

ICS 67.040

DMS 798:2020
Second edition

DRAFT MALAWI STANDARD

Instant noodles – Specification

Note: This is a draft proposal and should not be regarded or used as a Malawi standards

Instant noodles – Specification

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FOREWORD

This draft standard is a first revision of MS 798:2009, Instant noodles – Specification. The revision of this standard is being done to incorporate changes which have been done to the base document. In preparing this standard, reference was made to the following standard:

CXS 249-2006, Amended in 2016, 2018 and 2019, *Standard for instant noodles*.

Acknowledgement is made for the use of the information.

TECHNICAL COMMITTEE

This draft standard was prepared by the Technical Committee MBS/TC 16, *Cereals, pulses, legumes and their products*, and the following companies, organizations and institutions were represented:

Agricultural Development and Marketing Corporation (ADMARC)
University of Malawi – Chancellor College
F&F Industries Limited
HMS Foods and Grains
Malawi Bureau of Standards
Ministry of Agriculture – Bvumbwe Agricultural Research Services
Ministry of Health
Ministry of Industry
Moon Puffs
Unity Super Meal

NOTICE

This standard shall be reviewed every five years, or earlier when it is necessary, in order to keep abreast of progress. Comments are welcome and shall be considered when the standard is being reviewed.

DRAFT MALAWI STANDARD

Instant noodles – Specification

1 SCOPE

This draft standard applies to various kinds of noodles. The instant noodle may be packed with noodle seasonings, or in the form of seasoned noodle and with or without noodle garnish(s) in separate pouches, or sprayed on noodle and ready for consumption after dehydration process. This standard does not apply to pasta.

2 NORMATIVE REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of this draft standard. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of that standard, parties to agreements based on this draft standard are encouraged to take steps to ensure the use of the most recent edition of the standard indicated below. Information on current valid national and international standards can be obtained from the Malawi Bureau of Standards.

MS 19: *Labelling of pre-packed foods – General standard;*

MS 21: *Food and food processing units – Code of hygienic conditions;*

MS 302: *Contaminants and toxins in foods- General standard;*

CAC/GL 24: *General guidelines for use of term “Halaal”*

ISO 6579: *Methods for the microbiological examination of foods, Part 6: Examination for Salmonella Spp.;*

ISO 7251: *Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of presumptive Escherichia coli – Most probable number technique;*

ISO 16050: *Foodstuffs – Determination of aflatoxin B1, and the total content of aflatoxin B1, B2, G1 and G2 in cereals, nuts and derived products – High performance liquid chromatographic method; and*

ISO 21527-2: *Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of yeasts and moulds – Part 2: Colony count technique in products with water activity less than or equal to 0.95; and*

3 TERM AND DEFINITION

For the purpose of this draft standard, the following term and definition shall apply:

3.1**instant noodle**

is a product prepared from wheat flour and/or rice flour and/or other flours and/or starches as the main ingredient, with or without the addition of other ingredients. It may be treated by alkaline agents. It is characterized by the use of pre-gelatinization process and dehydration either by frying or by other methods. The product should be presented as one of the following styles:

3.1.1 Fried noodles, or

3.1.2 Non-fried noodles.

4 ESSENTIAL COMPOSITION AND QUALITY REQUIREMENTS

4.1 Composition

4.1.1 Essential ingredients

- (a) Wheat flour and/or rice flour and/or other flours and/or starches; and
- (b) Water.

4.1.2 Optional ingredients

The optional ingredients shall be ingredient(s) which are commonly used.

4.2 Quality requirements

4.2.1 Instant noodles shall be acceptable in term of appearance, texture, aroma, taste and colour.

4.2.2 Instant noodles shall comply to requirements indicated in **Table 1**

Table 1: Specific requirements for instant noodles

1	2	3	4	5
S/No.	Characteristic	Fried noodles	Non-fried noodles	Method of test
1	Moisture, % (m/m), max	10	14	Annex A
2	Acid value, mg KOH/g oil, max	2	N/A	Annex B
3	Foreign matter, % m/m	0	0	
4	Total aflatoxin (AFB1+AFB2+AFG1 +AFG2), ppb, max	10		ISO 16050
5	Aflatoxin B1 only, ppb, max	5		

4.3 Microbiological limits

The products covered by this draft standard shall comply with microbiological limits given in **Table 2**

Table 2: Microbiological limits for instant noodles

1	2	3	4
S/No	Type of micro-organism	Limits	Method of test
1	Coliforms, per g, max	10 ²	ISO 4832
2	Yeast and moulds per g, max	1000	ISO 21527-2
3	Escherichia coli, max. per g	Absent	ISO 7251
4	Salmonella, per 25 g	Absent	ISO 6579

5 HYGIENE

It is recommended that the product covered by the provisions of this draft proposal be prepared and handled in accordance with MS 21.

