TANZANIA DRAFT STANDARD

ICING SUGAR - SPECIFICATION

0 Foreword

Icing sugar is manufactured by pulverizing plantation white sugar or refined sugar in a ball mill or other disintegrator with or without the addition of anticaking agents. It is widely used in food industry, like in making confectioneries, dressing cakes, pastries and other bakery products.

This Tanzania Standard has been developed in order to ensure wholesomeness, safety and quality of the product traded in the country

In the preparation of this Tanzania Standard, considerable assistance was derived from *Codex stan 212-1999- Codex standard for sugars* and *IS 1152:2003 Icing sugar- specification published by the India Bureau of Standards.*

In reporting the results of a test or analysis made in accordance with this Tanzania Standard, if the final value, observed or calculated is to be rounded off, it shall be done in accordance with TZS 4 (see clause 2).

1 Scope

This Tanzania Standard prescribes the requirements and the methods of sampling and test for icing sugar

2 Reference

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies

TZS 4: *Rounding off numerical values*

ICUMSA *Methods Book*

TZS 100 *Plantation white sugar-specification*

TZS 101 *Refined sugar-specification*

CODEX STAN 192-1995 *General Standard for Food Additives*

TZS 109 *Food processing units – Code of hygiene*

TZS 119 *Microbiology of food and animal feeding stuffs – Horizontal method for detection and enumeration of coliforms – Most probable number technique*

TZS 122 *Microbiology of food and feeding stuffs – Horizontal method for the detection of salmonella spp*

3 Terms and definitions

For the purpose of this Tanzania Standard, the following definitions shall apply:

3.1 icing sugar
finely pulverized plantation white sugar or refined sugar with or without the addition of an anticaking agent.

3.2 plantation white sugar
White sugar commonly manufactured by vacuum-pan-process from sugar cane

3.3 refined white sugar
purified and granulated sugar, manufactured from any raw sugar by the process of purification consisting broadly of affination, melting, chemical treatment, filtration, decolourisation and re-crystallisation

4 Requirements

4.1 General requirements

4.1.1 Description

Icing sugar shall be pulverized vacuum pan or refined sugar with or without edible starch not exceeding 5% by mass. Edible starch if added, shall be uniformly extended in the sugar. The material shall be in the form of white powder free from dust, or impurities, or any other extraneous matter.

It shall be manufactured from plantation white sugar conforming to TZS 100 or from refined sugar conforming to TZS 101

4.1.2 Particle Size

Not less than 98% of the material shall pass through 150 micron aperture size sieve and not less than 75% shall pass through 75 micron Sieve when tested in accordance with Annex A

4.2 Specific requirement

The product shall also comply with the requirements given in Table 1.

Table 1 — Composition requirements for icing sugars

S No	Characteristic	Requirement	Methods of test
i.	Loss on drying, percent by mass, Max	0.1	ICUMSA Method GS 2/1/3/9-15
ii.	Reducing sugar, percent by mass, Max	0.4	ICUMSA Method GS 2/9-6
iii	Colour in ICUMSA units, *Max*	60	ICUMSA Method GS 2/3-10
iv.	Conductivity ash, percent by mass, Max	0.04	ICUMSA Method GS 2/3-17
v.	Starch (moisture free), percent by mass, *Max*	4	ICUMSA Method GS 1-16
vi	Sulphur dioxide, mg/kg, *Max*	0.5	ICUMSA GS 2/3-35

5. Food additive

Icing sugar may contain only those food additives permitted by Codex Stan 192

6 Contaminants

6.1 Pesticide residues

Icing sugar shall conform to the maximum residue limits established by the Codex Alimentarius Commission for this commodity.

6.2 Heavy metals

6.2.1 The maximum permitted levels for metals are set out in table 2.

Table 2 — Requirements for metal contaminants

S No	Parameter	Requirement	Method of test
i.	Arsenic (As), mg/kg, max.	1	ICUMSA Method GS 2/3/9-25 ICUMSA Method GS 2/3-23
ii.	Copper (Cu), mg/kg, max.	2	ICUMSA Method GS 2/3-29
iii.	Lead (Pb), mg/kg,	0.5	ICUMSA Method GS 2/1/3-27

	max.		ICUMSA Method GS 2/3-23

7. Hygiene

7.1 In order to ensure the safety and quality of icing sugar, the product shall also be manufactured, handled, stored and transported in accordance with the requirements given in TZS 109 (see clause 2).

7.2 Microbiological requirements

The product shall conform to the microbiological limits in table 3.

