

### **Quality Assurance**

Sugar Australia has refineries in Melbourne and Mackay, and depots in, Sydney, Perth, Mackay and Brisbane. All of these sites have been certified by accredited external third party auditors as meeting the requirements either **HACCP** or **BRC Global Standard – Food Safety**. Sugar Australia's quality assurance measures begin with raw sugar, are applied throughout the refining and packaging processes, the processes that support them, and the products supplied to the customer.

Quality of the finished products is maintained by in-process control of what is essentially a continuous process. A documented regime of regular snap sampling and checking of finished product is used to ensure that the in-process controls are effective. Isolation and testing of samples from batches is generally not practiced as a basis of release for sale. Any product found, after delivery, not to comply with agreed specifications is subject to positive recall procedures and/ or concession.

Quality control of the finished product goes beyond the sugar characteristics to include date marking, print and packaging quality and protection against subsequent contamination.

Retail Packaged products are identified for batch coding by a "packed on" date and, if the product is packed at more than one site, a code for the particular packing site. Industrial type product in 15kg and 25kg packaging are identified by a batch code which includes the year, day of the year, shift code and manufacturing site. Bulk products are identified by date of delivery on the accompanying delivery documentation.

Product Information Forms (PIF's) have been developed for all non-retail products. This information is available on request.

### **Delivery**

White sugars are available in bulk or as palletised 15kg or 25kg multi-wall paper bags. Graded and caster sugar are also available in 15kg bags. In some States crystal sugars can be filled into intermediate bulk containers.

Specialty sugars (apart from Coffee Sugar) are available as palletised 25kg multi-wall paper bags and some in 15kg multi-wall paper bags.

### **Storage**

Crystal sugar products have a useful life in excess of 2 years and thus do not require a "use by" date. The only potential change of significance over a long period is physical caking.

Crystal sugars should be stored in dry areas, preferably avoiding large temperature variations and relative humidity above 70%. Sugar tends to absorb moisture from the air and may cake if subjected to unsuitable storage conditions. While stored, sugar is not normally attacked by insects or bacteria provided it is kept dry.

Brown and dark brown sugars can dry out if subjected to low humidity. Compression from storing as multiple layers of palletised product can alter the physical condition of these moist sugars.

### **Sugar and Food Standards**

In Australia, sugar products are standardised foods. Sugar Australia products meet or exceed the CODEX Standards, the Australia New Zealand Food Standards Code and State Regulations relevant to the products.

All Sugar Australia crystal sugar products listed herein are manufactured in accordance with Halal and Kosher requirements and are certified Halal and Kosher.

Sugars supplied by Sugar Australia have not been produced from genetically-modified cane, nor is GM processing aids or additives used in the milling or refining operations.

No allergens as listed in the Australia New Zealand Food Standards Code are used in the processing or manufacturing of Sugar Australia crystal sugars listed herein.

### **Sugar's Properties**

Sugar (sucrose) is primarily an inexpensive natural sweetener and a nutritive carbohydrate. Its sweetness profile is generally not matched by other carbohydrates or artificial sweeteners, and is stable over time.

Sugar is an established ingredient in food and beverage preparation because of its unique versatility and its compatibility with normal processing requirements such as cooking, freezing, dissolving and blending.

Sugar is also used for its chemical and physical properties in some non-food applications.

- Sugar provides many other useful properties:
- high concentrations of sugar may act as a preservative (by osmotic effect) against most micro-organisms;
- low concentrations of sugar can be a flavour enhancer;
- sugar modifies boiling and freezing points of mixtures and solutions;
- sugar has humectant properties;
- sugar is important as a fermentable in breads and brewed beverages;
- sugar contributes "body" and "mouth feel" to all sweetened beverages;
- The non-sucrose components of Specialty Sugars include some with anti-oxidant properties.

## **Product Descriptions & Applications**

Sugar Australia supplies a range of white sugars and specialty sugars in crystal form.

### **White Sugars Range**

**Premium White Sugar** (previously called Bottlers, Canners or Low Colour) is Manufacturers white sugar which meets the standards set by the National Soft Drink Association of the USA and National Canners Association of the USA, and also meets the standard set by the US National Food Processors Association. It is produced for specific uses where purity is most important. It is especially suitable for use in bottling of aerated waters, in canning of low-acid foods where sugar with low levels of particular types of spoilage micro-organisms in the can is needed, or where the product is sensitive to colour introduced with the sugar.

**Manufacturers White Sugar** has a broad crystal size spectrum and may contain some large crystals as well as fine sugar. It is suitable for a wide range of food and beverage processing applications where variable crystal size will not affect the final product's quality. It is especially practical where dissolving is part of the customer's process.

