NQAC
Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: Brix Determination of Citrus Juices and Concentrates

Method Number: NQA-00.0925, NQA-00.0926

Scope of Application: This method determines the acid corrected Brix solids of citrus juices and concentrates having less than or equal to 30.2% titratable acidity as anhydrous citric acid.

Description: The refractive index (Brix) of a substance is the ratio of the velocity of light in a vacuum to its velocity in the substance; this, in turn, is dependent on composition, concentration, and temperature of the substance. For practical measurements, the scales of standard refractometers indicate refractive indices with respect to air rather than vacuum.

The Brix scale corresponds to the change of refractive index of a sucrose solution in water as a function of the sucrose concentration. The °Brix value is equal to the % (mass/mass) of sucrose. For liquids which are mostly water and sugar, such as non-citrus juices, the °Brix value is a close approximation of the % dissolved solids. For liquids with a high proportion of non-sugar dissolved solids, this approximation is less accurate. Citrus juices are such liquids, having a high proportion of dissolved organic acids, mostly citric acid.

The uncorrected °Brix value is first measured using a refractometer. The titratable acidity value is also measured. A correction factor in °Brix is chosen from a table based on the titratable acidity result and is added to the uncorrected °Brix value. This is the acid corrected °Brix value and is a better approximation of the total dissolved solids.

Sample Weight Required: 25 g

Analytical Platform: Automatic Refractometer, pH Meter, Autotitrator

Special Information: Juice
Single Strength calculation included with BRIX_SS variation

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Analyte Reported	Alias	Unit of Measure	Limit of Quantification	Reproducibility
Brix		ºBx	N/A	°Bx<10, r= 0.2 °Bx ABS; 10≥°Bx<30, r=2% RSD; °Bx≥30, r=1%RSD
Brix, Acid Corrected		ºBx	N/A	N/A
Brix, Single Strength		ºBx	N/A	N/A