

# ICUMSA

## Methods Book 2005

The ICUMSA (International Commission of Unified Methods of Sugar Analysis) Methods Book contains Methods, Tables and other information which are believed to be in use generally in the world's sugar industry and are offered in pursuance of the objects of the Commission to provide an information service to members. In addition, there are other users and ICUMSA Methods are recognised by authorities such as the Codex Alimentarius Commission, the OIML, the EU and the US Food Chemicals Codex. Supplements to this loose-leaf Book have been published in 1998, 2000, 2003 and 2005.

The Methods Book 2005 contains the following Methods and Specifications:

### Raw Sugar

Polarisation of Raw Sugar	GS1/2/3-1
Polarisation of Raw Sugar Without Wet Lead Clarification	GS1/2/3-2
Reducing Sugars in Cane Raw Sugar by Lane+Eynon	GS1/3/7-3
Glucose and Fructose in Raw and White Sugars using HPAEC	GS1/2/3-4
Reducing Sugars in Cane Raw Sugar by Luff-Schoorl	GS1-5
Raw Sugar and Specialty Sugars Solution Colour at pH 7	GS1/3-7
Raw Sugar Solution Colour at pH 7.0 by the MOPS Method	GS1-8
Ash in Raw Sugar by Single Sulphation	GS1-10
Conductivity Ash in Raw Sugar	GS1/3/4/7/8-13
Dextran in Raw Sugar by a Modified Alcohol - Haze Method	GS1-15
Determination of pH	GS1/2/3/4/7/8-23
Starch in Raw Sugar by the BSES method	GS1/16
Starch in Raw Sugar by the SPRI Rapid Starch Test	GS1/17
Fine Grain in Raw Sugar by the BSES method	GS1/10

### White Sugar

Polarisation of White Sugar	GS2/3-1
Glucose and Fructose in White Sugar	GS 2-4
Reducing Sugars in White Sugar, Knight+Allen EDTA	GS2/3-5
Reducing Sugars in White Sugar by Modified Ofner Method	GS2-6
White Sugar Solution Colour at pH 7.0	GS2/3-9
White Sugar Solution Colour	GS2/3-10
Visual Appearance of White Sugars, Braunschweig Colour-Types	GS2-11
Reflectance of White Sugar	GS2-13
Sugar Moisture by Loss on Drying	GS2/1/3-15
Conductivity Ash in Refined Sugar Products	GS2/3-17
Insoluble Matter in White Sugar	GS2/3-19
Arsenic in White and Specialty Sugar by GFAAS	GS2/3-23
Lead in White and Specialty Sugars by GFAAS	GS2/3-24
Arsenic in Refined Sugar Products by a Colorimetric Method	GS2/3-25
Lead in Sugar Products by a Colorimetric Method	GS2/1/3-27
Copper in Refined Sugar Products by a Colorimetric Method	GS2/3-29
Iron in Refined Sugar Products and Sugar Solutions	GS2/3/7/8-31
Sulphite in White Sugar, VVHP Raw Sugar, Cane Sugar Juices and Syrups	GS2/1/7-33
Sulphite in Refined Sugar Products by an Enzymatic Method	GS2/3-35
Formaldehyde in White Sugar by a Colorimetric Method	GS2-36
Particle Size Distribution of White Sugar	GS2-37



**Bartens**

The Sugar and Sweetener Publisher

**White Sugar** (continued)

ERH of Crystalline Sugar Products	GS2/1/3-39
Floc Tests A + B	GS2/3-40
Total Mesophilic Bacterial Count, Membrane Filtration Method	GS2/3-41
Sampling of Refined Sugar Products for Microbiol. Analyses	GS2/3-42
Total Mesophilic Bacterial Count by the Pour Plate Me.	GS2/3-43
Slime-forming Bacterial Count	GS2/3-45
Yeast and Moulds	GS2/3-47
Thermophilic Spore-Forming Bacteria	GS2/3-49

**Specialty Sugars**

Polarisation of Sugar Component of Powdered Sugars	GS3-1
Sulphated Ash in Brown Sugar, Juice, Syrup and Molasses	GS3/4/7/8-11
Anti-Caking Agents in Powdered Sugars	GS3-21

