



DRAFT TANZANIA STANDARD

Chicken essence – Specification

DRAFT STANDARD FOR PUBLIC COMMENTS

Chicken essence – specifications

0 FOREWORDS

Chicken essence

The demand for chicken essence is increasing considerably in Tanzania. This draft Tanzania standard has been prepared to ensure that chicken essence manufactured or imported in the country meet the safety and quality requirements acceptable to the consumers and feasible for the manufacturers.

In the preparation of this Tanzania standard assistance was drawn from TZS 2188:2020 Dressed poultry — Specification published by the Tanzania Bureau of Standards

In reporting the results 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 (see clause 2).

1 Scope

This draft Tanzania standard prescribes the requirements, sampling and test methods for chicken essence.

2 NORMATIVE REFERENCES

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

TZS 4, Rounding off numerical values.

TZS 109, Food processing units - Code of hygiene.

TZS 118 / ISO 4833, Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of microorganisms – Colony-count technique at 30 °C.

TZS 122/ISO 6579-1, Microbiology of food and feeding stuffs – Horizontal method for detection of *Salmonella* spp.

TZS 123/ISO 7937, Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of *Clostridium perfringens* – Colony-count technique.

TZS 125 – 1/ISO 6888-1, Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) – Part 1: Technique using Baird-Parker agar medium – Amendment 1: Inclusion of precision data

TZS 459, Code of hygiene for poultry processing.

TZS 538, Labelling of pre-packaged foods — General requirements

TZS 731/ISO 7251, Microbiology of food and feeding-stuffs – Horizontal method for the detection and enumeration of presumptive *Escherichia Coli* – Most Probable Number Technique

TZS 852-1/ISO 11290-1, Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of *Listeria monocytogenes* – Part 1 – Detection method

TZS 1761/ISO 1443 Meat and meat products – Determination of total fat content

ISO 17604 Microbiology of the food chain – Carcass sampling for microbiology analysis

ISO 10272-1 Microbiology of food and animal feeding stuffs – Horizontal method for detection and enumeration of *Campylobacter spp.* – Part 1: Detection method

Codex Stan 193 – Codex general standard for contaminants and toxins in food and feed.

TZS 2841/ISO 2917, Meat and meat products – measurement of pH – preference

TZS 459 Poultry processing – Code of hygiene

3 Terms and definitions

For the purpose of this standard, the following terms and definitions shall apply:

3.1 Chicken essence

liquid extract containing the water-soluble extractives of chicken flesh and free from any preservative, microorganisms and added gelatin

4 Requirements

4.1 General requirements

4.1.1 raw materials

Dressed chicken and distilled water.

4.1.2 Chicken essence shall;

- be clear and without any sediment.
- have a characteristic taste and odour of chicken meat.
- not be more than one and a half hours setting time at -10°C when tested by the method given in Appendix A.

4.1.3 Storage and transportation

- Chicken essence shall be transported at room temperature.
- Shelf life shall not exceed 3 years.
- The chicken essence shall not show evidence of deterioration, discoloration or slimy appearance on storage.
- Chicken essence shall be handled, transported and delivered clean and under good hygienic conditions in accordance with TZS 459.

4.2 Specific requirements

Chicken essence shall comply with specific requirements stipulated in the Table 1.

Table 1: Specific Requirements

| S/N | Characteristics | requirements | Method of tests |
|-----|---------------------------------|--------------|-------------------|
| 1 | Total solids, %, m/m, Min | 10 | Appendix B |
| 3 | Protein content, % m/m, Min. | 8 | TZS 1760 |
| 4 | Chloride content, % m/m | 0.15 – 0.2 | AFDC 22 (703) CD1 |

4.3 Food additives

Food additives, if used in chicken essence shall comply with Codex Stan 192.

