



CD/K/512:2010
ICS 67.120.30

EAST AFRICAN STANDARD

Dried prawns/shrimps — 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.

© East African Community 2010 — All rights reserved*

East African Community

P O Box 1096

Arusha

Tanzania

Tel: 255 27 2504253/8

Fax: 255-27-2504481/2504255

E-Mail: eac@eachq.org

Web: www.each.int

* © 2010 EAC — All rights of exploitation in any form and by any means reserved worldwide for EAC Partner States' NSBs.

Introduction

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

KS 05-425:1986(C1999), *Specification for dried prawns/shrimps*

Codex Alimentarius website: http://www.codexalimentarius.net/mrls/vetdrugs/jsp/vetd_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>

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

Assistance derived from these sources is hereby acknowledged.

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

Contents

1	Scope	1
2	Normative references.....	1
3	Description	2
4	Types.....	2
5	Grades.....	3
6	Requirements.....	3
7	Packaging and marking.....	4
	Annex A (normative) Determination of moisture content	7
	Annex B (normative) Determination of sodium chloride content.....	8
	Annex C (normative) Determination of acid-insoluble ash.....	9

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

Dried prawns/shrimps — Specification

1 Scope

This East African Standard prescribes the requirements and the methods of test for dried prawns or shrimps.

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.

CAC/GL 21, *Principles for the establishment and application of microbiological criteria for foods*

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

CAC/GL 30, *Principles and guidelines for the conduct of microbiological risk assessment*

CAC/GL 31, *Guidelines for the sensory evaluation of fish and shellfish in laboratories*

CD-K-572-2010, *Fish and fisheries products — Methods of sampling*

CAC/RCP 52[CD/K/521:2010], *Code of practice for fish and fishery products*

EAS 35, *Edible salt — Specification*

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

EAS 38, *Labelling of prepackaged foods — Specification*

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

EAS 123, *Distilled water — Specification*

CD/K/516:2010, *Dried and dry-salted fish — Specification*

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 6579, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.*

ISO 6887-1, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 1: General rules for the preparation of the initial suspension and decimal dilutions*

ISO 6887-2, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 2: Specific rules for the preparation of meat and meat products*

ISO 6887-3, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 3: Specific rules for the preparation of fish and fishery products*

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*

ISO 6888-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 2: Technique using rabbit plasma fibrinogen agar medium*

ISO 6888-3, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 3: Detection and MPN technique for low numbers*

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 7937, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of Clostridium perfringens — Colony-count technique*

ISO 13720, *Meat and meat products — Enumeration of Pseudomonas spp.*

ISO 16050, *Foodstuffs — Determination of aflatoxin B₁ and the total content of aflatoxin B₁, B₂, G₁ and G₂ in cereals, nuts and derived products — High performance liquid chromatographic method*

ISO 16654, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Escherichia coli O157*

ISO 21567, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Shigella spp.*

ISO/TS 21872-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of potentially enteropathogenic Vibrio spp. — Part 1: Detection of Vibrio parahaemolyticus and Vibrio cholerae*

ISO/TS 21872-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of potentially enteropathogenic Vibrio spp. — Part 2: Detection of species other than Vibrio parahaemolyticus and Vibrio cholerae*

ISO 11290-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of Listeria monocytogenes — Part 1: Detection method*

ISO 11290-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of Listeria monocytogenes — Part 2: Enumeration method*

3 Description

Prawns or shrimps shall be of the species of the families *Penaeidae*, *pandalidae*, *Crangonidae* and *Palaemonidae*. Count as used in this standard shall mean the number of prawns per 100 g.

4 Types

The material shall be of the following five types namely:

- (a) cooked, peeled and dried prawns;
- (b) cooked, dried and deshelled prawns;
- (c) peeled cooked and dried prawns;

- (d) dried uncooked prawns with shell on; and
- (e) cooked, dried and shelled prawns.

5 Grades

The material shall be of four grades, namely: large, medium, small and tiny; these grades shall be on the basis of the count as follows:

<i>Grade Designation</i>	<i>Count</i>
Large	below 50
Medium	50 to 250
Small	251 to 500
Tinny	above 500

6 Requirements

6.1 Hygienic requirements

The product covered by the provisions of this standard shall be prepared and handled in accordance with CAC/RCP 52[CD/K/521:2010] and the relevant public health regulations.

6.2 Raw materials

6.2.1 Dried prawns or shrimps shall be prepared from clean and fresh prawns and shall be free from black discoloration.

6.2.2 The material shall be free from fungal, insect and mite infestation.

6.2.3 The material shall be practically free from any salt excrescence on the surface.

6.2.4 The material shall be free from any extraneous matter.

6.2.5 The material shall be free from any odour indicating spoilage or rancidity.

6.2.6 The prawns, while drying shall be protected against contamination from dirt, sand, flies and insects.

6.3 Preparation and processing

6.3.1 The cooked material shall be prepared by cooking the whole prawns in brine and either peeling and drying and then shelling, or by peeling, cooking and then drying.

6.3.2 The strength of the brine shall not exceed 5 per cent salt solution. The salt used shall be of edible quality complying with EAS 35.

6.3.3 The cooking time shall be such that the shells get loosened from the meat and the material acquires a firm texture.

6.3.4 The material shall be dried either in the sun or in artificial driers under hygienic conditions.

6.4 Shell material

The limits for the presence of shell material in the cooked types and grades of the material shall be as follows:

- (a) Peeled, cooked and dried prawns Nil for all grades
- (b) Cooked, peeled and dried prawns Not above 0.5 per cent by weight
- (c) Cooked, dried and deshelled prawns Large and medium grades — below 1.0 per cent, small and tiny grades — below 3.0 per cent

6.5 The powdered material originating from the final product shall not exceed 5.0 per cent by weight as in 6.4 (b) and (c).

