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.

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