

DRAFT UGANDA STANDARD

Second Edition
2021-mm-dd

Breakfast cereals — Specification



Reference number
DUS 979: 2021

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

© UNBS 2021

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilised in any form or by any means, electronic or mechanical, including photocopying and microfilm, without prior written permission from UNBS.

Requests for permission to reproduce this document should be addressed to

The Executive Director
Uganda National Bureau of Standards
P.O. Box 6329
Kampala
Uganda
Tel: +256 414 333 250/1/2/3
Fax: +256 414 286 123
E-mail: info@unbs.go.ug
Web: www.unbs.go.ug

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Product description	3
5 Requirements	3
4.1 General requirements	3
4.2 Specific requirements	3
6 Hygiene	4
7 Contaminants	4
7.1 Heavy metals	4
7.2 Pesticide residues	4
7.3 Mycotoxins	4
8 Packaging	5
9 Weights and measures	5
10 Labelling	5
10.1 General	5
10.2 Nutrition declaration	5
11 Sampling	5
Bibliography	6

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 203, *Cereals, pulses and related products and processes*

This second edition cancels and replaces the first edition (US 979:2013), which has been technically revised.

Breakfast cereals — Specification

1 Scope

This Draft Uganda Standard specifies the requirements, sampling and test methods for breakfast cereals intended for human consumption.

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 if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;

AOAC 923.03, *Determination of Ash in Cereals foods/flour*

US 1851, *Rice flour — Specification*

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

US 28 EAS 39, *Code of Practice for hygiene in the food and drink manufacturing industry*

US ISO 24333, *Cereals and cereal products — Sampling*

US ISO 712, *Cereals and cereal products -- Determination of moisture content -- Reference method*

US ISO 5498, *Agricultural food products - Determination of crude fibre content - General method*

US ISO 7305, *Milled cereal products - Determination of fat acidity*

US ISO 2171, *Cereals, pulses and by-products -- Determination of ash yield by incineration*

US ISO 1871, *Food and feed products - General guidelines for the determination of nitrogen by the Kjeldahl method*

US ISO 5498, *Agricultural food products - Determination of crude fibre content - General method*

US EAS 803, *Nutrition labelling – Requirements*

US EAS 804, *Claims on food – Requirements*

US EAS 805, *Use of nutrition and health claims – Requirements*

US 738, *General standard for contaminants and toxins in food and feed*

US ISO 11085:2015, *Cereals, cereals-based products and animal feeding stuffs — Determination of crude fat and total fat content by the Randall extraction method*

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
Breakfast cereal
ready-to-eat food made from processed grains, dry fruits, legumes and/or seeds often eaten with the first meal of the day.

3.2
puffed breakfast cereals
ready to eat cereals made by exploding cooked grains from a pressurized chamber.

3.3
cereal bar
breakfast cereal made of a mixture of different cereal grains which are either flaked or puffed with optional additional ingredients such as dried fruits, nuts, seeds and may be coated with products like chocolates or any to other suitable food coating.

3.4
muesli
loose mixture of rolled cereal grains and other ingredients including dried fruits nuts and seeds

3.5
flaked cereals
made directly from whole grain kernels or parts of kernels of corn, wheat, or rice and are processed in such a way as to obtain particles, called flaking grits, that form one flake each.

3.6
extruded flaked cereals
ready to eat cereal flakes where the grit for flaking is formed by extruding mixed ingredients through a die and cutting pellets of the dough into the desired size.

3.7
gun-puffed whole grains
ready to eat cereal flakes formed by cooking the grains and then subjecting them to a sudden large pressure drop. As steam under pressure in the interior of the grain seeks to equilibrate with the surrounding lower-pressure atmosphere, it forces the grains to expand quickly or "puff."

3.8
extruded gun-puffed
ready to eat cereal flakes that use a meal or flour as the starting ingredient instead of whole grains. The dough cooks in the extruders and is then formed into the desired shape when extruded through a die

3.9
oven-puffed cereals
ready to eat cereal flakes made almost exclusively using whole-grain rice or corn, or mixtures of these two grains, because rice and corn inherently puff in the presence of high heat and the proper moisture content.

3.10**shredded whole grains**

ready to eat cereal flakes which are continuously produced by pelletizing agglomerates of cooked, tempered, whole cereal grain particles

3.11**extruded shredded cereals**

ready to eat cereal flakes where the grit for flaking is formed by extruding mixed ingredients through a die and cutting pellets of the dough into the desired size.

3.12**Granola cereals. (cereal mixes)**

ready-to-eat cereals that are prepared by taking regular, old-fashioned whole-rolled oats or quick-cooking oats and mixing them with other ingredients, such as nut pieces, coconut, brown sugar, honey, malt extract, dried milk, dried fruits, water, cinnamon, nutmeg, and vegetable oil.

