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**DMS 1438:2017**  
First edition

**DRAFT MALAWI STANDARD**

## **Fruit syrups – Specification**

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

# Fruit syrups – Specification

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## **FOREWORD**

This draft Malawi standard was prepared by MBS/TC 11, the Technical Committee on *Alcoholic and non-alcoholic beverages* to provide requirements for fruit syrups.

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

East African Standard, EAS 988:2018, *Fruit drinks – Specification*; and

Kenyan Standard, KS 224:2016, *Fruit drinks and squashes – 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 *Alcoholic and non-alcoholic beverages*, and the following companies, organizations and institutions were represented:

Castel Malawi Brewery Limited;

Chibuku Products Limited;

Competition and Fair Trading Commission;

Consumer Association of Malawi;

Environmental Affairs Department;

Immortals Limited;

Lilongwe Dairy (2001) Limited;

Malawi Environment Protection Authority;

Malawi Revenue Authority;

Malawi University of Business and Applied Sciences;

Ministry of Health;

Ministry of Local Government;

Ministry of Trade and Industry;

Rab Processors Limited;

Shoprite Limited;

Universal Industries Limited; and

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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**Fruit syrups – Specification**

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**1 SCOPE**

This draft Malawi standard specifies the requirements and the methods of sampling and test for fruit syrups intended for direct human consumption as a ready to drink beverage after dilution with potable water.

**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 standards 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 23: *Processed fruits and vegetables–Methods of test;*

MS 214: *Drinking water – Specification;*

MS 237: *Food additives – General standard;*

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

ISO 763: *Fruit and vegetable products – Determination of ash insoluble in hydrochloric acid;*

ISO 1842: *Fruits and Vegetables – Determination of pH;*

ISO 2173: *Fruit and vegetable products – Determination of soluble solids – Refractometric method;*

ISO 2448: *Fruit and vegetable products – Determination of ethanol content;*

ISO 4832: *Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of coliforms – Colony-count technique;*

ISO 4833-2: *Microbiology of the food chain – Horizontal method for the enumeration of microorganisms – Part 2: Colony count at 30 °C by the surface plating;*

ISO 6579: *Microbiology of food and animal feeding stuffs – Horizontal method for the detection of 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; and*

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.*

**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, seeds and peels, 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

#### fruit syrup

sweetened fruit juice containing sugar (dextrose, invert sugar, liquid glucose, high fructose syrup) either singly or in combination

## 4 ESSENTIAL COMPOSITION AND QUALITY FACTORS

### 4.1 Preparation

Fruit syrups shall be prepared only from fruit juice, sugar (invert sugar, dextrose, liquid glucose, high fructose syrup), with or without potable water, peel oil, fruit essences (delivered from fruits), natural flavours, common salt, citric acid, ascorbic acid, permitted preservatives and permitted colour.

### 4.2 Requirements of the finished product

4.2.1 The products shall have the colour and flavour characteristics of the variety or type of fruit used for preparation.

4.2.2 The product shall be clean and free from extraneous matter.

4.2.3 Shall be free from deterioration or spoilage.

4.2.4 Fruit syrups shall conform to the compositional requirements in **Table 1**.

**Table 1 – Compositional requirements for fruit syrups**

1	2	3	4
S/N	Characteristic	Requirement	Test methods
1	Fruit juice/puree content in the final product, % (v/v), min.	25	MS 23
2	Total soluble solids (TSS), %, min.	65	ISO 2173
3	Acid insoluble ash, % (w/w), max.	0.02	ISO 763
4	pH, min.	2.5	ISO 1842
5	Ethanol, mg/kg, max.	3	ISO 2448

4.2.5 Fruit syrups shall comply with limits for micro-organisms specified in **Table 2**.

**Table 2 – Microbiological limits for fruit syrups**

1	2	3	4
S/N	Characteristic	Limit (cfu)	Test methods
1	Total aerobic count, per ml, max.	100	ISO 4833-2
2	Total coliforms, per 100 ml	Absent	ISO 4832
3	<i>E. coli</i> , per 100 ml	Absent	ISO 7251
4	Yeast and mould count, per ml, max.	10	ISO 21527-1
5	<i>Salmonella spp.</i> per 25 ml	Absent	ISO 6579

## 5 FOOD ADDITIVES

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

## **6 CONTAMINANTS**

### **6.1 Heavy metals**

The products covered by this standard shall comply with the maximum levels of heavy metals and toxic substances prescribed in MS 302.

### **6.2 Pesticide residues**

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

## **7 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.

## **8 PACKAGING AND LABELLING**

### **8.1 Packaging**

**8.1.1** Fruit syrups shall be packaged in food grade containers, which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

**8.1.2** The containers, including packaging material, shall be made of substances, which are safe and suitable for their intended use. They shall not impart any toxic substance or undesirable odour or flavour to the product.

### **8.2 Labelling**

In addition to provisions prescribed in MS 19, the following information shall be marked or labelled indelibly and legibly on the fruit syrups packages:

**8.2.1 Name of the product.** The name of the product shall be declared. In case where the product is made from juice and other edible portions of only one type of fruit, the name of the fruit from which it has been prepared shall be written on the label; where the product is made from juice and other edible portions of more than one type of fruit, the word "mixed fruit syrup", shall be used.

**8.2.2 Net content.** The net contents shall be declared in the metric (SI) units by volume.

**8.2.3 Name, address and physical location of the manufacturer.** The full name and street address of the manufacturer or seller or franchiser or entity on whose behalf the product has been manufactured shall be included on the label.

**8.2.4 Instructions for use.** The recommended dilution ratio expressed in terms of number of parts of water that must be mixed with one part of fruit syrup shall be presented on the label.

**8.2.5 Date of manufacture.** The date of manufacturer shall be declared and legibly printed.

**8.2.6 Best before date.** The best before date shall be declared and legibly printed.

**8.2.7 List of ingredients.** List of ingredients used to prepare fruit syrup shall be declared in descending order of proportion.

**8.2.8 Storage conditions or conditions for use**

**8.2.9 Lot Identification.** Each container shall be embossed or otherwise permanently marked in code or in clear identity the producing factory and the lot.

## **9 SAMPLING AND METHODS OF TEST**

Sampling and testing of fruit syrups shall be done in accordance with methods outlined in this draft standard.

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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 Trade and Industry. 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.

