



## DRAFT TANZANIA STANDARD

---

NON CEREAL BASED ALCOHOLIC BEVERAGES –  
SPECIFICATION

DRAFT FOR STAKEHOLDERS COMMENTS

TANZANIA BUREAU OF STANDARDS

---



## **NON- CEREAL BASED ALCOHOLIC BEVERAGES – SPECIFICATION**

### **0 FOREWORD**

Most alcoholic beverages have traditionally been known to be products of direct fermentation process, either from grains or sugar. Research and development has however enabled production of other alcoholic beverages that are based on fermentation of other ingredients; including those of non cereal origin, such as fruits, honey, juice, berries, roots and tubers.

Alcoholic beverages are normally judged in terms of flavour and stimulating effects they produce. Bearing this in mind the alcoholic beverage industry has therefore, continuously been in search of new products that would fulfill the aforementioned qualities.

In light of the need to safeguard the consumer and in order to ensure the safety and quality of alcoholic beverages derived from non cereal ingredients this Tanzania Standard was thus developed.

In the preparation of this Tanzania Standard assistance was derived from local producers of non cereal based alcoholic beverages.

In reporting the result of a test or analysis made in accordance with this Tanzania Standard, if the final value observed or calculated is to be rounded off it shall be done in accordance with TZS 4 *Rounding off numerical values*

### **1 SCOPE**

This Tanzania Standard specifies requirements and methods of sampling and testing for non cereal based alcoholic beverages, produced by fermentation of soluble extracts of non cereal ingredients. The Standard does not include requirements for wines, *ulanzi* and roselle alcoholic drinks.

### **2 REFERENCES**

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced documents (including any amendments) applies.

*TZS 4 Rounding off numerical values*

*TZS 59 Water Distilled quality – Specification*

*TZS 76 Test method for determination of arsenic*

*TZS 101 Refined sugar – Specification*

*TZS 109 Code of hygiene for food processing units – General*

*TZS 115 Food – Permitted food additives – Schedule*

*TZS 117 Food handling of samples for microbiological analysis – Code of practice*

*TZS 119 General guidance for the enumeration of Coliforms – Most Probable Number Technique (MPN)*

TZS 56 *Beer – Specification*

TZS 268 *General atomic absorption spectrophotometer method for determination of lead in foodstuffs*

TZS 538 *Packaging, marking and labeling of foods*

TZS 789 *Drinking (Potable) water – Specification*

TZS 471 *Methods of sampling and tests for alcoholic beverages*

TZS 665 *fruit flavour alcoholic beverage – Specification*

TZS 467 *Table wines – Specification*

### **3 TERMS AND DEFINITIONS**

For the purpose of this Tanzania Standard the following definitions shall apply.

#### **3.1**

##### **alcohol**

as ethyl alcohol (C<sub>2</sub>H<sub>5</sub>OH)

#### **3.2 sugar**

Means refined sugar conforming to TZS 101 or Brown sugar conforming TZS 831 (see clause 2)

#### **3.3 non cereal based alcoholic beverage**

means an alcoholic beverage derived from fermentation of a sugary substrate originating from non cereal ingredients; using yeast, *Saccharomyces spp* as fermenting organisms with subsequent maturation process to achieve an alcoholic content not exceeding 10 % v/v.

#### **3.4 Non cereal ingredient**

Means a substrate such as fruits, juices, saps, honey, roots and tubers that shall be used to produce non cereal based alcoholic beverage.

### **4. REQUIREMENTS**

#### **4.1 GENERAL REQUIREMENTS**

##### **4.1.1 Description**

###### **4.1.1.1 Non cereal based alcoholic beverage**

Shall either be the carbonated or non-carbonated alcoholic beverage, intended to be consumed directly without prior dilution, obtained by fermentation of starch and/or sugar substrate originating from non-cereal ingredients, with maturation process to which adjuncts such as industrial sugar or glucose may be used. The beverage shall after fermentation be prepared by either decantation without filtering or with decantation and filtration. The beverage may also be flush pasteurized or non-pasteurized and shall contain an alcoholic content varying from 2.0 – 10.0 % v/v (see table 1)

#### **4.1.2 Ingredients**

The following raw materials shall be used for the production of non cereal based alcoholic beverages;

##### **4.1.2.1 Potable water**

Conforming to TZS 789 (see clause 2)

##### **4.1.2.2 Non cereal ingredients**

Raw materials such as fruits, juices, honey, saps, roots and tubers conforming to the appropriate Tanzania or Codex Alimentarius Commission standard shall be used. Such materials shall be safe; and shall also not affect the quality and safety of the final product.