Table 3 — Microbiological requirements for Icing sugar

Microbiological parameter	Requirements	Method of test
Total Plate Count, cfu/10 g , max	10^3	ICUMSA GS2/3-41
Yeast and moulds, cfu/10 g, max	50	ICUMSA GS2/3-47
E.coli, cfu,/g	<1	TZS 119
Salmonella, per 25 g	absent	TZS 122

8 Sampling and test

8.1 Sampling

Representative sample of the product shall be drawn as prescribed in annex A.

8.2 Tests

Tests shall be carried out in accordance with the methods prescribed in table 1, 2 and table 3.

9 Packing, marking and labelling

9.1 Packing

Icing sugar shall be packed in a clean and sound food grade materials that will afford its adequate protection during storage, transportation, distribution and use.

9.2 Marking and labelling

Each bag shall be legibly and indelibly marked with the following information:

a) name of the product

b) net contents by mass

c) name and address of the manufacturer of the product and/or the packer, distributor, importer, exporter or vendor of the product, if any, shall be declared.

d) country of origin;

e) Batch Number

f) manufacturer's registered trade mark, if any;

g) date of manufacture, date of expiry

8.3 Certification marking

Each bag shall also be marked with TBS Standards Mark of Quality

NOTE: The TBS Standards Mark of Quality may be used by the manufacturers only under license from TBS. Particulars of conditions under which the licence are granted may be obtained from TBS.

Annex A

Sampling of icing sugar

Sampling

A-1.0 In drawing, preparing, storing and handling samples, the precautions and directions given in **A-1.1** to **A-1.7** shall be observed.

A-1.1 Samples shall be taken in such a manner so as to avoid extraneous contamination.

A-1.2 The sampling instrument shall be clean and dry when used.

A-1.3 Precautions shall be taken to protect the samples, the material being sampled, the sampling ‘instrument and the containers for samples from adventitious contamination.

A-1.4 The samples shall be placed in clean and dry glass containers. The sample containers shall be of such a size that they are almost completely filled by the sample.

A-1.5 Each container shall be sealed air-tight after tilling and marked with full details of sampling, such as date of sampling, date of manufacture, batch number, name of manufacturer, name of the person carrying out the sampling, and other particulars as considered necessary.

A-1.6 Samples shall be stored in such a manner that the conditions of storage do not unduly affect the quality of the materials.

A-1.7 Sampling shall be done by a person agreed to between the purchaser and the vendor and in the presence of the purchaser and the vendor or their representatives.

A-2 Scale of sampling

A-2.1 Lot

All the containers in a single consignment of the material drawn from a single batch of manufacture shall constitute a lot. If the consignment is declared to consist of different batches of manufacture, the batches shall be marked separately and the groups of containers in each batch shall constitute separate lots.

A-2.2 For ascertaining the conformity of the material to the requirements of the specification, samples shall be tested from each lot separately.

A-2.3 The number of containers to be selected from a lot shall depend on the size and shall be in accordance with Table 2.

A-2.3.1 These containers shall be selected at random from the lot

A-3 TEST SAMPLES AND REFEREE SAMPLES

A-3.1 Mix thoroughly the contents of each container selected according to A-2.3, to ensure the homogeneity of the contents. Draw from each container so selected, portions of material with an appropriate sampling instrument. Mix thoroughly the portions of materials so drawn from all the containers from a lot so as to form a composite sample of not less than 1 kg. In case a lot consists of containers of O.5 kg capacity or less, thoroughly mixed entire quantity of material from all the containers selected so as to form the composite sample, the minimum quantity in the composite sample being 1 kg. The composite sample shall r divided into three equal pans, one for the purchaser, another for the supplier and the third for use as a referee sample.

Number of Containers to be Selected for Sampling from Various Sizes of Lots (Clause A-2.3)

S1 No.	Lot Size	Sample Size
i)	Up tO 25	3
ii)	26-50	4
iii)	51-100	5
iv)	101 –300	6
v)	301-500	7
vi)	501-800	8
vii)	801-1300	9
viii)	1301 and above	10

A-3.2 The parts of composite sample shall constitute test samples and shall be transferred immediately thoroughly cleaned and dried bottles which shall be sealed and air-tight preferably with glass stoppers. These shall be labelled with the particulars given in A-1.5. One test sample shall be sent to the purchaser and another to the supplier.

A-3.3 The third test sample, bearing the seals of the purchaser and supplier shall constitute the referee sample to be used in case of dispute between the two. It shall be kept at a place agreed to between the purchaser and the supplier.

A-4 NUMBER OF TESTS

Tests for all the characteristics given in this specification shall be conducted on the composite sample.

A-5 CRITERIA FOR CONFORMITY

The Iot shall be declared to have satisfied the requirements of this specification, if all the test results in all the composite sample meet the corresponding requirements.