

CODEX STANDARD FOR SUGARS¹

CODEX STAN 212-1999

1. SCOPE AND DESCRIPTION

This Standard applies to the following sugars intended for human consumption without further processing (synonyms are in round brackets). It includes sugars sold directly to the final consumer and sugars used as ingredients in foodstuffs. The description of each of the sugars is also given below:

| <u>Name</u> | <u>Description</u> |
|--|--|
| White sugar | Purified and crystallised sucrose (saccharose) with a polarisation not less than 99.7 °Z. |
| Plantation or mill white sugar (or any other equivalent name accepted in the country of origin in which it is sold) | Purified and crystallised sucrose (saccharose) with a polarisation not less than 99.5 °Z. |
| Powdered sugar (icing sugar) | Finely pulverised white sugar with or without the addition of an anticaking agent |
| Soft white sugar | Fine grain purified moist sugar, white in colour with a sucrose plus invert sugar content of not less than 97.0% m/m. |
| Soft brown sugar | Fine grain purified moist sugar, light to dark brown in colour with a sucrose plus invert sugar content of not less than 88.0% m/m. |
| Dextrose anhydrous | Purified and crystallised D-glucose without water of crystallisation, with a D-glucose content of not less than 99.5% m/m on a dry basis and a total solids content of not less than 98.0% m/m. |
| Dextrose monohydrate | Purified and crystallised D-glucose containing one molecule of water of crystallisation, with a D-glucose content of not less than 99.5% m/m on a dry basis and a total solids content of not less than 90.0% m/m. |
| Powdered dextrose (icing dextrose) | Finely pulverised dextrose anhydrous or dextrose monohydrate or mixtures thereof, with or without the addition of an anticaking agent. |
| Glucose syrup | A purified concentrated aqueous solution of nutritive saccharides obtained from starch and/or inulin. Glucose syrup has a dextrose equivalent content of not less than 20.0% m/m (expressed as D-glucose on a dry basis), and a total solids content of not less than 70.0% m/m. |
| Dried glucose syrup | Glucose syrup from which the water has been partially removed to give a total solids content of not less than 93.0% m/m. |

¹ This Standard replaced the Standards for White Sugar, Powdered Sugar (Icing Sugar), Soft Sugars, Dextrose Anhydrous, Dextrose Monohydrate, Powdered Dextrose (Icing Dextrose), Glucose Syrup, Dried Glucose Syrup, Lactose, and Fructose.

| | |
|-------------------------|--|
| Lactose | A natural constituent of milk normally obtained from whey with an anhydrous lactose content of not less than 99.0% m/m on a dry basis. It may be anhydrous or contain one molecule of water of crystallisation or be a mixture of both forms. |
| Fructose (laevulose) | Purified and crystallised D-fructose with a fructose content of not less than 98.0% m/m, and a glucose content of not more than 0.5% m/m. |
| Raw cane sugar | Partially purified sucrose, which is crystallised from partially purified cane juice, without further purification, but which does not preclude centrifugation or drying, and which is characterised by sucrose crystals covered with a film of cane molasses. |

2. FOOD ADDITIVES

Only those food additives listed below may be present. Wherever possible levels should be as low as technologically achievable.

2.1. SULPHUR DIOXIDE

The maximum permitted sulphur dioxide levels in the final product are set out below.

| <u>Sugar</u> | <u>Maximum permitted level</u> <u>(mg/kg)</u> |
|---|--|
| White sugar | 15 |
| Powdered sugar | 15 |
| Dextrose anhydrous | 15 |
| Dextrose monohydrate | 15 |
| Powdered dextrose | 15 |
| Fructose | 15 |
| Soft white sugar | 20 |
| Soft brown sugar | 20 |
| Glucose syrup | 20 |
| Dried glucose syrup | 20 |
| Dried glucose syrup used to manufacture sugar confectionery | 150 |
| Glucose syrup used to manufacture sugar confectionery | 400 |
| Lactose | None |
| Plantation or mill white sugar | 70 |
| Raw cane sugar | 20 |

2.2. ANTICAKING AGENTS

The following anticaking agents are permitted for use in powdered sugar and powdered dextrose to a maximum level of 1.5% m/m singly or in combination, provided that starch is not present:

- Calcium phosphate, tribasic
- Magnesium carbonate
- Silicon dioxide, amorphous (dehydrated silica gel)
- Calcium silicate
- Magnesium trisilicate

Sodium aluminosilicate
Calcium aluminosilicate

Powdered sugar and powdered dextrose may have up to 5% starch added if no anticaking agent is used.

