

**ICS 67.160.20**

**DMS 519:2016**  
Second edition

**DRAFT MALAWI STANDARD**

**Thobwa powder – Specification**

**NOTE – This is a draft proposal and shall neither be used nor regarded as a Malawi standard**

# Thobwa powder – Specification

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## TABLE OF CONTENTS

Contents	page
Foreword.....	i
Technical committee.....	i
Notice.....	i
Scope.....	1
Normative references.....	1
Terms and definitions.....	1
Essential composition and quality factors.....	2
Fortification.....	3
Food additives.....	3
Contaminants.....	3
Hygiene.....	3
Packaging and labelling.....	3
Sampling and methods of test.....	4

## FOREWORD

This draft Malawi standard is a second edition of MS 519:2000, *Thobwa powder – Specification*. The revision of this Malawi standard has been prepared after consideration of several issues that need to be amended and re-addressed in order to incorporate technological advances. This draft Malawi standard has been prepared by MBS/TC 11, the Technical Committee on *Beverages* to provide requirements for thobwa powder.

In preparing this draft Malawi standard reference was made to the following standard:

South African Standard, CKS 289:2007, *Magou powder (Fortified) – Specification*.

Acknowledgement is made for the use of the above standard.

## TECHNICAL COMMITTEE

This draft Malawi standard was prepared by MBS/TC 11, the Technical Committee on *Beverages*, and the following companies, organizations and institutions were represented:

Blantyre Hotels Limited;  
Blantyre Water Board;  
Carlsberg (Malawi) Limited;  
Chibuku Products Limited;  
Consumers Association of Malawi;  
Dairibord Malawi Limited;  
Linga Fine Foods and Winery;  
Malawi Bureau of Standards;  
Mkombezi Wine Cooperatives;  
Peoples Trading Centre; and  
The Malawi Polytechnic (University of Malawi).

## NOTICE

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

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**DRAFT MALAWI STANDARD**

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**Thobwa powder – Specification**

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**1 SCOPE**

This draft Malawi standard specifies the requirements and methods of sampling and test for thobwa powder.

**2 NORMATIVE REFERENCES**

The following standards contain provisions, which through reference in this text, constitute provisions of this Malawi 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 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 prepacked foods – General standard*;

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

MS 214: *Drinking water – Specification*;

MS 237: *Food additives – General standard*;

MS 411: *Opaque beer – Methods of test*; and

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

**3 TERMS AND DEFINITIONS**

For the purposes of this draft standard, the following terms and definitions shall apply;

**3.1****extraneous matter**

includes inorganic matter such as sand, glass, metal, gravel, dirt, pebbles, stones, lumps of earth, clay and mud and organic matter such as chaff, straw, weed seeds and grains of crops, insects or insects' fragments, rodent hairs or any other foreign matter

**3.2****potable water**

water complying with the requirements of MS 214

**3.3****thobwa powder**

the dehydrated or spray dried product produced by crushing, extrusion and grinding to powder of maize, sorghum or millet or a combination of these, whether malted or unmalted, with or without the addition of milk products and/or sugar

## 4 ESSENTIAL COMPOSITION AND QUALITY FACTORS

### 4.1 General requirements

**4.1.1** Thobwa powder shall be such that when 100 g to 150 g is added to 1 l of potable water it shall readily reconstitute and the resultant mixture shall be an acceptable, palatable, homogeneous, and reasonably stable beverage that is free from lumps, foreign flavour, foreign odour and any extraneous matter.

**4.1.2** The reconstituted product shall be able to stay in suspension for at least 5 minutes, and the suspension shall be homogenous.

### 4.2 Specific quality requirements

Thobwa powder shall comply with the specific quality requirements specified in Table 1.

**Table 1 – Quality requirements for thobwa powder**

S/N	Characteristic	Requirement		Test method
		Fortified	Not fortified	
1	Moisture content, % (m/m), max.	9	9	MS 411
2	Protein, % (m/m), min.	12.0	6.0	
3	Vitamin B <sub>2</sub> (riboflavin), mg/100 g, min.	2.5		
4	Niacin, mg/100 g, min.	9.0		
5	Vitamin C, mg/l*, min.	70		
6	Fat, % (m/m), max.	3.0	3.0	
7	Crude fibre, % (m/m), max.	1.50	1.50	
8	Sucrose, % (m/m), max.	15	15	

\* Per litre of the beverage prepared in accordance with the directions on the package.

### 4.3 Microbiological limits

Thobwa powder shall comply with limits for micro-organisms specified in Table 2.

**Table 2 – Microbiological limits for thobwa powder**

1	2	3
S/N	Microorganism	Limit
1	Total plate count, cfu/g max	10 <sup>5</sup>
2	<i>Staphylococcus aureus</i> , cfu/g max	10 <sup>2</sup>
3	<i>Escherichia coli</i> , cfu/g	absent
4	<i>Salmonella</i> , per 25 g	absent
5	<i>Bacillus cereus</i> , per 25 g	absent
6	Yeasts and moulds, cfu/g, max.	10 <sup>3</sup>
7	<i>Vibrio cholerae</i> , per 25 g	absent

## 5 FORTIFICATION

The product may be fortified with natural protein and vitamins. Protein fortification shall be derived from natural sources (e.g. milk products, food yeast, soya products, and the cereal itself) and having a digestibility of at least 90 % and a biological value of at least 70 %, determined by the nitrogen balance technique.

## 6 FOOD ADDITIVES

Food additives may be used in the preparation of thobwa powder in accordance with MS 237.

## 7 CONTAMINANTS

### 7.1 Heavy metals

The product shall not contain heavy metal contaminants in excess of the limits stipulated in Table 3.

**Table 3 – Limits of heavy metal contaminants in thobwa powder**

S/N	Characteristic	Limit
1	Arsenic (As), ppm, max.	0.1
2	Lead (Pb), ppm, max.	0.1
3	Mercury (Hg), ppm, max.	0.01
4	Cadmium (Cd), ppm, max.	0.02

### 7.2 Pesticide residues

All the raw materials used in the production of thobwa powder shall comply with the maximum residue limits for pesticides as established by the Codex Alimentarius Commission.

### 7.3 Aflatoxin limits

Total aflatoxin shall not exceed 10 µg/l and aflatoxin B1 shall not exceed 5 µg/l when tested with ISO 16050.

## 8 HYGIENE

The product covered by the provisions of this draft standard shall be prepared and handled in accordance with the requirements set out in MS 21.

## 9 PACKAGING AND LABELLING

### 9.1 Packaging requirements

The products covered by the provisions of this standard shall be packaged in suitable, sound and clean food grade packaging material to protect the product from contamination. The packaging materials and process shall not contaminate the product or otherwise affect its technological, nutritional or sensory quality.

### 9.2 Labelling requirements

In addition to the requirements of MS 19, the following specific provisions shall apply:

- the name of the product. Where the product is fortified, the word “*fortified*” shall accompany the name of the product;
- name, physical location and address of manufacturer;
- best before date;
- the net contents shall be declared by volume in metric units;
- list of ingredients in descending order of proportion by mass;

- f) date of manufacture;
- g) batch identification number/code;
- h) storage conditions; and
- i) directions for use.

## **10 SAMPLING AND METHODS OF TEST**

Sampling and testing of product shall be done in accordance with the procedures stipulated in MS 411 and ISO 16050.

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**THE MALAWI BUREAU OF STANDARDS**

The Malawi Bureau of Standards is the standardizing body in Malawi under the aegis of the Ministry of Industry, Trade and Tourism. 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.

