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EAST AFRICAN STANDARD

Soup stock medium (beef) — Specification

EAST AFRICAN COMMUNITY

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in East Africa. It is envisaged that through harmonized standardization, trade barriers which are encountered when goods and services are exchanged within the Community will be removed.

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

Article 15(1) of the EAC SQMT Act, 2006 provides that "Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose".

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

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Introduction

In the preparation of this East African Standard, the following sources were consulted extensively:

IS 11771:1986(R2000), *Specification for Soup Stock Medium(Beef)*

Codex Alimentarius website: http://www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp

USDA Foreign Agricultural Service website: <http://www.mrlatabase.com>

USDA Agricultural Marketing Service website: <http://www.ams.usda.gov/AMSV1.0/Standards>

USDA Plant Inspectorate Service website: http://www.aphis.usda.gov/import_export/plants

European Union: http://ec.europa.eu/sanco_pesticides/public

Assistance derived from these sources is hereby acknowledged.

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Soup stock medium (beef) — Specification

1 Scope

This East African Standard specifies the methods of sampling and test for soup stock medium (beef).

2 Normative 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 document (including any amendments) applies.

AOAC Official Method 931.06:1931, *Phosphorus (Total) (P_2O_5) in Eggs*

CAC/RCP 1, *Recommended international code of practice — General principles of food hygiene*

CD-K-670:2010, *Bovine (beef) meat — Carcasses and cuts*

CD-K-671:2010, *Caprine (goat) meat — Carcasses and cuts*

CD-K-672:2010, *Ovine (sheep) meat — Carcasses and cuts*

CD-K-673:2010, *Porcine (pig) meat — Carcasses and cuts*

CD-K-692:2010, *Mutton and goat meat canned in brine — Specification*

CD-K-675:2010, *Edible meat co-products*

CD-K-683:2010, *Smoked bacon — Specification*

CD-K-692:2010, *Mutton and goat meat canned in brine — Specification*

CD-K-693:2010, *Animal casings — Specification*

CD-K-697:2010, *Code of hygienic practice for meat*

CD-K-699:2010, *Veterinary drugs residues in foods — Maximum residue limits*

CD/K/700:2010, *Ante-mortem and post-mortem inspection of meat animals — Code of practice*

EAS 5, *Refined white sugar — Specification*

EAS 12, *Drinking (potable water) — Specification*

EAS 35, *Edible salt — Specification*

EAS 38, *Labelling of prepackaged foods — Specification*

EAS 39, *Hygiene in the food and drink manufacturing industry — Code of practice*

EAS 41, *Fruits, vegetables and derived products — Sampling and methods of test*

EAS 103, *Schedule for permitted food additives*

EAS 123, *Distilled water — Specification*

- ISO 936, *Meat and meat products — Determination of total ash*
- ISO 937, *Meat and meat products — Determination of nitrogen content (Reference method)*
- ISO 1442, *Meat and meat products — Determination of moisture content (Reference method)*
- ISO 1443, *Meat and meat products — Determination of total fat content*
- ISO 1444, *Meat and meat products — Determination of free fat content*
- ISO 1841-1, *Meat and meat products — Determination of chloride content — Part 1: Volhard method*
- ISO 1841-2, *Meat and meat products — Determination of chloride content — Part 2: Potentiometric method*
- ISO 2294, *Meat and meat products — Determination of total phosphorus content (Reference method)*
- ISO 2917, *Meat and meat products — Measurement of pH — Reference method*
- ISO 2918, *Meat and meat products — Determination of nitrite content (Reference method)*
- ISO 3091, *Meat and meat products — Determination of nitrate content (Reference method)*
- ISO 3496, *Meat and meat products — Determination of hydroxyproline content*
- ISO 4134, *Meat and meat products — Determination of L-(+)- glutamic acid content — Reference method*
- ISO 4831, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of coliforms — Most probable number technique*
- ISO 4832, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms — Colony-count technique*
- ISO 4833, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms — Colony-count technique at 30 degrees C*
- ISO 5553, *Meat and meat products — Detection of polyphosphates*
- ISO 5554, *Meat products — Determination of starch content (Reference method)*
- ISO 5985, *Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*
- ISO 6461-2:1986, *Water quality — Detection and enumeration of the spores of sulfite-reducing anaerobes (clostridia) — Part 2: Method by membrane filtration*
- ISO 6491, *Animal feeding stuffs — Determination of phosphorus content — Spectrometric method*
- 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*
- ISO 8156, *Dried milk and dried milk products — Determination of insolubility index*
- ISO 9390, *Water quality — Determination of borate — Spectrometric method using azomethine-H*
- ISO 13493, *Meat and meat products — Determination of chloramphenicol content — Method using liquid chromatography*