6.6 The material shall also comply with the requirements prescribed in Table 1.

Table 1 — Requirements for dried prawns

S/No.	Characteristic	Requirement	Method of test
(i)	Moisture, per cent by mass, max.	20.0	Annex A
(ii)	Sodium chloride (moisture-free basis), per cent by weight, max.	5.0	Annex B
(iii)	Acid-insoluble ash (moisture-free basis) per cent by weight, max	1.0	Annex C

7 Packaging and marking

7.1 Packaging

The dried prawns (shrimps) shall be packed in food grade containers which will safeguard the hygienic, nutritional, technological and organoleptic qualities of the products.

The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They shall not impart any toxic substance or undesirable odour or flavour to the product.

7.3 Marking

The containers shall be labelled in accordance with EAS 38 and shall include the following:

- (i) Name of the product.
- (ii) Name and physical address of processor/packer.
- (iii) Net weight in grams or kilograms.
- (iv) Date of processing.
- (v) Batch or code number.
- (vi) Expiry date.
- (vii) Storage conditions.
- (viii) Country of origin or 'Product of'



Dried shrimps



Dried prawns



Dried prawns



Typical package of dried shrimp

Annex A
(normative)

Determination of moisture content

A.1 Preparation of sample

Cut the large pieces into small size and mix. Grind the pieces as finely as possible preferably using an electric grinder so that a homogenous sample is obtained. Keep the material in an air-tight container in order to prevent loss of moisture during subsequent handling. Use this material for testing.

A.2 Procedure

A.2.1 Place a steel dish containing about 20 g of acid-washed sand and a glass rod in an air oven and dry to constant weight at 103 ± 2 °C (1 hour should be sufficient). Cool in a desiccator for 20 minutes and weigh the dish with sand and glass rod (4-place balance).

A.2.2 Add about 5 g of sample and reweigh.

A.2.3 Add about 5 cm² of 'industrial ethanol' and stir with the glass rod to give a homogenous paste.

A.2.4 Place on a water bath (Temperatures 60 °C – 80 °C) and stir occasionally until all the ethanol has evaporated.

A.2.5 Place dish and contents (including the glass rod) in an air oven and dry to constant weight at 103 ± 2 °C (24 hours should be sufficient). Cool in a desiccator for 30 minutes and weigh. Retain the dried material for the determination of sodium chloride (see B.2.1) and acid-insoluble ash.

A.3 Calculation

$$\text{Moisture per cent by mass} = \frac{M_2 \times 100}{M_1}$$

where,

M_2 =

M_1 =

loss of weight in g of the sample, and
mass in g of the sample taken.

Annex B
(normative)

Determination of sodium chloride content

B.1 Reagents

B.1.1 Standard Silver Nitrate Solution — 0.1 N, standardized, against 0.1 N sodium chloride solution.

B.1.2 Dilute Nitric Acid — 1:4

B.1.3 Ferric Alum Indicator Solution — A saturated solution of ferric alum. ($\text{FeNH}_4(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$).

B.1.4 Standard Potassium Thiocyanate Solution — 0.1 N.

B.2 Procedure

B.2.1 Take 1 g to 2 g of the dried material (see A.2.5) in 250-ml beaker and add 50 ml of distilled water, free from chloride and heat on a water bath till all the sodium chloride goes into solution. Filter in a 250-ml conical flask and wash with distilled water, free from chloride till the washings are completely free from chlorides. Add 20 ml of nitric acid and a known volume of standard silver nitrated solution, sufficient to precipitate all the chlorides. Add 5 ml of nitrobenzene and shake vigorously for 2 minutes. Add 1 ml of ferric alum indicator and titrate with standard potassium thiocyanate solution until a permanent light brown colour appears.

B.3 Calculation

Sodium chloride, on moisture free basis, per cent by weight = $5.85 \frac{(V_1 N_1 - V_2 N_2)}{M}$

where,

V_1 = volume in ml of the standard solution used;

N_1 = normality of the standard silver nitrate solution;

V_2 = volume in ml of the standard potassium thiocyanate solution used;

N_2 = normality of the standard potassium thiocyanate; and

M = mass in g of the dried material taken for the test.

Annex C
(normative)

Determination of acid-insoluble ash

C.1 Reagent

C.1.1 Dilute Hydrochloric Acid — 1.1 prepared from concentrated hydrochloric acid.

C.2 Procedure

C.2.1 Weigh accurately about 2 g of the dried material (see A.2.5) in a tared porcelain, silica or platinum dish. Ignite with a meker burner for about one hour. Complete the ignition by keeping in a muffle furnace of 500 °C – 570 °C until gray ash results. Cool and add 25 mL of dilute hydrochloric acid, cover with a watch glass and heat on water bath for 10 minutes. Cool and filter through Whatman filter paper No. 42 or its equivalent. Wash the residue with hot water until the washings are free from chlorides as tested with silver nitrate solution and return the filter paper and residue to the dish. Keep it in an electric air oven maintained at 135 ± 2 °C for about 3 hours. Ignite it in a muffle furnace at 500 °C – 570 °C for one hour. Cool in a desiccator and weigh. Ignite the dish again for 30 minutes, cool and weigh. Repeat this process till the difference between two successive weighing is less than one milligram. Note the lowest weight.

C.3 Calculation

Acid insoluble ash on moisture-free basis, per cent by weight =
$$\frac{100(M_2 - M)}{M_1 - M}$$

where,

M_2 = the lowest mass in g of the dish with the acid-insoluble ash;

M = mass in g of the empty dish; and

M_1 = mass in g of the dish with the dried material taken for the test.

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

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