DUS 871

DRAFT UGANDA STANDARD

Second Edition
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Malted cereal beverages — Specification

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Compliance with this standard does not, of itself confer immunity from legal obligations

A Uganda Standard does not purport to include all necessary provisions of a contract. Users are responsible for its correct application

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Foreword

Uganda National Bureau of Standards (UNBS) is a parastatal under the Ministry of Trade, Industry and Cooperatives established under Cap 327, of the Laws of Uganda, as amended. UNBS is mandated to co-ordinate the elaboration of standards and is

(a) a member of International Organisation for Standardisation (ISO) and

(b) a contact point for the WHO/FAO Codex Alimentarius Commission on Food Standards, and

(c) the National Enquiry Point on TBT Agreement of the World Trade Organisation (WTO).

The work of preparing Uganda Standards is carried out through Technical Committees. A Technical Committee is established to deliberate on standards in a given field or area and consists of key stakeholders including government, academia, consumer groups, private sector and other interested parties.

Draft Uganda Standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments. The committee reviews the comments before recommending the draft standards for approval and declaration as Uganda Standards by the National Standards Council.

The committee responsible for this document is Technical Committee UNBS/TC 2, *Food and Agriculture Subcommittee SC 3, Cereals, Pulses and Related Products and Processes*

This second edition cancels and replaces the first edition (US 871:2011), which has been technically revised.

Malted cereal beverages — Specification

1 Scope

This Draft Uganda Standard specifies requirements, sampling and test for Non- alcoholic malted cereal beverages.

2 Normative references

The following referenced documents referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

US ISO 1842, *Fruit and vegetable products — Determination of pH*

US ISO 6634 *Fruit, vegetables and derived products — Determination of arsenic content — Silver diethyldithiocarbamate spectrophotometric method*.

US ISO 6633, *Fruit and vegetables products — Determination of lead content — Flameless atomic absorption spectrometric method*

US ISO 6637, *Fruits, vegetables and derived products — Determination of mercury content — Flameless atomic absorption method*

US ISO 6561-2, *Fruits, vegetables and derived products — Determination of cadmium content — Part 2: Method using flame atomic absorption spectrometry*

US 28, *Code of practice for hygiene in the food and drink manufacturing industry*

US 1659, *Materials in contact with food — Requirements for packaging materials*

US EAS 38, *Labelling of pre-packaged foods — General requirements*

US EAS 805: *Use of nutrition and health claims — Requirements*

US EAS 804, *Claims on food — Requirement*

US EAS 12, *Potable water — Specification*

US EAS 104, *Alcoholic beverages — Methods of sampling and test*

US ISO 4833-1 *Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 1: Colony count at 30 ^{0}C by the pour plate technique*

US ISO 21527-1 *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 1, Colony count technique in products with water activity greater than 0.95*

US CAC/GL 50, *General guidelines on sampling*

US ISO 7251, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presumptive Escherichia coli — Most probable number technique*

US ISO 750, *Fruit and vegetable products —Determination of titratable acidity*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply. ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
cereal grains
grains of grasses such as barley,wheat, millet, sorghum, oats, or maize, the starchy grains of which are used as food

3.2
malted cereal beverage
acidic non-alcoholic beverage produced from malted cereal and contains wholly or partially of gelatinized milled cereal acidified by the introduced acids and that may contain permitted additives, edible proteins(s), minerals or vitamins (or a combination of these) and maybe clear or opaque.

4 Requirements for raw materials

4.1 General quality factors

The cereal grains or grain products used in the production of the malt beverage shall be clean and sound and in every way fit for use in the preparation of a product for human consumption.

The raw materials used in the production of the malt cereal beverage shall conform to the applicable national standards

4.2 Essential ingredients

4.2.1 Essential ingredients for malted cereal beverages

The following ingredients shall be used in the preparation of malted cereal beverages:

a) cereal grains complying with relevant standards;

b) potable water complying with US EAS 12 and

c) permitted acidulants.

4.2.2 Optional ingredients for other malted cereal beverages

Malted cereal beverages may contain the following optional ingredients:

a) edible starch;

b) sugar; and

c) permitted sweeteners.

5 Requirements for the product

5.1 General quality factors

5.1.1 Malted cereal beverages shall be practically free from off-odours and off-flavours when judged using the normal sensory tests.

5.1.2 Malted cereal beverages shall be practically free from filth (impurities of animal origin, including dead insects) when judged using the normal senses.