ISO 13496, *Meat and meat products — Detection of colouring agents — Method using thin-layer chromatography*

ISO 13730, *Meat and meat products — Determination of total phosphorus content — Spectrometric method*

ISO 13965, *Meat and meat products — Determination of starch and glucose contents — Enzymatic method*

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*

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 Definitions and presentation

For the purpose of this standard, the following definitions shall apply.

3.1

meat

the uncured sound and wholesome flesh of the relevant animal species, used as food.

3.2

Offal

This includes brain, fries (liver), gut, paunches, udders, sweetbreads (thymus, pancreas) tripe, spleen, lungs, salivary glands, lymphatic glands, testicles, uterus, ovaries, cartilage and bony tissue.

4 Requirements

4.1 Hygienic requirements

The material shall be prepared and handled under strict hygienic conditions by persons free from contagious and infectious diseases and only in premises maintained in a thoroughly clean and hygienic condition and having adequate and safe water supply (see EAS 39) and duly approved and licensed by the public health authorities concerned. All workers shall use clean, white, washed clothings. Necessary precautions shall be taken to prevent incidental contamination of the product from soiled equipment or from personnel suffering from injuries.

4.1.1 All equipment coming in contact with raw materials or products in the course of manufacture shall be kept clean. An ample 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 suitable chlorine solution.

4.1.2 Quality of water used for processing shall conform to EAS 12.

4.2 Ingredient requirements

4.2.1 **Broth**

Broth made from wholesome beef bones, derived from carcass and heads, free from objectionable odours and flavours shall only be used in manufacturing this product.

4.2.2 Salt — Salt used shall conform to EAS 35.

4.3 Preparation

The product is prepared by clarifying with sodium chloride and concentrating the bone stock, to the specified limits, after it has been manually freed from excess fat.

4.4 Freedom from artificial colouring matter

The material shall be free from artificial colouring matter.

4.5 Requirements for finished product

4.5.1 Physical

The material shall comply with the requirements specified in 4.5.1.1 to 4.5.1.3.

4.5.1.1 The texture of the product shall be stringy.

4.5.1.2 The consistency of the product shall be firm.

4.5.1.3 A 3-percent solution of the product in boiling water, when examined hot, shall:

- a) be pale yellow to brown,
- b) have no abnormal odour,
- c) have a bland taste free from off-flavours,
- d) contain very little or no pan scale,
- e) have no visible surface fat, and
- f) be opalescent and not turbid.

Table 1 — Microbiological and chemical metal requirements for soup stock medium (beef)

