
Iced Tea — Specification



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This African Standard was prepared by ARSO Technical Committee on Coffee, Cocoa, Tea and Related Products (ARSO/TC 06).

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Introduction

This African standard has been developed by ARSO Technical Committee on Coffee, Cocoa, Tea and Related Products (ARSO/TC 06).

Draft African Standard for comments only — Not to be cited as African Standard

Iced Tea - Specification

1.0 Scope

This African draft Standard specifies requirements, sampling and test methods for iced tea intended for human consumption.

2.0 Normative references

The following documents are 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 references, the latest edition of the referenced document (including any amendments) applies.

- I. ARS 56, *Labelling of pre-packaged foods — General requirements*
- II. ISO 4833-1 *Microbiology of the food chain — Horizontal method for the enumeration of microorganisms Part 1: Colony count at 30 °C by the pour plate technique*
- III. ISO 9308-2 *Water quality — Enumeration of Escherichia coli and coliform bacteria Part 2: Most probable number method*
- IV. 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*
- V. ISO 10523 *Water quality — Determination of pH*
- VI. ISO 750 *Fruit and vegetable products — Determination of titratable acidity*
- VII. Codex Stan 192 *Codex General Standard for Food Additives*
- VIII. Codex Stan 193 *General standard for contaminants and toxins in food and feed*

3.0 Terms and definitions

3.1 Iced tea

Food product in drink or powdered form prepared from tea extract of varieties species *Camellia sinensis* with or without flavouring, may be carbonated or non-carbonated, sweetened or un-sweetened, the product served cool.

4. Requirements

4.1 Ingredients

4.1.1 Essential ingredients

- a) Tea extracts/ instant tea used shall comply with the relevant African Standard for Tea.
- b) Potable water shall comply with the relevant African Standard.

4.1.2 optional ingredients

- a) When used, food additives shall be in accordance with Codex Stan 192.
- b) Sweeteners when used shall comply with relevant African standards

Sugars shall be used as per GMP

4.2 General requirements

Iced tea shall:

- a) have characteristic colour of the tea used;
- b) have typical type of taste of the flavour used;

4.3 Specific requirements

Iced tea shall comply with requirements given in Table 1 when tested in accordance with the methods specified therein

Table 1: Specific requirements for Iced tea

S/N	Characteristic	Requirement	Test method
ii	pH	3.5-4.0	ISO 10523
iv	Titrateable Acidity, g/cc	0.13-0.2	ISO 750
v	Caffeine, ppm, <i>max</i>	150	Annex A

5.0 Contaminants

5.1 Heavy Metal contaminants

The product shall comply with the maximum limits for heavy metals in Codex Stan 193.

5.2 Pesticide residues

Iced tea shall comply with the updated maximum pesticide residue limits established by the Codex Alimentarius Commission for teas.

6 Hygiene

6.1 Iced tea shall comply with the microbiological limits given in Table 2 when tested in accordance with the methods specified therein.

Table 2: Microbiological limits for iced tea

S/N	Microorganism	Requirements	Test method (see clause 2)
i	Total colony count (cfu)/ml, max	10	ISO 4833-1
ii	Presumptive Coliform organisms, MPN/ml	Negative	ISO 9308-2
iii	Viable yeasts and moulds, (cfu)/ml, max	10	ISO 21527-2

7 Packaging

Iced tea shall be packaged in containers made from food grade packaging material and sealed in a manner that will safeguard the hygienic, nutritional and organoleptic properties of the product.

8. Marking and labelling

8.1 The product shall be marked and labelled in accordance with ARS 56 .

8.2 In addition each container of product shall be legibly and indelibly marked with the following information:

- a) Name of the product such as " Iced tea";
- b) Type of the flavour used, if any.