6 FOOD ADDITIVES

Only those food additives listed under this product in MS 237 shall be used and only within the limits specified.

7 CONTAMINANTS

The products covered by this draft proposal shall comply with the maximum levels of Contaminants and toxins stipulated for products in MS 302.

8 PACKAGING AND LABELLING

8.1 Packaging

Instant noodles shall be packaged in containers which will safeguard the hygienic, nutritional, technological and organoleptic qualities of the product.

The containers, including the packaging materials, shall be made of food grade material. They should not impart any toxic substances or undesirable odour or flavour to the product.

8.2 Labelling

In addition to the provisions prescribed in MS 19, each package shall be legibly and indelibly marked with the following:

8.2.1 Name of the product. The name of the food shall be "Instant Noodle(s)", or optionally as "fried noodle(s)" or "non-fried noodle(s)" in accordance to subsections **3.1.1** and **3.1.2**

8.2.2 Name, address and physical location of the producer/ packer/importer;

8.2.3 Lot/batch/code number;

8.2.4 Storage instruction such as "Store in a cool dry place away from any contaminants";

8.2.5 Claim on "Halal" instant noodles shall follow the appropriate section of the CXG 24; and

8.2.6 Best before date.

9 METHODS OF ANALYSIS AND SAMPLING

9.1 Sampling for testing as required in this draft standard shall be done according to **Annex A**.

9.2 Testing shall be done in accordance with the methods indicated against each requirement in **Tables 1 and 2** or other equivalent methods.

ANNEX A
(normative)

METHODS OF SAMPLING INSTANT NOODLES

A1 GENERAL REQUIREMENTS

In drawing, stirring, preparing and handling test samples, the following precautions shall be observed:

- A1.1** Samples shall not be taken at a place exposed to moisture;
- A1.2** Precautions shall be taken to protect the samples, the sampling instrument and the containers for samples from adventitious contamination;
- A1.3** To draw a representative sample, the contents of each container selected for sampling shall be mixed through by suitable means;
- A1.4** The samples shall be placed in clean, dry and air-tight glass or plastic containers which are suitable;
- A1.5** Each sample container shall be sealed air-tight after filling and marked with full details of sampling and the date of sampling and year of manufacture;
- A1.6** The number of packages(n) to be selected from a lot shall depend on the size of the lot (N) and shall be in accordance with the table below:

Table A1: Number of packages to be selected for sample

1	2
Lot *size	Number of packages to be selected (n)
Up to 100	4
101 to 500	5
501 to 1000	7
1001 above	10
*A lot is a collection of packages of the same size, type and style, which have been manufactured and packaged under essentially the same conditions	

ANNEX B
(Normative)

DETERMINATION OF MOISTURE CONTENT

B1 APPARATUS

B1.1 Aluminum dish: diameter ≥ 55mm, height ≥ 15mm, and with inverted tight-fitting lid.

B1.2 Air-oven: with control accuracy ±1 °C.

B1.3 Air-tight desiccator: silica gel heated at 150 °C is satisfactory drying agent.

B2 PREPARATION OF TEST SAMPLE

Remove instant noodles from package, and leave garnishing and seasoning in package. Transfer the noodles to plastic bag to prevent moisture change, and then break these into small fragments with hands or wooden hammer. Select broken noodles in the size range of 2.36 mm to 1.7 mm by using two sieves with 2.36 mm and 1.7 mm openings (mesh size 8 - 12), and mix well. Use these noodles for test sample. If noodles are too thin to screen with sieves, cut them into 1 to 2 cm lengths, mix well, and use these cut noodles for test sample.

B3 DETERMINATION

B3.1 Fried Noodles

In cooled and weighed dish (with lid), previously heated to 105°C, weigh ca 2 g well-mixed test portion to 1mg. Uncover test portion and dry dish, lid, and contents 2 h in oven provided with opening for ventilation and maintained at 105°C. (The 2 h drying period begins when oven temperature is actually 105 °C.) After drying period, cover dish while still in oven, transfer to desiccator, and weigh to 1 mg soon after reaching room temperature. Report loss in weight as moisture (indirect method).

B3.2 Non-fried Noodles

For non-fried noodles, follow the directions for fried noodles, but dry test portion for 4 h.

