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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 cm<sup>2</sup>) 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:** Each packaging analysis selected must have separate original packaging wrapped in multiple layers of foil to prevent contamination and loss of volatiles. If not possible, please contact Customer Service for options.



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