KENYA STANDARD

KS 2297:2022

ICS 67.140.10

Second Edition

Chicken essence — Specification

Kenya Bureau of Standards
Standards for Quality life

TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

Ministry of Health- food safety unit

Kenya Industrial Research and Development Institute

National Public Health Laboratory

Government Chemist's Department

Farmer's Choice (K) Ltd.

University of Nairobi — Department of Food Science, Nutrition and Technology

Consumer Information Network

Kenchic (K) Ltd.

Kenya Meat Commission

Directorate of Livestock Production

Directorate of Veterinary Services

Kenya Nut Company- Morendat farm

Meat Training institute

Choice Meats limited

XXX

Kenya Bureau of Standards — Secretariat

REVISION OF KENYA STANDARDS

In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

KENYA STANDARD

KS 2297:2022

ICS 67.140.10

Second Edition

Chicken essence — Specification

Kenya Bureau of Standards, Popo Road, Off Mombasa Road,
P.O. Box 54974 - 00200, Nairobi, Kenya

+254 020 6948000, + 254 722202137, + 254 734600471

info@kebs.org

@KEBS_ke

kenya bureau of standards (kebs)

Foreword

This Kenya Standard was prepared by the Meat and Poultry products Technical Committee under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards

Chicken essence is prepared from whole dressed chickens by partial hydrolysis along with the boiled water extract and concentrated under vacuum. The concentrated extract is further sterilized and the fat, if any, is removed. The concentrate is further processed and clarified to meet the prescribed requirements of nitrogen, total solids, etc. The required sweetening and flavouring agents are added and the product is packed in hermetically sealed ampoules.

The demand for chicken essence is increasing considerably both from the civilian population and from the defence personnel. This standard is being formulated in order to ensure that the production of chicken essence is up to a quality level that is acceptable to the consumers and feasible for the manufacturers.

In the preparation of this standard, the following sources were consulted extensively:

IS 5558:1970 (R2000), Specification for chicken essence.

Codex Alimentarius website: http://www.codexalimentarius.net/mrls/vetdrugs/jsp/vetd_q-e.jsp.

USDA Foreign Agricultural Service website: http://www.mrldatabase.com.

USDA Agricultural Marketing Service website: http://www.ams.usda.gov/AMSv1.0/Standards.

European Union: http://ec.europa.eu/enterprise/sectors/pharmaceuticals/veterinary-use/maximumresidue-limits/index_en.htm.

XXXXXXXX

Acknowledgement is hereby made for the assistance derived from this (these) source (s)

Chicken essence — Specification

1 Scope

This Kenya Standard specifies the requirements and the methods of sampling and test for chicken essence.

2 Normative references

The following referenced documents 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, see ISO/IEC Directives, Part 2).

I. *AOAC Official Method 931.06:1931, Phosphorus (Total) (P2O5) in Eggs*
II. *CAC/RCP 1, Recommended international code of practice — General principles of food hygiene*
III. *EAS 35, Edible salt — Specification*
IV. *EAS 12, Drinking (potable water) — Specification*
V. *EAS 38, Labelling of prepackaged foods — Specification*
VI. *EAS 39, Hygiene in the food and drink manufacturing industry — Code of practice*
VII. *EAS 41, Fruits, vegetables and derived products — Sampling and methods of test*
VIII. *EAS 103, Schedule for permitted food additives*
IX. *EAS 123, Distilled water — Specification*
X. *ISO 936, Meat and meat products — Determination of total ash*
XI. *ISO 4831, Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of coliforms — Most probable number technique*
XII. *ISO 4832, Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms -Colony-count technique*
XIII. *ISO 4833, Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms — Colony-count technique at 30 degrees C*
XIV. *ISO 5537, Dried milk — Determination of moisture content (Reference method)*
XV. *ISO 5985, Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*
XVI. *ISO 6491, Animal feeding stuffs — Determination of phosphorus content — Spectrometric method*
XVII. *ISO 6579, Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.*
XVIII. *ISO 8156, Dried milk and dried milk products — Determination of insolubility index*
XIX. *ISO 9390, Water quality — Determination of borate — Spectrometric method using azomethine-H*
XX. *ISO 13730, Meat and meat products — Determination of total phosphorus content — Spectrometric method*
XXI. *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*
XXII. *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*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

chicken essence

a liquid extract containing the hydrosoluble extractives of chicken flesh and bones and may contain permitted

additives or preservatives.