B4 CALCULATION

Calculate moisture content (%) using the following equation:

$$\frac{M_1 - M_2}{M_1} \times 100$$

M_1 is mass in g test portion before drying; and

M_2 is mass in g test portion after drying.

ANNEX C
(Normative)

EXTRACTION OF OIL FROM INSTANT NOODLES

C1 APPARATUS

C1.1 Rotary evaporator

C1.2 Water bath

C2 PREPARATION OF TEST SAMPLE

Remove instant noodles from package, and leave garnishing and seasoning in package. Transfer the noodles to plastic bag to prevent moisture change, and then break these into small fragments with hands or wooden hammer. Select broken noodles in the size range of 2.36 mm to 1.7 mm by using two sieves with 2.36 mm and 1.7 mm openings, and mix well. Use these noodles for the test sample. If the noodles are too thin to screen with sieves, cut them into 1 to 2 cm lengths, mix well, and use these cut noodles for the test sample.

C3 EXTRACTION

Weigh 25 g test portion into 200 ml Erlenmeyer flask. Add 100 mL petroleum ether to the flask after replacing air in flask by N₂ gas. Stopper flask and leave for 2 hours. Decant supernatant through filter paper into separating funnel. Add 50 ml petroleum ether to residue and filtrate supernatant through filter paper into the separating funnel. Add 75 ml water to the separating funnel and shake well. Allow layers to separate and drain the lower aqueous layer. Add water, shake, and remove aqueous layer again as done previously. Decant the petroleum ether layer after dehydration with Na₂SO₄ into pear-shaped flask. Evaporate petroleum ether in the flask on rotary evaporator at not over 40°C. Spray N₂ gas on extract in the flask to remove all petroleum ether.

C4 DETERMINATION OF ACID VALUE

C4.1 Definition and principle

Acid value of oil from fried instant noodles = mg KOH required to neutralize 1 g oil. Oil extracted from noodle is dissolved in alcohol-ether mixture and titrated with alcoholic KOH standard solution.

C4.2 Apparatus

Air-tight desiccator: silica gel heated at 150°C is satisfactory drying agent. 9

C4.3 Reagents

C4.3.1 Alcoholic potassium hydroxide standard solution: 0.05 mol/l. Dissolve 3.5 g potassium hydroxide in equal volume of water (CO₂-free) and add ethanol (95 %) to 1 litre. After mixing, let solution stand for several days keeping the solution CO₂-free. Use supernatant after standardization. Standardization: Weigh required quantity of amidosulfuric acid (certified reference material for volumetric analysis) and place it into desiccator (< 2.0 kPa) for 48 hour. Next, accurately weigh 1 to 1.25 g (recording the weight to 0.1mg), dissolve in water (CO₂-free), and dilute to 250 ml. Put 25 mL solution into Erlenmeyer flask, add 2 to 3 drops of bromothymol blue indicator and titrate with 0.05 mol/L alcoholic potassium hydroxide solution until colour of solution change to faint blue.

C4.3.2 Calculation of factor of molarity = (g amidosulfuric acid × purity × 25) / 1.2136 / ml KOH

C4.3.3 Alcohol-ether mixture: equal volumes ethanol (99.5 %) and ether. (

C4.3.4 Phenolphthalein solution: 1 % in alcohol.

C4.4 Titration

Before sampling, liquefy extracted oil using water bath. Weigh 1 to 2 g liquefied test portion into Erlenmeyer flask. Add 80 ml alcohol-ether mixture and a few drops of phenolphthalein solution. Titrate with 0.05 mol/l alcoholic KOH until faint pink colour appears and retain for more than 30 s. Perform blank test using only alcohol-ether mixture and phenolphthalein solution.

C4.5 Calculation

Calculate using following equation:

Acid value [mg/g] = (ml test portion – ml blank) × factor of molarity × 2.806 / g test portion

THE MALAWI BUREAU OF STANDARDS

The Malawi Bureau of Standards is the standardizing body in Malawi under the aegis of the Ministry of Industry and Trade. Set up in 1972 by the Malawi Bureau of Standards Act (Cap: 51:02), the Bureau is a parastatal body whose activities aim at formulating and promoting the general adoption of standards relating to structures, commodities, materials, practices, operations and from time to time revise, alter and amend the same to incorporate advanced technology.

CERTIFICATION MARK SCHEME

To bring the advantages of standardization within the reach of the common consumer, the Bureau operates a Certification Mark Scheme. Under this scheme, manufacturers who produce goods that conform to national standards are granted permits to use the Bureau's "Mark of Quality" depicted below on their products. This Mark gives confidence to the consumer of the commodity's reliability.