**Graded White Sugar** has a smaller and more uniform crystal size than Manufacturers white sugar and is suitable for a wide range of table-top and industrial food and beverage applications. Applications which benefit from the uniform grist and bulk density characteristics of this product include baking and confectionery manufacture where sugar crystal size affects texture and consistency. Volumetric measurement of Graded white sugar gives a more repeatable mass than would occur with Manufacturers white sugar.

**Caster Sugar** has a smaller average crystal size than Graded white sugar and does not contain the larger crystals. It produces textural differences in bakery products. It is ideal for sugar-coated products and some confectionery, and also exhibits fast-dissolving characteristics which are desirable for cold drink preparations. In powdered dry mixes such as sachet drinks, puddings, jellies and cake mixes, the uniform crystal size of caster sugar ensures even distribution, avoiding stratification and non-uniformity of the packaged product.

**Extra Coarse Sugar** is a specialty white sugar of large crystal size which has particular particle size and particle size distribution characteristics. It is used for decoration and other special uses. Some of these uses are unique and form the basis of particular bakery or confectionery products.

**Icing Sugars** – these are fine-grained white sugars produced by grinding crystal sugar. They have specific uses where the very fine particles are required, such as fondant for confectionery and in the baking industry. We produce a Pure Icing Sugar, which is 100% sugar, and Soft Icing Mixtures where up to 5% starch is added to prevent caking. Pure Icing Sugar tends to cake and lump quite quickly and should be used within a few days of production. Soft Icing Mixture should be used within a month of manufacture and will compact if stacked more than two pallets high. Storage should be in cool dry areas away from draughts and humidity.

### **Specialty Crystal Sugars**

**Brown Sugar** is a moist, golden brown, very fine crystal product, made using selected refinery syrups.

**Dark Brown Sugar** has a similar texture to Brown Sugar with a richer colour and more distinctive molasses flavour and aroma.

These two brown sugars are especially suitable for use in cereals, baking, fillings, syrup toppings and confectionery, where the characteristic colour, flavour and aroma of the sugars will be imparted to the food.

**Raw Sugar** is a free-flowing sugar of straw colour with a characteristic flavour. It has a wide variety of uses but particularly where its characteristics will enhance the product in which it is used.

**Coffee Sugar** is a large-grained, pale brown, sugar with a characteristic flavour.

# Sugar Australia Crystal Sugar Product Specifications

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**Demerara Sugar** is a particular form of raw sugar with a golden, sparkling crystal and a distinctive rich flavor from its high residual molasses content.

These two sugars have large crystals which dissolve slowly allowing the full flavour and sweetness of natural sugar cane syrups to last. They are suitable for use in coffee, as a table accompaniment and in certain cooking applications. The rich golden colour and molasses flavour of Demerara gives its use extra dimension.

**Low Gi Sugar (Logicane)** has a similar crystal size, colour and taste to raw sugar. It is the only Low GI cane sugar available worldwide, and has been specially developed to retain more of the goodness of sugar cane molasses (verses regular white and raw sugars), but with the benefit of being low GI.

This sugar has been independently certified by the Glycemic Index Foundation Australia as being Low GI, i.e. with a Glycemic Index value of less than 55.

**Raw Coarse Sugar** is a specialty sugar of large crystal size with a straw colour and a characteristic flavour which has particular particle size and particle size distribution characteristics. It is used for decoration and other special uses. Some of these uses are unique and form the basis of particular bakery or confectionery products.

**Raw Caster Sugar** is a free-flowing sugar of straw colour with a characteristic flavour and has a smaller average crystal size than raw sugar and does not contain the larger crystals. It produces textural differences in bakery products. It is ideal for sugar-coated products and some confectionery, and also exhibits fast-dissolving characteristics which are desirable for cold drink preparations. In powdered dry mixes such as sachet drinks, puddings, jellies and cake mixes, the uniform crystal size of caster sugar ensures even distribution, avoiding stratification and non-uniformity of the packaged product.

## Product Specifications

The following lists the standard specifications for Sugar Australia crystal products. They are based on the parameters used to control the production process, and generally better the minimum standards satisfactory for use. Where customers have particular requirements, these can be negotiated.

