

Technical Datasheet

Analysis Name: Carbohydrates in Coffee

Method Number: LI-21.057

Scope of Application: A high-performance anion exchange chromatographic (HPAEC) method for the determination of free and total carbohydrate in coffee (e.g. soluble coffee, instant coffee, roast and ground coffee, green coffee and coffee husks). Applicability to non-coffee beverage powders (including partially hydrolyzed guar gum powders) has also been demonstrated.

Description: Extraction of carbohydrates with water. Separation by ion chromatography on an anion exchange column. Electrochemical detection of the eluted compounds by means of a pulsed amperometric detector and quantification by comparison with the peak areas of the carbohydrates in the standard solution.

Sample Weight Required: 50 g

Analytical Platform: High Performance Anion Exchange Chromatography (HPAEC)

Special Information: Free and Total Sugars methods are available. Free Sugars should be requested when sugar content is wanted on an as-is basis regarding sample preparation. Total Sugars should only be requested when sugar content is wanted on samples post acid hydrolysis. This added step breaks down more complex carbohydrates into simpler sugars. Mannitol and sucrose are not reportable with the Total Sugars method.

Analyte Reported	Unit of Measure	Limit of Quantification	Reproducibility
Mannitol*	g/100 g	0.03	<0.1 g/100 g, 60% 0.1-0.25 g/100 g, 35% 0.25-0.5 g/100 g, 30% 0.5-5 g/100 g, 15% >5 g/100 g, 15%



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Fucose	g/100 g	0.04	<0.1 g/100 g, 60% 0.1-0.25 g/100 g, 35% 0.25-0.5 g/100 g, 30% 0.5-5 g/100 g, 15% >5 g/100 g, 15%
Arabinose+Rhamnose	g/100 g	0.03	<0.1 g/100 g, 60% 0.1-0.25 g/100 g, 35% 0.25-0.5 g/100 g, 30% 0.5-5 g/100 g, 15% >5 g/100 g, 15%
Galactose	g/100 g	0.03	<0.1 g/100 g, 60% 0.1-0.25 g/100 g, 35% 0.25-0.5 g/100 g, 30% 0.5-5 g/100 g, 15% >5 g/100 g, 15%
Glucose	g/100 g	0.2	0.1-0.25 g/100 g, 35% 0.25-0.5 g/100 g, 30% 0.5-5 g/100 g, 15% >5 g/100 g, 15%
Sucrose*	g/100 g	0.2	0.1-0.25 g/100 g, 35% 0.25-0.5 g/100 g, 30% 0.5-5 g/100 g, 15% >5 g/100 g, 15%
Xylose	g/100 g	0.2	0.1-0.25 g/100 g, 35% 0.25-0.5 g/100 g, 30% 0.5-5 g/100 g, 15% >5 g/100 g, 15%
Mannose	g/100 g	0.2	0.1-0.25 g/100 g, 35% 0.25-0.5 g/100 g, 30% 0.5-5 g/100 g, 15% >5 g/100 g, 15%
Fructose	g/100 g	0.2	0.1-0.25 g/100 g, 35% 0.25-0.5 g/100 g, 30% 0.5-5 g/100 g, 15% >5 g/100 g, 15%
Ribose	g/100 g	0.2	0.1-0.25 g/100 g, 35% 0.25-0.5 g/100 g, 30% 0.5-5 g/100 g, 15% >5 g/100 g, 15%

* Mannitol and sucrose are not reportable with the Total Sugars method.