4 Ingredients

4.1 Essential ingredients

4.1.1 Dressed Poultry that complies with the requirement of KS EAS 953.

4.1.2 Chicken Meat –Carcasses and parts that complies with the requirement of dressed poultry KS EAS 953.

4.1.3. Water that complies with the requirement of KS EAS 12.

4.2 Optional Ingredients

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

4.3 Processing requirements

Healthy chicken shall be dressed, extracted with hot distilled water, concentrated to desired volume, clarified properly after rendering it fat-free, adjusted to proper solid and nitrogen content, filtered, filled in aseptic packaging material, sealed and sterilized.

5 Quality Requirements

5.1 General Requirements

5.1.1 The product shall be clear and without any sediment.

5.1.2 It shall have a characteristic taste and odour of chicken meat.

5.1.3 The chicken essence shall not show evidence of deterioration, discoloration or slimy appearance on storage.

5.2 Specific Requirements

The product shall comply with the requirements in Table 1;

Table 1 — Requirements for Chicken Essence

S/N.	Parameter	Requirement	Reference test Method
i)	Total solids, percent by weight	10 - 12	AOAC 990:20
ii)	Protein content, percent by weight	8 - 10	ISO 937 Titrimetry
iii)	Chloride content, percent by weight	0.15 - 0.20	ISO 1841-2
iv)	pH	5.8 to 6.2	ISO 2917
v)	Sterility test	To pass the test	Annex C
vi)	Setting time at -10 °C	not more than 1½ hours	Annex A

5.3 Contaminants

5.3.1 Heavy metals

Chicken essence shall comply with maximum limits for heavy metals as specified in Codex Stan 193

5.3.2 Microbial contaminants

Chicken essence shall comply with maximum limits for microbial level as specified in Table 3, when tested in accordance with the methods given therein.

Table 3 — Microbiological limits for Chicken essence

S/N.	Parameter	Requirement	Reference test Method
I	Total plate count, cfu/g	<10	ISO 4833-1
vi	*Clostridium perfringes per 25g*	Absent	ISO 7937

5.3.3 Veterinary drug residues

Chicken essence shall comply with the maximum drug residue limits specified in CAC/MRL 2,

5.3.4 Pesticide residues

Chicken essence shall comply with the maximum pesticide residue limits as specified by the Codex Alimentarius Commission.

6 Hygienic requirements

6.1 The product shall be prepared and handled under strict hygienic conditions only in premises maintained in a thoroughly clean and hygienic condition in compliance with KS EAS 39

6.2 All equipment coming in contact with raw materials or products in the course of manufacture shall be kept clean. An adequate supply of steam and water, hose, brushes and other equipment, necessary for proper cleaning of machinery and equipment shall be available. The equipment may be sterilized by immersion in or swabbing with hypochlorite or other chlorine solution.

7 Packaging

7.1 Packing

The chicken essence shall be packed in hermetically sealed packaging material, which shall be further packed in suitable cartons or other containers.

7.2 The number of packed products in each carton/container shall be subject to agreement between the purchasers and the vendors.

8 Labelling

In addition to the requirement in Ks *EAS 38, Labelling of pre-packaged foods — General requirements,* the packages shall be marked by labelling on the containers themselves or as agreed to between the purchaser and the vendor. The marking or the label shall give the following information:

a) Name of the product along with brand name, if any;

b) Name and address of the manufacturer;

c) Net weight of the contents;

d) Batch number in code;

e) Names of the ingredients; and

f) Date of production

g) Date of expiry

9 Sampling

Sampling of chicken essence shall be done in accordance with KS CXS 234.

Annex A
(normative)

Determination setting

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 tub. 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.

Annex B
(informative)

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° ± 2°C.

B.2 Procedure

Weigh accurately about 5 g of the sample into a flat-bottom glass or china or aluminium dish (with a cover) previously dried and weighed. Heat the dish containing the material after uncovering in an oven maintained at 100° ± 2°C for about 5 hours. Cool in a desiccators 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

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

where

W_2 = weight in g of dried sample with the dish,

W = weight in g of empty dish, and

W_1 = weight in g of sample with the dish.

