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## **DRAFT EAST AFRICAN STANDARD**

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**Edible coconut oil – Specification**

**EAST AFRICAN COMMUNITY**

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PUBLIC REVIEW DRAFT

## 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 015, *Oil seeds, edible fats and oils*.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.



## Edible coconut oil – Specification

### 1 Scope

This draft East African Standard specifies requirements, sampling and test methods for virgin and refined coconut oil derived from the kernel of the coconut (*Cocos nucifera* L.) 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.

EAS 38, Labelling of prepackaged foods Specification

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

EAS 769, Fortified edible oils and fats — Specification

EAS 803, Nutrition labelling — Requirements

EAS 804, Claims —General requirements

EAS 805, Use of Nutrition and health claims —Requirements

CXG 66, Guidelines for the Use of Flavourings

CXS 192, General Standard for Food Additives

ISO 660, Animal and vegetable fats and oils — Determination of acid value and acidity

ISO 661, Animal and vegetable fats and oils —Preparation of test sample

ISO 662, Animal and Vegetable fats and oils —Determination of moisture and volatile matter content

ISO 663, Animal and vegetable fats and oils —Determination of insoluble impurities content

ISO 3657, Animal and vegetable fats and oils —Determination of saponification value

ISO 3961, Animal and vegetable fats and oils —Determination of iodine value

ISO 3960, Animal and vegetable fats and oils —Determination of peroxide value KS ISO 5555, Animal and vegetable fats and oils Sampling

ISO 6320, Animal and vegetable fats and oils —Determination of refractive index

ISO 10539, Animal and vegetable fats and oils — Determination of alkalinity

ISO 12193, Animal and vegetable fats and oils — Determination of lead by direct graphite furnace atomic absorption spectroscopy

ISO 13547-2: Copper, lead, zinc and nickel sulfide concentrates —Determination of arsenic Part 2: Acid digestion and inductively coupled plasma atomic emission spectrometric method

ISO 17189, Butter, edible emulsions and spreadable fats —Determination of fat content (Reference method)

ISO 21033 Animal and vegetable fats and oils — Determination of trace elements by inductively coupled plasma optical emission spectroscopy (ICP-OES)

### 3 Terms and definitions

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

**3.1 virgin coconut oil**  
edible coconut oil obtained without altering its nature that may be obtained by use of mechanical procedures such as expelling or pressing, with or without the application of heat and without the use of solvents. It may have been purified by washing with water, settling, filtering, and centrifuging only.

**3.2 refined (non-virgin) coconut oil**  
edible coconut oil obtained by mechanical procedures and/or solvent extraction and subjected to refining processes.

**3.3 fats and oils**  
food stuffs which are composed of glycerides of fatty acids of plant and animal origin. They may contain small amounts of other lipids such as phosphatides, unsaponifiable constituents and free fatty acids naturally present in the fat or oil

**3.4 foreign matter**  
any material visible with naked eye in a packaged virgin and refined coconut oil

**3.5 food grade packaging material**  
packaging material, made of substances which are safe and suitable for the intended use and which will not impart any toxic substance or undesirable odour or flavour to the product

### 4 Requirements

#### 4.1 General requirements

Edible coconut oil shall;

- a) be free from foreign matter
- b) be free from rancid or undesirable odour and/or taste.
- c) have colour characteristic of coconut oil

#### 4.2 Specific requirements

Edible coconut oil shall comply with the specific requirements given in Table 1, when tested in accordance with the methods specified therein.

**Table 1—Specific requirement for Edible coconut oil**

S/N	Characteristic	Requirement	Test method
i).	Moisture and Volatile matter at 105 °C, %, m/m, max.	0.2	ISO 662
ii).	Insoluble impurities, %, m/m, max.	0.07	ISO 663
iii).	Soap Content, %, m/m, max.	0.005	ISO 10539
iv).	Acid value, (mg/KOH/g (max). • Virgin	4.0	ISO 660

	<ul style="list-style-type: none"> <li>Refined</li> </ul>	0.6	
v).	Peroxide value, (mEq oxygen/kg (max.)) <ul style="list-style-type: none"> <li>Virgin</li> <li>Refined</li> </ul>	15 10	ISO 3960
vi).	Iron (Fe) mg/kg, max.\ <ul style="list-style-type: none"> <li>Virgin</li> <li>Refined</li> </ul>	5.0 1.5	ISO 21033
vii).	Copper, mg/kg, max. <ul style="list-style-type: none"> <li>Virgin</li> <li>Refined</li> </ul>	0.4 0.1	
viii).	Iodine Value	6.3-10.6	ISO 3961
ix).	Saponification value, mg KOH/g oil	248-265	ISO 3657
x).	Refractive index, ND 40°C	1.448- 1.450	ISO 6320

## 5 Fortification

Refined edible coconut oil may be fortified in accordance with EAS 769.

## 6 Food additives and flavouring agents

6.1 Edible virgin coconut oil shall not contain food additives and flavouring agents.

6.2 Food additives when used in edible refined coconut oil shall comply with CXS 192.

6.3 Flavouring agents where used in edible refined coconut oil shall comply with CXG 66.

## 6 Contaminants

### 6.1 Pesticide residues

Edible coconut oil shall comply with those maximum pesticide residue limits established by the Codex Alimentarius Commission for this commodity.

### 6.2 Heavy metal contaminants

Edible coconut oil shall comply with those maximum limits specified in Table 2 when tested in accordance with the methods specified therein

**Table 2 — Heavy metal contaminant limits in Edible coconut oil**

S/ N	Contaminant	Maximum Limit mg/kg	Test method
i)	Lead (Pb)	0.08	ISO 12193
ii)	Arsenic (As)	0.1	AOAC 952.13

## 7 Hygiene

Edible coconut oil shall be produced, processed, handled, and stored in accordance with EAS 39.



## 8 Packaging

Edible coconut oil shall be packaged in containers made from food grade packaging material and sealed in a manner that will safeguard the hygienic, nutritional and organoleptic properties of the product throughout the shelf life of the product.

## 9 Labelling

In addition to the labelling requirements specified in EAS 38 and EAS 803, the following information shall be legibly and indelibly labelled;

- a) name of the product as Coconut oil
- b) type of the oil as
  - i). Virgin
  - ii). Refined (Non-virgin)

## 12 Nutrition and health claims

Edible coconut oil may have claims on nutrition and health. Such claims when declared shall comply with EAS 804 and EAS 805

## 10 Sampling

Sampling and sample preparation for testing shall be carried out in accordance with ISO 5555 and ISO 661 respectively.

