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Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: 4-NonylPhenol Ethoxylates (4-NPE) in Food by LC-MS/MS

Method Number: NQA-54.0009

Scope of Application: Dairy raw materials, milk-based infant formula, rice protein, pea protein, gummy-based vitamins, and plant protein-based infant formula have been validated. We will attempt to analyze other food matrices; however, if established acceptance criteria are not met the sample may be considered incompatible with this method or increased QL's may be reported.

This method is NOT suitable for the analysis of detergents or surfactants.

Description: 4-NPE are extracted according to the QuEChERS principle and analyzed by LC-MS/MS in multiple reaction monitoring (MRM) using positive electrospray ionisation (ESI).

4-NPE (n = 7 ethoxylate unit) is used as a global marker for 4-NPE compounds having varying numbers of ethoxylate units. 4-NPE with n=6, 8, 10, 11 and 12 ethoxylate units are also monitored for additional confirmation of the presence of 4-NPE. The n = 7 unit is quantified as a marker for total 4-NPE in Tergitol NP-10

The quantitative range of the method is 10 to 5000 ppb. Dilution (by request) covers the range 100 to 50,000 ppb. Results above the quantitative range will report in the format ">5000 ppb" or ">50000 ppb".

Sample Weight Required: 25 g (must be in an original container or unwashed glass or metal container)

Method Reference: EN15662:2008 (QuEChERS protocol)

Analytical Platform: LC-MS/MS



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Analyte Reported	Alias	Unit of Measure	Limit of Quantification	Reproducibility
4-nonylphenol ethoxylate	4-NPE, NP-10	ppb ($\mu\text{g}/\text{kg}$)	10 (20 for pea protein)	30%