(1)	Characteristic (2)	Requirement (3)	Method of test (4)
i)	Total bacterial count/g, in the finished product, Max	100 000	ISO 4833
ii)	<i>Escherichia coli</i>	Absent in 0.1 g	ISO 7251
iii)	<i>Clostridium perfringens</i>	Absent in 0.01 g	—
iv)	<i>Salmonella</i>	Absent in 10 g	ISO 6579
v)	<i>Staphylococci</i> /g, Max	100	ISO 6888
vi)	Sulfite reducing <i>Clostridia</i> /g, Max	100	ISO 6461
vii)	Yeast and mould count/g, Max	100	
viii)	Equilibrated relative humidity per cent, Max	70.0	
xi)	Heavy metals:		
	a) Total solid, % by mass, Min	70.0	EAS 41
	b) Chloride (as NaCl), percent by mass, Max	10.0	ISO 1841
	c) Fat, percent by mass, Max	1.0	ISO 1443
	d) Nitrogen, percent by mass, Min	8.0	ISO 937
	e) Copper, mg/kg, Max	10.0	EAS 41
	f) Zinc, mg/kg, Max	50.0	EAS 41
	g) Arsenic, mg/kg, Max	1.0	EAS 41
	h) Lead, mg/kg, Max	2.0	EAS 41
	i) Tin, mg/kg, Max	250.0	EAS 41

4.5.3 Bacteriological — The product shall comply with the requirements specified in Table 1.

5 Packing and marking

5.1 Packing

The material shall be securely packed in wide mouthed containers with tightly fitting lids. Any further packing of these containers in protective outer wrappings shall be subject to agreement between the purchaser and the packer.

5.2 Marking

5.2.1 Each container shall be marked legibly to give the following information in addition to any other information required under EAS 38 and rules:

- a) Name of material,
- b) Name and address of the manufacturer,
- c) List of the ingredients in descending order,
- d) Net contents of the container,
- e) Batch or code number,
- f) Licence number given by the health authorities concerned, and
- g) Warranty period.

5.2.2 Each container may also be marked with a Certification Mark:

6 Sampling

6.1 Representative samples of the material shall be drawn as follows.

6.1.1 For physical analysis — 20 g of sample shall be taken from one container of the day's production batch.

6.1.2 For chemical analysis — 10 g of sample shall be taken from each container of the day's production batch. If this total is less than 50 g, then a proportionately larger sample shall be taken from each container, to total a minimum of 50 g.

6.1.3 For bacteriological analysis — 10 g shall be taken aseptically from each container of the day's production batch.

7 Tests

7.1 Tests shall be conducted as specified in Table 1.

7.2 Quality of reagents — Unless specified otherwise, pure chemicals and distilled water (see EAS 123) shall be employed in the tests.

NOTE Pure chemicals' shall mean chemicals that do not contain impurities which affect the test results.

Annex A
(normative)**Method for determination of equilibrated humidity****Principle**

The procedure involves sample of the product under test to be brought to actual mass equilibrium when exposed to different relative humidities (see Table A.1).

A.1 Apparatus

A.1.1 The apparatus consists of a crystallizing dish (12.5 × 6.5 cm) as the main body of the test unit. Grind the top edge of the dish on a flat glass unit plate smeared with carborundum paste to remove irregularities. Apply silicone grease to the ground edge to effect a good seal between the dish and the glass plate. Place the saturated salt solution in the crystallizing dish in which the sample, held in a petri dish is kept (see Figure 1A). The petri dish (9.3 × 1.8 cm) is normally supported by a bracket made from 0.6 cm aluminium sheet. The bracket should be 8.1 cm long and 1.25 cm wide and bent to fit the dish snugly. Fasten this bracket to the threaded end of 0.32 cm diameter brass rod by means of two 2-56 brass nuts. The overall length of the rod, 8.1 cm, is arbitrary and depends on the depth of the test unit and the height, of the platform upon which the unit rests when placed in the balance. Bend the top end of the rod into a flat hook for convenient, suspension from the pan hook of a balance or from the counterpoise used with a magnetic damping device. Drill a brass cone slip on to the rod and solder in place with the small end down and at a distance of 2.5 cm from the bottom end of the rod. Cut this cone from a 0.6 cm brass rod. The lower half of the cone should have an angle of approximately 30°.

