the LI-80.017 and to check the compliance of a packaging material with the corporate Nestlé standard St-80.008.

This method is not intended to detect the total amount of solvents in a film, but it quantifies the amount of solvents in the headspace at equilibrium conditions (85°C for 1 hour).

Description: Sample (100 cm²) is placed in hermetic vial and incubated for one hour at 85°C. An aliquot of the headspace is injected into a GC-MS in full scan mode for identification and quantification. The amount of residual solvents is determined at equilibrium on one extraction of static headspace technique by external standard calibration.

Sample Weight Required: One rolled sample approximately 30 layers thick

Analytical Platform: GC-MS/HS

Special Information: Samples must be wrapped in aluminum foil, preferably 5 layers.



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Compound	Quantitation Limit
1-butanol	1.4 mg/m ²
1-ethoxy-2-propanol	1.4 mg/m ²
1-methoxy-2-propanol	1.4 mg/m ²
2-butanol	1.4 mg/m ²
2-Butoxyethanol	1.4 mg/m ²
2-methoxy ethanol	1.4 mg/m ²
2-methoxy ethyl acetate	1.4 mg/m ²
2-propanol	1.4 mg/m ²
Acetone	1.4 mg/m ²
Butyl acetate	1.4 mg/m ²
Combined Ketones and Acetates	1.4 mg/m ²
Cyclohexane	1.4 mg/m ²
Cyclohexanone	1.4 mg/m ²
Ethanol	1.4 mg/m ²
Ethoxy-2-ethyl acetate	1.4 mg/m ²
Ethyl acetate	1.4 mg/m ²
Ethylene glycol ethyl ether	1.4 mg/m ²
Isobutanol	1.4 mg/m ²
Isobutyl acetate	1.4 mg/m ²
Isopropyl acetate	1.4 mg/m ²
Methanol	1.4 mg/m ²
Methoxy propyl acetate	1.4 mg/m ²
Methyl acetate	1.4 mg/m ²
Methyl ethyl ketone	1.4 mg/m ²
Methyl isobutyl ketone	1.4 mg/m ²
N-propanol	1.4 mg/m ²
N-propyl acetate	1.4 mg/m ²
Tetrahydrofuran	1.4 mg/m ²
Toluene	1.4 mg/m ²
Total Residual solvents	1.4 mg/m ²