##### **4.1.2.3 Yeasts (*Saccharomyces spp*)**

##### **4.1.2.4 Refined sugar**

Industrial sugar conforming to TZS 101 (see clause 2), may be used as an adjunct.

##### **4.1.2.5 Food additives**

Non-cereal based alcoholic beverages may contain food additive, processing aids such as proteolytic and pectolytic enzymes and as specified in TZS 115 (see clause 2).

**4.1.2.6** Non cereal based alcoholic beverages shall be free from artificially added ethyl alcohol (ethanol)

#### **4.2 SPECIFIC REQUIREMENT**

**4.2.1** When tested the physical and chemical requirements of non cereal based alcoholic beverage shall be as specified in table 1.

**4.2.2** The beverage shall be free from foreign matter. Also shall possess the characteristic colour, form, odour and taste.

**Table 1: Physical and chemical requirements for non cereal based alcoholic beverages**

S/N	Characteristic	Requirements				Method of test (See Clause 2)
		Low	mild	Medium	strong	
1.	Ethyl alcohol, percent, v/v	0.5 - 2.4	2.5 - 4	4.1-5.5	More than 5.5	TZS 471
2.	Volatile acidity, as acetic acid, g/l, <b>max</b>	1.3	1.3	1.3	1.3	Annex C TZS 467:
3.	Methanol, % v/v	0.3	0.3	0.3	0.3	TZS 471
4.	pH	2.5 - 4.0	2.5 - 4.0	2.5 - 4.0	2.5 - 4.0	Annex B TZS 56
5.	Soluble solids, g/100ml	4 - 8	4 - 8	4 - 8	4 - 8	Annex E TZS 467
6.	Copper, mg/l, <b>max.</b>	2	2	2	2	Annex I TZS 467
7.	Lead, mg/l, <b>max.</b>	0.1	0.1	0.1	0.1	Annex K TZS 467
8.	Arsenic, mg/l, <b>max</b>	0.1	0.1	0.1	0.1	TZS 76

## 5 Hygiene

5.1 Non cereal based alcoholic beverages shall be manufactured in premises maintained and handled in accordance to the requirements provided in TZS 109 (see clause 2).

### 5.2 Microbiological requirements

The product shall conform to microbiological limits specified in table 2

**Table 2: Microbiological requirements for non cereal based alcoholic beverages**

S/N	Organism	Maximum limit		Method of test
		Unpasteurized	Pasteurized	
1.	Total plate count, cfu/ml,	10 <sup>4</sup>	10 <sup>1</sup>	TZS 118
2	Coliforms (MPN/ml	NIL	NIL	TZS 119
3	Yeasts and moulds, cfu/ml	10 <sup>4</sup>	10 <sup>1</sup>	TZS 131

## **6 SAMPLING AND TEST**

### **6.1 Sampling**

Sampling shall be done in accordance with TZS 471

### **6.2 Test**

The method of sampling and test shall be as prescribed in Table 1 and 2

#### **6.2.1 Quality of reagents**

Unless specified otherwise analytical grade chemicals and distilled water conforming to TZS 59 shall be used in all tests.

## **7 PACKAGING, MARKING AND LABELLING**

### **7.1 Packing**

**7.1.1** Non cereal based alcoholic beverages shall be filled in any suitable safe container conforming to the requirements of TZS 538 (see clause 2). Containers shall be properly sealed with gas tight caps which shall not affect the quality and safety of the product and shall also protect the product from undue oxidation or contamination.

**7.1.2** Crown and other closures in case of bottled beverages shall be lined internally with harmless materials.

**7.1.3** The volume filled shall comply with the sale of goods (weights and packaging regulations).

### **7.2 Marking and labelling**

Containers of non cereal based alcoholic beverages intended for sale or distribution for human consumption shall be legibly and indelibly marked or labeled with the following information.

- a) The common name of the product shall be designated by the substrate source e.g. "Banana alcoholic beverage"
- b) Brand or Trade name of the product, if any
- c) Name, postal and physical address of the manufacturer or packer
- d) Alcohol content, in percent volume by volume
- e) A declaration by common name of any additive if used
- f) List of ingredients in descending order of proportion
- g) The net content by volume in milliliters or litres
- h) Country of origin
- i) Date of manufacture and expiry date
- j) Storage condition
- k) Statements to denote "pasteurized or unpasteurized."
- l) Batch number in code or in clear

The containers may also be marked with the TBS Standards Mark of Quality.

NOTE — The TBS Standards Mark of Quality may be used by the manufacturers only under licence from TBS. Particulars of conditions under which the licences are granted, may be obtained from TBS.