5.1.3 Malted cereal beverages shall be practically free from objectionable matter.

5.1.4 The appearance and consistency of the malted cereal beverages shall be uniform and characteristic of the product.

5.2 Essential composition factors

Malted cereal beverages shall conform to the compositional requirements in Table 1.

Table 1 ─ Compositional requirements for malted cereal beverages

Characteristic	Requirement	Method of test
Total solids content, % (m/m), min	8	Annex A
Alcohol content, % (m/m), max	0.5	US EAS 104
Total acidity, g/l, max	5	US ISO 750

5.3 Nutrients

Nutrients including vitamins, minerals and specific amino acids may be added to malted cereal beverages in conformity with the requirements stipulated in national legislation

6 Food additives

Malted cereal beverages may contain food additives in accordance with US 45.

7 Contaminants

Malted cereal beverages shall comply with the relevant provisions of US 738

7.1 Heavy metals

Malted cereal beverages shall not contain heavy metals or inorganic contaminants in excess of the limits stipulated in Table 2.

Table 2— Limits for inorganic contaminants or heavy metals in Malted cereal beverages

Inorganic contaminants	Maximum limit mg/kg	Method of test
Arsenic (As),	0.05	US ISO 6634

Lead (Pb),	0.05	US ISO 6633
Mercury (Hg),	0.001	US ISO 6637
Cadmium (Cd),	0.003	US ISO 6561-2

7.2 Pesticide residues

Malted cereal beverages shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

7.3 Mycotoxins

Malted cereal beverages shall comply with those maximum mycotoxin limits established by the Codex Alimentarius Commission for this commodity.

8 Hygiene

Malted cereal beverages shall be produced and handled in hygienic manner in accordance with US 28. Malted cereal beverages shall conform to the limits for microbiological contaminants in Table 3.

Table 3 – Microbiological limits for malted cereal beverages

S/No	Microorganisms	Maximum limit	Method of Test
1	Total aerobic count, CFU/mL	100	US ISO 4833-1
2	*E. coli,* per m L	Absent	US ISO 16649-2
3	*Salmonella* per *25 mL*	Absent	AOAC 967.26
4	Yeast and mould, CFU/mL	20	US ISO 21527-1

9 Packaging

9.1 Malted cereal beverages shall be packaged in food grade containers that will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

9.2 The packaging materials used shall conform to the requirements given in US 1659.

10 Labelling

10.1 In addition to the requirements in EAS 38, each package shall be legibly and indelibly labelled with the following:

a) name of the product, “Malted cereal beverages”.

b) name and physical address of manufacturer;

c) country of origin.

10.2 Nutritional labelling, nutrition and health claims may be made in accordance with US EAS 803, US EAS 804 and US EAS 805 respectively.

11 Sampling

Sampling shall be done in accordance with US EAS 104 and US CAC/GL 50

Annex A
(normative)

Method for determination of total solids content

A.1 Weigh a suitable size evaporating dish and record the mass m_1.

A.2 By means of a measuring cylinder, transfer approximately 25 mL of the test sample to the evaporating dish.

A.3 Weigh the dish and the test specimen and record the mass m_2.

A.4 Heat the dish on a boiling water bath until all the liquid has evaporated, then transfer the dish to an air oven, and dry for 30 min at 103 °C ± 1 °C.

A.5 Cool in a desiccator.

A.6 Reweigh the dish and the dried test specimen (residue) and record the mass m_3. Calculate the total solids content as follows:

$$\text{Total solids content, \% } (m/m) = \frac{m_3 - m_1}{m_2 - m_1} \times 100$$

where

m_1 is the mass, in grams, of the dish;

m_2 is the mass, in grams, of the dish and specimen; and

m_3 is the mass, in grams, of the dish and dried specimen

Certification marking

Products that conform to Uganda standards may be marked with Uganda National Bureau of Standards (UNBS) Certification Mark shown in the figure below.

The use of the UNBS Certification Mark is governed by the Standards Act, and the Regulations made thereunder. This mark can be used only by those licensed under the certification mark scheme operated by the Uganda National Bureau of Standards and in conjunction with the relevant Uganda Standard. The presence of this mark on a product or in relation to a product is an assurance that the goods comply with the requirements of that standard under a system of supervision, control and testing in accordance with the certification mark scheme of the Uganda National Bureau of Standards. UNBS marked products are continually checked by UNBS for conformity to that standard.

Further particulars of the terms and conditions of licensing may be obtained from the Director, Uganda National Bureau of Standards.

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