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Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: Beet Medium Invert Sugars - Qualitative Profile

Method Number: NQA-06.2515

Scope of Application: This method describes a liquid chromatographic method for the qualitative detection of medium invert sugars that have been added to fruit-based products such as juice concentrates and purees. This adulterant may contain tri- and tetrasaccharides not naturally present in the juice and are detected in this method.

BMIS is Beet Medium Invert Syrup (or Sugars) and is created by the acid hydrolysis of beet or cane sucrose syrup until half of the sucrose is hydrolyzed. The resulting sugar syrup mixture is 2:1:1 of sucrose, glucose, and fructose.

Description: The juice sample is diluted with water and filtered. The oligosaccharides from medium invert syrup are separated by ion exchange high pressure chromatography with electrochemical detection. The juice sample chromatography profile is qualitatively compared with a BMIS sample, a standard mixture of several oligosaccharides, and an authentic juice of the same type as the sample.

Sample Weight Required: 50 g

Method Reference: Hammond, D. A., Synergy between Liquid Chromatographic-Pulsed Amperometric Detection and Capillary-Gas Chromatographic Methods for the Detection of Juice Adulteration Journal of AOAC International 2001, 84 No.3, 964 – 975.

Swallow, K. and Low, N., Isolation and Identification of Oligosaccharides in a Commercial Beet Medium Invert Syrup Journal of Agriculture and Food Chemistry 1993, 41, 1587 – 1592.



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Swallow, K., Low, N., Petrus, D., Detection of Orange Juice Adulteration with Beet Medium Invert Sugar Using Anion Exchange Liquid Chromatography with Pulsed Amperometric Detection Journal of AOAC International 1991, 74 No.2, 341 – 345.

Analytical Platform: HPLC

Special Information: Juice

Analyte Reported	Unit of Measure	Limit of Quantification	Reproducibility
Beet Medium Invert Sugar Profile	Typical/Atypical	N/A	N/A