Annex C
(normative)

Test for sterility

F.1 Principle

F.1.1 Tests for sterility are based upon the principle that if bacteria are placed in a medium which provides nutritive material and water, and kept at a favourable temperature, the organisms will grow, and their presence will be indicated by a turbidity in the originally clear medium.

F.1.2 General

The test for sterility comprises: (a) detection of aerobic and anaerobic organisms; and (b) detection of fungi.

F.2 Detection of aerobic and anaerobic organisms

F.2.1 Reagents

F.2.1.1 Medium for aerobic organisms — The medium either consists of meat extract containing a suitable concentration of peptone or is prepared by the enzymic digestion of protein material. After the final sterilization, the alkalinity of the medium lies between the limits represented by pH 7.2 and pH 7.8, except where otherwise stated.

F.2.1.2 Medium for Anaerobic Organisms — The medium is similar to that for aerobic organisms, with the addition of either (a) sufficient heat-coagulated muscle to occupy a depth of at least 1 cm at the bottom of the container, or (b) about 0.05 percent of agar together with other suitable substance which may decrease the oxidation-reduction potential of the final medium sufficiently to permit the growth of obligate anaerobic organisms, an oxidation-reduction potential indicator such as resazurin sodium may be added. After final sterilization, the alkalinity of the medium lies between the limits represented by pH 7.2 and pH 7.8. Before the sample to be tested is added, the medium is heated at 100°C for sufficient time to free it from dissolved oxygen, and cooled.

F.2.2 Procedure — Inoculate 100 mg of media for aerobic organisms and for anaerobic organisms with 2 ml of the contents of each sealed container to be tested. Incubate the inoculated media between 30 °C and 32 °C for seven days. The product shall pass the test if a growth of micro-organisms does not occur in any tube before the end of seven days. If growth occurs, fresh material may be taken and the test repeated, and, if necessary, this may be done a third time. The product shall fail to pass tests if growth occurs in each of the three tests, or if a growth of the same organisms occurs in more than one test.

F.3 Detection of fungi

F.3.1 Reagents

F.3.1.1 Fluid sabouraud medium

Dextrose	20 g
Pancreatic digest of casein	5 g
Peptic digest of animal tissue	5 g
Water	1 000 ml

Dissolve the dextrose, the pancreatic digest of casein, and the peptic digest of animal tissue in the water with the aid of gentle heat. Adjust the medium with 1 N sodium hydroxide solution so that, after sterilization, it will have a pH of 5.7 + 0.1. Filter, if necessary; place in culture tubes, and sterilize at 121 °C for 20 minutes. The autoclave temperature should be reached within ten minutes.

F.3.2 Procedure — Inoculate 15 ml of sabouraud medium with 1 ml of the contents of each sealed container to be tested. Incubate the inoculated medium between 22° to 25 °C for not less than ten days. When the material to be tested renders the medium turbid so that it is not possible to determine the presence or absence of growth readily by visual examination, transfer suitable portions of this turbid medium between the third and seventh days after the test is started. Incubate both the original and transfer tubes for seven to eleven days. Examine all tubes during and at, the end of the incubation period. When evidence of growth is observed within two days, check the tubes showing such evidence by microscopic examination of stained smears or by transferring to a suitable medium. If on the first test no growth is found the material under examination meets the requirements of the absence of contamination with fungi. If growth is found, the test may be repeated to rule out laboratory contamination which may be introduced during the test, using twice the number of samples. If repeated tests confirm the presence of contamination due to fungi, the sample shall fail to pass the test.

Requirements

.

Bibliography

[1] ISO #####-#, *General title — Part #: Title of part*

[2] ISO #####-##:20##, *General title — Part ##: Title of part*

A **Bibliography**, if present, shall appear after the last annex.

The bibliography may include

— documents that are not publicly available,

— documents which are only cited in an informative manner, and

— documents which have merely served as bibliographic or background material in the preparation of the document.

For online referenced documents, information sufficient to identify and locate the source shall be provided. Preferably, the primary source of the referenced document should be cited, in order to ensure traceability. Furthermore, the reference should, as far as possible, remain valid for the expected life of the document. The reference shall include the method of access to the referenced document and the full network address.