A.1.1.1 Cover the top of the crystallizing dish with a square glass plate (13.75 × 13.75 cm) and cut a hole 0.47 cm in diameter which should be 0.6 cm off centre of a line perpendicular to one edge of the plate and passing through its centre. This off-centering is necessary because of the limitations in the space in analytical balance. There should be no chipping in the glass plate where the hole is drilled.

NOTE In place of the above arrangement small desiccators as shown in Figure 1B may also be used. Petri dish may be supported either on glass tripod or porcelain plate. This arrangement, however, has the disadvantage that during the interval of weighing, the sample atmosphere is changed and requires slightly larger quantity of salt solution.

A.2 Reagents

A.2.1 Strontium chloride — saturated solution.

A.2.2 Sodium chloride — saturated solution.

A.2.3 Ammonium sulphate — saturated solution.

A.2.4 Sodium acetate — saturated solution.

A.3 Procedure

A.3.1 Weigh accurately (up to 4th decimal place) 3 samples each of about 5 g and spread evenly over 16 to 20 cm area in the petri dish.

A.3.2 Place them in desiccators equilibrated previously to the temperature required for the respective RH and incubate overnight (see Table A.1).

A.3.3 If sample upon reweighing shows gain in mass in all the petri dishes, ERH is below 70 percent and the product is acceptable.

A.3.4 For accurate ERH, plot a graph gain/loss in mass or percent of this against known ERH, the straight line intersecting on 'X' axis is the ERH of the sample.

Table A.1 — Equilibrium relative humidities for saturated salt solutions

S/No.	Chemical	Relative humidity, percent at		
		22.8 °C	30 °C	37.8 °C
(1)	(2)	(3)	(4)	(5)
(i)	Ammonium sulphate	80.1	79.6	79.1
(ii)	Sodium chloride	75.5	75.2	75.1
(iii)	Sodium acetate	74.8	71.4	67.7
(iv)	Strontium chloride	70.0	—	—

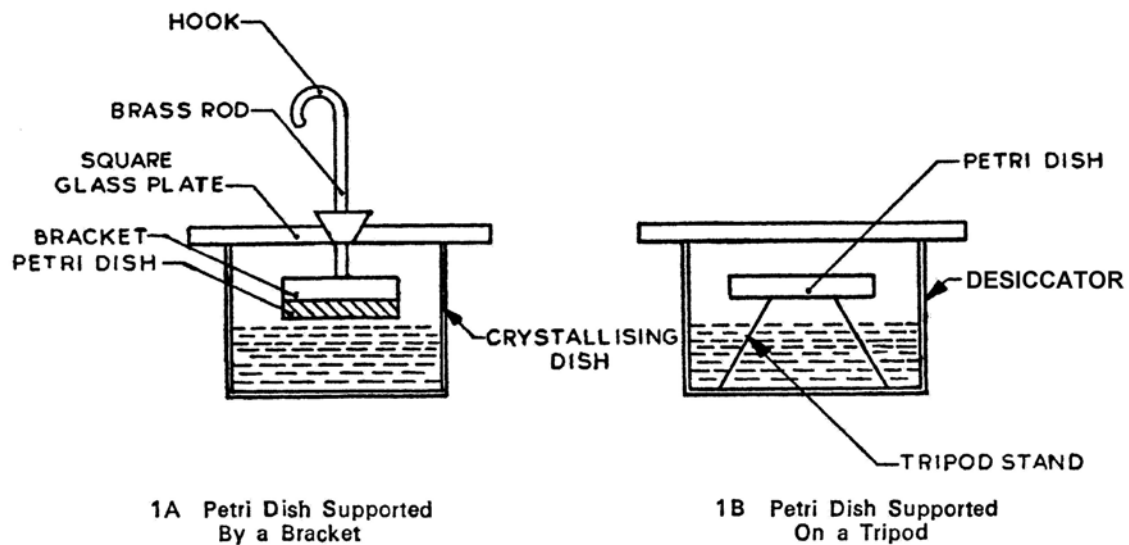


Figure B.1 — An assembly for ERH determination

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