5 Hygiene

5.1 Chicken essence shall be prepared under strict hygienic conditions according to TZS 459 and TZS 109 (see clause 2).

5.2 Chicken essence shall not contain microbiological count more than the limits prescribed in Table 2.

Table 2: Microbiological limits for chicken essence

| S/N | Characteristics | Limits | Test methods |
|-----|---|-----------------|--------------|
| 1 | Total plate count, cfu/g, max. | 1×10^5 | TZS 118 |
| 2 | <i>Escherichia coli</i> cfu/g, | Absent | TZS 731 |
| 3 | <i>Staphylococcus aureus</i> cfu/g, | Absent | TZS 125-1 |
| 4 | <i>Salmonella spp</i> per 25g | Absent | TZS 122, |
| 5 | <i>Clostridium perfringens</i> per 25g | Absent | TZS 123 |
| 6 | <i>Campylobacter spp</i> per 25g | Absent | ISO 10272-1 |
| 7 | <i>Listeria monocytogenes</i> per 25g | Absent | TZS 852-1 |

6 Contaminants

6.1 Heavy metal

Chicken essence shall not contain heavy metal in excess than limits specified in Codex Stan 193 and Table 3;

Table 3: Maximum limits of heavy metals for chicken essence

| S/N | Heavy metals | Maximum limits ppm | Test method |
|-----|--------------|-----------------------|-------------|
| i | Arsenic (As) | 0.1 | TZS 76 |
| ii | Lead (Pb) | 0.1 | TZS 268 |
| iii | Cadmium (Cd) | 0.03 | AOAC 973:34 |
| iv | Mercury (Hg) | 0.01 | AOAC 971:21 |
| v | Tin (Tn) | 250 | AOAC 985.16 |

6.2 Pesticides and veterinary drug residues

The maximum residual limits (MRLs) for pesticides and veterinary drug residues in chicken essence shall be as prescribed by CAC/MRLs.

7 Sampling and method of tests

7.1 Sampling

Sampling of chicken essence shall be done in accordance with ISO 17604.

7.2 Test

Testing of chicken essence shall be done in accordance with test methods prescribed in Table 1, 2 and 3.

8 Packaging, marking and labeling

8.1 Packing

- The materials shall be packed in hermetically sealed ampoules/glass bottles/tins.
- The packed products shall be packed in suitable cartons.

8.2 Marking and labeling

The packed product shall be marked and labeled in accordance with TZS 538. In addition, each package of chicken essence shall be legibly and indelibly marked with the following information:

- a) Name of the product shall be chicken essence;
- b) Name and address of the manufacturer/packer;
- c) Batch or code number;
- d) Net weight;
- e) Date of production;
- f) Expiry date;

- g) Storage conditions;
- h) Country of origin;
- i) Instruction for use.
- j) List of ingredients

8.3 The container may also be marked with TBS Certification Quality Mark.

NOTE – The TBS Standards Mark of Quality may be used by the manufacturers only under license from TBS. Particulars of conditions under which the licenses are granted may be obtained from TBS.

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APPENDIX A

(Normative)

DETERMINATION OF SETTING TIME

A-1. APPARATUS

A-1.1 Bath – made of suitable material for holding ice-salt freezing mixture.

A-1.2 Thermometer – calibrated 10 °C to 110 °C.

A-1.3 Watch

A-2. PROCEDURE

A-2.1 Break the ice into pieces and mix common salt with it, and place it in the tube. Maintain the temperature of ice-salt mixture at below -10 °C. Place 5 ampoules in the bath and note the time. Also note the time separately when the contents of each of 5 ampoules form a jelly. The ampoules should form a transparent solid jelly without any separation of solids or appearance of turbidity.

APPENDIX B
(Normative)
DETERMINATION OF TOTAL SOLIDS

B-1. APPARATUS

B-1.1 Flat – Bottom Dishes – of nickel or other suitable material and with cover. Dishes should not be affected by boiling water. They may be 7 to 8 cm in diameter and not more than 2.5 cm deep. They should be provided with short glass stirring rods having a widening flat end.

B-1.2 Well-Ventilated Oven – maintained at 100 °C ±2 °C.

B-2 PROCEDURE

B-2.1 Weigh accurately about 5g of the sample into a flat-bottom glass or china or aluminum dish (with a cover) previously dried and weighed. Heat the dish containing the material after uncovering in an oven maintained at 100 °C±2 °C for about 5 hours. Cool in a desiccator and weigh with the cover on. Repeat the process of drying, cooling and weighing at half-hourly intervals, until the difference between two consecutive weighings is less than 2 mg. Record the lowest weight.

B-3 CALCULATION

B-3.1 Total solids, percent by weight =
$$\frac{100(W_2 - W)}{(W_1 - W)}$$

Where

W₂ = Weight in g of dried sample with the dish,

W = Weight in g of empty dish, and

W₁ = Weight in g of sample with the dish.

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