4 Product description

Breakfast cereals are categorised as

- a) traditional (hot) cereals that require further cooking or heating before consumption, examples but not limited to may include products from oats, farina (wheat), rice, corn (excluding corn grits)
- b) ready-to-eat (cold) cereals that can be consumed from the box or with the addition of milk, They are typically grouped by cereal form rather than the type of grain used. These groups are flaked cereals, extruded flaked cereals, gun-puffed whole grains, extruded gun-puffed cereals, oven-puffed cereals, shredded whole grains, extruded shredded cereals, and granola cereals

5 Requirements**4.1 General requirements**

4.1.1 Breakfast cereals shall be prepared from clean, sound grains, for example, corn/maize, wheat, rice or other ingredients as appropriate, that comply with the relevant Uganda standards.

4.1.2 If the breakfast cereals are prepared from cereal flour, the flour used shall be of good quality and complying with US EAS 44, US EAS 1 or US 1851

4.1.3 Breakfast cereals shall:

- a) be tender, crispy, and reasonably uniform in size and of good flavour and colour;
- b) possess a good characteristic taste and odour and shall be free from rancid, musty, sour and other undesirable tastes ;
- c) be free from insects and foreign matters;
- d) when immersed in milk or water the product shall absorb the liquid and swell substantially, presenting appropriate texture and taste. This shall not apply to breakfast cereal bars.

4.2 Specific requirements

The breakfast cereals shall comply with the requirements given in Table 1.

Table 1 — Specific requirements for breakfast cereals

Parameter	Requirements %	Test method
Moisture content, (max)	7.5 ^a	US ISO 712
Protein content (N*6.25)	5.0	US ISO 1871
Total fat content, max	8 ^b	US ISO 11085
Total ash, max	6	AOAC 923.03
Acid insoluble ash, max	0.2	US ISO 2171
Total fibre, max.	12 ^c	US ISO 5498
a The maximum moisture content of muesli shall be 12 % b The maximum fat content of cereal bars shall be 14 % c Muesli and wheat bran shall have a minimum fibre content of 12 %		

6 Hygiene

Breakfast cereals shall be produced and handled in accordance with US 28 EAS 39. The products shall comply with the microbiological limits given in Table 2 when tested in accordance with the methods specified therein.

Table 2 — Microbiological limits for Breakfast cereals

S/N	Micro-organism	Limits	Test method
i	Yeasts and moulds, per g, max	10 ³	US ISO 21527-2
ii	<i>Staphylococcus aureus</i> / g	Absent	ISO 6888-1
iii	<i>E. Coli</i> , per g, max.	Absent	US ISO 7251
iv	Total aerobic count, per g	10 ⁴	US ISO 4833-1

7 Contaminants

7.1 Heavy metals

The product shall comply with US 738 and conform to those maximum limits for heavy metals established by the Codex Alimentarius Commission for this commodity

7.2 Pesticide residues

Breakfast cereals shall comply with the pesticide maximum residue limits provided by the Codex Alimentarius Commission.

7.3 Mycotoxins

7.3.1 When determined in accordance with US ISO 16050, the maximum content of aflatoxins in breakfast cereals shall not exceed 10 µg/kg

7.3.2 When determined in accordance with AOAC 2000.04, the maximum content of fumonisin in maize based breakfast cereals shall not exceed 2000 µg/kg.

8 Packaging

Breakfast cereals shall be packaged in a food grade packaging material that will safeguard the hygienic, safety, nutritional, technological and organoleptic qualities of the product which comply with US 1659

9 Weights and measures

Breakfast cereals shall be packaged in accordance with the weights and measures regulations of Uganda

10 Labelling

10.1 General

The following specific labelling requirements shall apply and shall be legibly and indelibly marked in accordance with the requirements of US EAS 38.

- a) product name as
 - i. "flaked/puffed cereals", muesli and cereal bars
 - ii. cereal used for preparation of the breakfast cereal shall be declared before the product name.
- b) brand name/trade name;
- c) name, location and physical address of the manufacturer;
- d) country of origin;
- e) ingredients in descending order of proportions;
- f) declaration of the nutritional information;
- g) date of manufacture;
- h) best before storage conditions; and
- i) net weight.

10.2 Nutrition declaration

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

11 Sampling

Sampling shall be done in accordance with- US ISO 24333.

Bibliography

- [1] US 979:2013, *Breakfast cereals — Specification*
- [2] DKS 523-2: 2010, *Breakfast cereals — Specification Part 2: Flaked/puffed cereals (ready-to-eat)*
- [3] Emission factor documentation for ap-42 section 9.9.2 Cereal Breakfast Food Final I Report, 1995

PUBLIC REVIEW DRAFT

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.



PUBLIC REVIEW DRAFT

ICS 67.060

Price based on number of pages