Technical Datasheet

Analysis Name: Sugars by HPAEC-PAD

Method Number: NQA-52.0003

Scope of Application: This method is applicable for the quantitative determination of carbohydrates in food products, juice concentrates and purees, gummy-based vitamins, and raw materials. Juice concentrates and purees are validated for Sorbitol, Glucose, Fructose and Sucrose, whereas food products/raw materials are validated for Galactose, Glucose, Fructose, Lactose, Sucrose, and Maltose.

This method is not applicable to powdered/instant coffee or ground coffee. These matrices can only run under LI-21.057 (Carbohydrates in Coffee). Liquid coffees can be attempted, but interferences may be present that result in some or all components being not reportable.

Samples containing xylose and/or mannose may cause interference with target analytes. To avoid delays in reporting results, please inform the lab if your sample contains these components.

Matrix classification is determined during sample preparation based on the sample description, special instructions, and/or physical appearance of the sample. In cases where the provided sample information is unclear, or if a higher sample dilution is required during preparation, results may be reported with a higher LOQ than listed.

Description: Extraction of sugars in water using sonication and injection on the HPAEC-PAD system. Neutral sugars being weak acids are partially ionized at high pH and can be separated by anion-exchange chromatography on a base stable polymeric column. Sugars are detected by measuring the electrical current generated by their oxidation at the surface of a gold electrode and quantified by comparison with an external standard. Results are expressed in g per 100 g of product.

Sample Weight Required: 50 g

Analytical Platform: High Performance Anion Exchange (HPAE) Chromatography

Analyte Reported	Alias	Unit of Measure	Limit of Quantification	Reproducibility
Sorbitol*		g/100 g	0.05	20% or +/-0.3g/100g for values <3g/100g
Galactose		g/100 g	0.05	20% or +/-0.3g/100g for values <3g/100g
Glucose		g/100 g	0.05	20% or +/-0.3g/100g for values <3g/100g
Sucrose		g/100 g	0.05	20% or +/-0.3g/100g for values <3g/100g
Fructose		g/100 g	0.05	20% or +/-0.3g/100g for values <3g/100g
Lactose		g/100 g	0.05	20% or +/-0.3g/100g for values <3g/100g
Maltose		g/100 g	0.05	20% or +/-0.3g/100g for values <3g/100g
Sorbitol/Total sugars ratio*		N/A	N/A	N/A
Glucose/Total sugars ratio*		N/A	N/A	N/A

*juice concentrates only