3. CONTAMINANTS

3.1 HEAVY METALS

3.1.1 *Raw cane sugar*

Raw cane sugar shall be free from heavy metals in amounts which may represent a hazard to human health.

3.1.2 *Other Sugars*

The products covered by this Standard shall comply with the maximum limits established by the Codex Alimentarius Commission.

3.2 PESTICIDE RESIDUES

The products covered by this standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these commodities.

4. HYGIENE

It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (CAC/RCP 1-1969), and other relevant Codes of Hygienic Practice and Codes of Practice.

The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997)

5. LABELLING

In addition to the provisions of the General Standard for the Labelling of Pre-packaged Foods (CODEX STAN 1-1985), the following specific provisions apply:

5.1 THE NAME OF THE FOOD

All products covered by this Standard must conform to the description given for that product in Section 1 of the Standard.

In addition, the following specific provision applies to powdered dextrose (icing dextrose) - the name shall be accompanied by a reference to dextrose anhydrous or dextrose monohydrate or both as appropriate.

Where the glucose syrup contains fructose above 5% it shall bear a description to reflect this.

5.2 LIST OF INGREDIENTS

The presence of starch and the maximum amount present shall be declared on the label or containers of powdered sugar or powdered dextrose.

6. METHODS OF ANALYSIS AND SAMPLING

See relevant Codex texts on methods of analysis and sampling.

ANNEX

This text is intended for voluntary application by commercial partners and not for application by governments.

I. ADDITIONAL COMPOSITION AND QUALITY FACTORS

The composition and quality factors for the sugars covered by the Standard are set out in Table 1.

II. ADDITIONAL METHODS OF ANALYSIS

See relevant Codex texts on methods of analysis and sampling.

Table 1: Additional Composition and Quality Factors

| Composition and quality factors | White sugar | PMWS | Soft brown sugars | Soft white sugars | Powdered sugar (icing sugar) | Dextrose anhydrous | Dextrose monohydrate | Powdered dextrose | Glucose syrup | Dried glucose syrup | Fructose | Lactose |
|---|-------------------|-------------------|-------------------|-------------------|------------------------------|----------------------|----------------------|----------------------|---------------------|---------------------|----------|---------------------|
| Sulphated ash (% m/m) | N/A | N/A | ≤ 3.5 | N/A | N/A | ≤0.25-on a dry basis | ≤0.25-on a dry basis | ≤0.25-on a dry basis | ≤1.0-on a dry basis | ≤1.0-on a dry basis | N/A | ≤0.3-on a dry basis |
| Conductivity ash (% m/m) | ≤0.04 | ≤0.1 | N/A | ≤0.2 | ≤0.04 | N/A | N/A | N/A | N/A | N/A | ≤0.1 | N/A |
| Invert sugar content (% m/m) | ≤0.04 | ≤0.1 | ≤ 12.0 | 0.3-12.0 | ≤0.04 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Sucrose plus invert sugar content (% m/m expressed as sucrose) | N/A | N/A | ≥ 88.0 | ≥ 97.0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Loss on drying (% m/m) | ≤0.1 ^a | ≤0.1 ^a | ≤4.5 | ≤3.0 | ≤0.1 ^a | N/A | N/A | N/A | N/A | N/A | ≤0.5 | ≤6.0 |
| Starch content (% m/m) | N/A | N/A | N/A | N/A | ≤5.0 | N/A | N/A | ≤5.0 | N/A | N/A | N/A | N/A |
| Colour (ICUMSA units) | ≤60 | ≤150 | N/A | ≤60 | ≤60 | N/A | N/A | N/A | N/A | N/A | ≤30 | N/A |
| pH (for 10% m/m) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 4.5-7.0 | 4.5-7.0 |

N/A - not applicable

PMWS - Plantation or mill white sugar

^a does not apply to white sugar in lump or cube form or to crystal candy sugar (crystal korizato) or to rock sugar (korizato), or to powdered sugar (icing sugar) to which starch has been added