- c) Trade name or brand,
- d) Name, postal and physical address of the manufacturer and/or packer;
- e) Net volume in ml;
- f) Batch number;
- g) Date of manufacture;
- h) 'Best before' date;
- i) Instruction for use and storage;
- j) Country of origin;
- k) List of ingredients in descending order, including the specific name of additives;
- l) Nutritional Information (optional);
- m) Disposal of used packages
- n) Sweeteners if used

9 Sampling

9.1 Scale of sampling

9.1.1 Lot

All containers in a consignment belonging to the same batch of manufacture shall constitute a lot. If the consignment is declared to consist of different batches of manufacture, bottles of the same batch shall be grouped together and each group so formed shall constitute a separate lot. Sample shall be tested from each lot for ascertaining conformity to the requirements of the standard.

9.1.2 The number of containers to be selected from a lot for testing for microbiological and other requirements shall depend on the size of the lot and shall be in accordance with table 3.

9.1.3 The containers to be selected for testing shall be chosen at random from the lot by following procedure. Starting from any container, count them as 1,2,3, up to r. Every rth container thus counted shall be withdrawn, 'r' being the integral part of N/n where N is the total number of packages in the lot and n is the total number of bottles to be chosen.

Table 3: Number of containers to be selected for sampling

number of containers in the lot	number of containers to be selected	
	Microbiological	Other tests
Up to 1300	12	18
1301-3200	18	24
3201 and above	24	30

9.2 Test samples and reference samples

9.2.1 Sample for microbiological tests

The sample containers selected for microbiological test (see table 3) shall be divided at random into at least three equal sets and labelled with all particulars of sampling. One of these sets of sample containers shall be for purchaser, another for the vendor and the third set is the reference sample.

9.2.2 Samples for other tests

The sample containers selected for other tests (see table 3) shall be divided at random into at least three equal sets and labelled with all the particulars of sampling. One of these sets of sample containers shall be for the purchaser, another for vendor and the third is the reference.

9.2.3 Reference samples

Reference samples shall consist of set of sample containers for microbiological tests and a set of sample containers for other tests and shall bear the seals of the purchaser and the vendor as agreed to between the two.

9.3 Methods of test

The methods of test as given in tables 1,2, and 3 shall be carried out as detailed in annexes A.

Annex A Determination of caffeine

A.1 Sample

A.2 Preparation of sample

- A.2.1 Weigh accurately 2 g – 5 g sample (depending on the expected caffeine content).
- A.2.2 Transfer into 250 ml round bottom flask.
- A.2.3 Reflux with 100 ml 10 HCl for 1 hour.
- A.2.4 Transfer contents of flask into 200 ml volumetric flask with 50 ml of deionised water.
- A.2.5 Basify with 25 ml of NH₄OH (50 % v/v).
- A.2.6 Make up to the mark with deionised water.
- A.2.7 Filter through refilter and micro filter.

A.3 Standard caffeine (100 ppm)

- A.3.1 Weigh accurately 0.0100 g of caffeine.
- A.3.2 Dissolve in 30 ml deionised water.
- A.3.3 Basify with 5 ml of NH₄OH (50).
- A.3.4 Make up to 100 ml with deionised water.

A.4 HPLC apparatus

- A.4.1 Column for HPLC, type C₁₈, with spherical particles.
- A.4.2 Ultraviolet detector
- A.4.3 Chart recorder

A.5 HPLC conditions

- A.5.1 Solvent (mobile phase): 25 % CH₃OH (methanol)
75 acetic acid (1 % v/v)
- A.5.2 Wavelength 280 nm
- A.5.3 Flowrate 0.9 ml/min
- A.5.4 Chart speed 0.2 cm/min
- A.5.5 Sensitivity 0.1 AUFS
- A.5.6 Injection volume 10 µl

A.6 Calculation

$$\text{Caffeine in sample (\%w/w)} = \frac{A_{\text{sample}}}{A_{\text{standard}}} \times \frac{C}{W} \times V \times 10^6 \times \frac{100}{(100 - M)} \times 100$$

Where

- A sample is the peak area for sample;
- A standard is the peak area for standard;
- C is the concentration of caffeine standard (ppm);
- V is the total volume of sample;
- W is the weight of sample (g);
- M is the moisture of sample (%)