



**DEAS 1186: 2023**

ICS 67.120.01

## **DRAFT EAST AFRICAN STARD**

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**Edible insects — Specification**

**EAST AFRICAN COMMUNITY**

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## Foreword

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

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. 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 Principles and procedures for development of East African Standards.

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.

The committee responsible for this document is Technical Committee EASC/TC 004, *Meat, poultry, game, eggs and related products*.

This **second/third/...** edition cancels and replaces the **first/second/...** edition (US **nnn-n:yyyy**), which has been technically revised.

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## Edible insects — Specification

### 1 Scope

This draft East African Standard specifies requirements, sampling and test methods for dried whole edible insect and its powder intended for human consumption.

### 2 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.

*AOAC 971.21, Mercury in Food Flameless Atomic Absorption Spectrophotometric method*

*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*

*ISO 10272-1 Microbiology of the food chain Horizontal method for detection and enumeration of Campylobacter spp. Part 1: Detection method*

*ISO 22964 Microbiology of the food chain Horizontal method for the detection of Cronobacter spp.*

*ISO 6579, Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp. species) – Part 1: Technique using Baird-Parker agar medium – Amendment 1: Inclusion of precision data*

*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 6888-1, Microbiology of the food chain Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) Part 1: Method using Baird-Parker agar medium*

*EAS 38, Labelling of pre-packaged foods — General requirements*

*EAS 39, Code of Hygiene Practice for Food and Drink Manufacturing Industry*

*EAS 804, Claims – General Requirements*

*EAS 805, Use of nutrition and health claims – Requirements*

*ISO 1442 Meat and meat products – Determination of moisture content (Reference method)*

*CX/GL 50, General Guidelines on Sampling*

*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*



AOAC 972.25, Lead in food. Atomic absorption spectrophotometric method

AOAC 952.13, Arsenic in food — Silver diethyldithiocarbamate method

### 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <http://www.iso.org/obp>

**3.1 Dried whole edible insects**  
insects farmed or wild-harvested, intended for human food after processing to minimize contamination and improve palatability.

**3.2 insect powder**  
a particulate product obtained after milling/grinding dried edible insects

**3.3 insect paste**  
a semisolid product obtained after milling/grinding edible insects

**3.4 extraneous material**  
any material that is not of that particular edible insect such as other species, castes, sand, stones, metallic chips, plant parts and pests.

**3.5 food grade material**  
materials that are free from substances that are hazardous to human health and therefore, may come in contact with food.

### 4 Requirements

#### 4.1 General requirements

4.1.1 Edible insect shall be:

- a) produced from edible insect species
- b) produced from any suitable life stage
- c) presented in either whole or granulated or powder.
- d) of characteristic colour of the insect prepared
- e) free from adulterants, extraneous material and objectionable odour and taste
- f) free from pest infestation, mould growth.

4.1.2 Edible insects may be whole or with some body parts removed.

4.1.3 Acceptable food grade ingredients and seasonings may be used.

## 4.2 Specific requirements

Whole edible insects and insect flour shall comply with the specific requirements given in Table 1 when tested in accordance with the test methods given therein.

**Table 1 — Specific requirements for dried whole edible insects and its powder**

S/n	Parameter	Dried Whole insects	Insect powder	Test method
	Moisture content, % m/m, max	13	13	ISO 1442
	Fatty acidity, mg KOH/100g	N/A	80	ISO 7305
	Acid insoluble ash, max, %, m/m	N/A	1	ISO 5985

## 4.3 Optional ingredients

Edible insect products may contain other food ingredients to enhance flavour and palatability such as edible salt, seasonings and herbs complying with relevant standards

## 5 Food additives

Food Additives shall comply with the respective maximum levels specified in Codex Stan 192 if used in edible whole insects or its powder

## 6 Hygiene

**6.1** edible whole insects or its powder shall be prepared under strict hygienic conditions according to EAS 39

**6.2** edible whole insects or its powder shall not exceed microbiological limits indicated in Table 2, when tested in accordance with the test methods specified therein

**Table 2 — Microbiological limits for dried whole edible insect and its powder**

S/N	Characteristic	Limit	Test Method
i)	Total plate count, cfu/g, max.	10 <sup>5</sup>	ISO 4833 (Part 1 or 2)
ii)	<i>Escherichia coli</i> , cfu/g	Absent	ISO 16649-2
iii)	<i>Cronobacter spp. Enterobacter sakazakii</i> cfu/10g	Absent	ISO 22964
iv)	<i>Staphylococcus aureus</i> , cfu/g	Absent	ISO 6888 (Part 1 or 2)
v)	<i>Campylobacter</i> , cfu/25g	Absent	ISO 10272-1
vi)	<i>Salmonella</i> spp. per 25g	Absent	ISO 6579
vii)	<i>Yeast and moulds</i> , cfu/g, max	10 <sup>3</sup>	ISO 21527-2

## 7 Contaminants

### 7.1 Heavy metal

edible whole insects or its powder shall not contain any heavy metal in excess of the quantities specified in Table 3.

**Table 3 — Maximum limits of heavy metals in dried whole edible insects and its powder**

S/No.	Heavy metals	Maximum limits (ppm)	Test method
i	Arsenic (As)	[0.1]	AOAC 952.13
ii	Lead (Pb)	[0.5]	AOAC 972.25
iii	Cadmium (Cd)	[0.4]	AOAC 973.34
iv	Mercury (Hg)	[0.01]	AOAC 971.21

### 7.2 Pesticides and residues

Edible insects shall comply with maximum pesticide residue limits set by Codex Alimentarius Commission.

### 7.3 Veterinary drugs residues

Edible insects and edible insect flour shall comply with the maximum veterinary drugs residue limits in CX/MRL 2

## 8 Packaging and labelling

### 8.1 Packaging

Edible insects shall be packaged in food grade materials which will safeguard the hygienic, nutritional, integrity, technological, and organoleptic properties, throughout shelf life of the product.

### 8.2 Labeling

In addition to the labelling requirements prescribed in EAS 38 edible insects shall be legibly and indelibly labelled with the following information:

- a) Name of the product such as “dried whole insect” or “dried powdered insects” or “dried milled insects” or “fried insect products” or “grinded/ground insect product” etc;
- b) Declare the insect by common name and biological name in brackets,
- c) Name and physical address of the processor/packer;
- d) Batch or code number;
- e) Net weight in metric units;
- f) Date of packaging;
- g) the life stage of edible insect used
- h) Expiry date;

- i) Storage instructions;
- j) Country of origin;

## **9. Health claims**

Any health and/or nutrition claim on dried whole edible insect and its powder shall conform to the provisions of EAS 804 and EAS 805.

## **10 Sampling**

Sampling of edible insects shall be done according to CX/GL 50.

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## Bibliography

TZS 3184, Edible insects – Specifications

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