**Molasses**

Apparent Sucrose by a Double Polarisation Method	GS4/7-1
Sucrose by GC	GS4/7/8/5-2
Reducing Sugars in Cane Molasses, Lane+Eynon Procedure	GS4/3-3
Reducing Sugars in Beet Molasses, Lane+Eynon Procedure	GS 4-5
Total Reducing Sugars in Molasses ... , Lane+Eynon Procedure	GS4/3-7
Total Reducing Sugars in Molasses..., Luff-Schoorl Procedure	GS4/3-9
Dry Subst. and Moisture in Molasses, Vacuum Oven Drying	GS4/7-11
Moisture in Molasses, Cane Raw Sugars, Speciality Sugars ...	GS4/7/3-12
Refractometric Dry Substance (RDS %) of Molasses	GS4-13
Apparent Dry Substance of Molasses using a Hydrometer	GS4-15
Raffinose in Beet Molasses by HPAEC	GS4/8-19
Determination of Betaine in Beet Molasses by HPLC	GS4/8-21
Sucrose and Betaine by HPLC in Beet Molasses	GS4-22

**Sugar Cane and Beet**

Cane Pol, Brix and Fibre in Cane and Bagasse	GS5/7-1
Sampling of Sugar Cane by the Full Width Hatch Sampler	GS5-5
Sampling of Sugar Cane by the Corer Method	GS5-7
Polarisation of Sugar Beet, Cold Digestion, Lead Acetate	GS6-1
Polarisation of Sugar Beet, Cold Digestion, Aluminium Sulphate	GS6-3

**Cane Sugar Processing**

Preparation Index of Cane	GS7-3
Moisture in Cane and Bagasse	GS7-5
Pol of Filter Cake	GS7-7
Moisture in Filter Cake	GS7-9
Mud Solids in Juice, Mud and Filter Cake	GS7-11
Cane Fibre in Juice, Mud and Filter Cake	GS7-13
Total and Soluble Phosphate in Cane Juice	GS7-15
Calcium and Magnesium in Cane Juice and Syrup, EDTA	GS7-19
Turbidity in Clarified Cane Juice	GS7-21
Fructose, Glucose and Sucrose in Cane Juices, Syrups (GC)	GS7/4/3-22
Sucrose, Glucose and Fructose in Cane Molasses (HPLC)	GS7/4/8-23
Glucose, Fructose and Sucrose in Cane Juices, Syrups and Sucrose in Beet Molasses (HPIC)	GS7/8/4-24
Calcium Oxide in Lime	GS7-25
Sucrose-soluble Alkali in Quicklime	GS7-27



**Bartens**

The Sugar and Sweetener Publisher

### Beet Sugar Processing

Glucose and Fructose in Beet Juices and Processing Products by an Enzymatic Method	GS8/4/6-4
Apparent Total Sugar Content of Beet Pulp, Luff-Schoorl	GS 8-5
Beet Pulp Moisture and Dry Substance Analysis	GS 8-6
Ash in Beet Pulp: Crude Ash and Sulphated Ash	GS 8-7
Insoluble Ash in Beet Pulp	GS 8-8
Calcium in Sugar Products by EDTA Titration	GS8/2/3/4-9
Chloride by a Potentiometric Method	GS8/4/7-11
Lactic Acid by an Enzymatic Method	GS8/4/6-13
Acetic Acid in Beet Juices, Proc. Prod. by an Enzymatic Method	GS8/4/6-14
Raffinose and Kestoses by a TLC Method	GS8/4-15
Total $\alpha$ -Galactosides and Raffinose by an Enzym. Me.	GS8/1/2/3/4-19
Dextran, Levan and Arabin by a TLC Method	GS8-21
Pectic Acid in Beet Raw Juice, 3-Hydroxy-Diphenyl Method	GS8-23
Pectic Acid in Beet Liquors, Carbazole Colorimetric Method	GS8-25

### Specifications and Standards

Polarimetry and the International Sugar Scale	SPS-1
Solubility of Sucrose in Water	SPS-2
Refractometry and Tables	SPS-3
Densimetry and Tables	SPS-4
Viscometry and Tables	SPS-5

### Draft Methods

Determination of Mannitol in Beet Brei by HPAEC	Method 1
Determination of b-Fructosides in Sugar Solutions by HPAEC	Method 3
Determination of Starch in Cane Sugar Products (VSI Method)	Method 3
The Determination of Starch in Raw Sugar by the SMRI Method	Method 4
Determination of Potassium and Sodium in Sugar Beet – by Flame Photometry	Method 5
Determination of $\alpha$ -Amino Nitrogen in Sugar Beet by the Copper Method ('Blue Number')	Method 6

### ICUMSA Methods Book 2005

Loose leaf + Ring binder, 101 Methods, 341 pages  
ISBN 3-87040-551-1;  
Price 269 EUR + Postage (12 EUR surface mail, 38 EUR air mail)  
Verlag Dr. Albert Bartens KG, Lückhoffstr. 16, 14129 Berlin, Germany  
[www.bartens.com](http://www.bartens.com)