### White Sugars

	PREMIUM Bottlers/Canners	MANUFACTURERS	GRADED	CASTER	EXTRA COARSE
Cane Sugar (sucrose) min	99.85%	99.85%	99.85%	99.85%	99.85%
Reducing sugar max	0.03%	0.04%	0.04%	0.04%	0.04%
Ash max	0.015%	0.03%	0.03%	0.03%	0.03%
Colour (ICUMSA units) max	35	40	40	50	40
Particulate sediment max	5mg/kg	5mg/kg	5mg/kg	5mg/kg	2mg/kg
Moisture (Loss on drying) max	0.06%	0.06%	0.06%	0.06%	0.06%
<b>Screen Analysis-</b> (not cumulative)					
C 2.0mm screen max	-	-	-	-	<1%
C 1.7mm screen max	-	-	-	-	<25%
T 0.85mm screen max	-	-	-	-	<5%
C BSS 18 (850 micron) max	-	-	20%	-	-
C BSS 25 (600 micron) max	-	-	-	1%	-
T BSS 52 (300 micron) max	-	-	10%	-	-
<b>Microbial Standards - (per 10 grams sugar)</b>					
Mesophilic bacteria, max	200	1000	1000	1000	-
Thermophilic bacteria, max	150	-	-	-	-
Yeasts, max	10	100	100	100	-
Moulds, max	10	100	100	100	-

### Icing Sugars

	PURE ICING SUGAR	SOFT ICING MIXTURE
Cane Sugar (sucrose) min	99.8%	94.2%
Reducing sugar max	0.04%	0.04%
Ash max	0.03%	0.05%
Starch	-	3.0 - 5.0 %
Moisture (Loss on drying) max	0.1%	1.00%
<b>Typical Screen Analysis-</b> (not cumulative)		
C BSS 60 (250 micron)	1%	1%
C BSS 85 (180 micron)	10%	10%
T BSS 200 (75 micron)	60%	60%

### Specialty Sugars

	BROWN	DARK BROWN	RAW	COFFEE	DEMERARA
Cane Sugar (sucrose) range	90.0 - 97.0%	86.0 - 95.0%	98.8 - 99.7%	99.0% min	98.2 – 99.7%
Reducing sugars	3.5% max	4.0% max	0.4% max	-	0.4% max
Ash max	1.8% max	3.0% max	0.4%	-	0.4% max
Loss on drying max	2.75%	4.0%	0.3%	0.3%	0.3%
Colour (ICUMSA units)	-	-	-	1400 - 2300	2500 - 4000
Particulate sediment max	20mg/kg	40mg/kg	-	-	-
<b>Screen Analysis-</b>					
C 3350 microns max	-	-	-	5%	-
T 1700 microns max	-	-	-	30%	-

	LOW GI	RAW COARSE	RAW CASTER
Cane Sugar (sucrose) range	98.0% min	98.8 - 99.7%	98.8 - 99.7%
Reducing sugars	-	0.4% max	0.4% max
Ash max	-	0.4% max	0.4% max
Loss on drying max	0.3%	0.3%	0.3%
Colour (ICUMSA units)	800-1400 (straw)	<800	
Particulate sediment max	-		
GI (Glycemic Index)	Low ( typically 50)		
<b>Typical Screen Analysis-</b> (not cumulative)			
C BSS 60 (250 micron)	-	-	C600micron <5%
Mean Average (MA)	-	1.1 – 1.3mm	

### Analytical Methods

These specifications are based on analytical methods used by Sugar Australia. They are generally similar to widely-accepted methods in the sugar industry and in some cases are those of the International Commission for Uniform Methods of Sugar Analysis (ICUMSA).

### Occupational Health & Safety Warning

Sugar products are well-known ingredients in food and beverages. It is good hygiene practice to avoid direct skin contact with sugar during food and beverage preparation. The information below only concerns occupational handling exposures.

**Risk:** Irritating to eyes, skin and respiratory system.

**Safety:** Avoid contact with eyes and skin. Avoid breathing dust.  
Wear suitable protective clothing, including eye (AS/NZS 1337) and respiratory (AS/NZS 1715 & 1716) protection if dust generated, and gloves (AS 2161) if repeated skin contact.

**First Aid:** Rinse eyes with plenty of water.  
Wash skin with soap and water.

**Disposal:** Wet sweep or vacuum spills into containers for disposal in accordance with local authority guidelines.

**Fire/explosion:** High sugar dust levels create risk of explosion. Maintain low dust levels and eliminate source of ignition.

**Safety Data Sheets for sugar products are available upon request.**

**Note:** This brochure is subject to change without notice. This copy may not be current; please check with Sugar Australia for the issue date of the latest version.

This brochure is intended to provide customers with information which may assist them in purchasing or using sugar. The Company is not familiar with detailed technical aspects of customers' products and processes. Customers use sugar as they see fit and this information does not enlarge the Company's standard terms and conditions of sale and does not imply warranties or conditions that a particular sugar product is necessarily suitable for a particular purpose.