

Virgin Coconut Oil - Specification

DKS 2788:2018

TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

Afroganics Essential

Amal Organics

Diamond Industries Ltd

Kentaste Products Ltd

Kwale Coconuts

Muyaza Virgin Coconut Oil

Pwani Oils Ltd

Sylo Health Products

Kenya Bureau of Standards – Secretariat

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Foreword

This Kenya Standard was prepared by the Edible fats and Oils TC under the guidance of the Standards Project Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards.

This draft standard addresses the quality and safety requirements necessary to produce a safe product for human consumption while promoting the basis for promoting the production of virgin coconut oil in the country.

During the preparation of this standard, reference was made to the following documents:

Codex Stan 210: Codex standard for named vegetable Oils and fats

Mohamed, I., H. & Bader, A.,T.(2015). Physicochemical characteristics of some imported edible vegetable oils in Iraq. *Research Journal of Pharmaceutical, Biological and Chemical sciences*, 6, 5 (pg 448 – 494).

Oduom, W. & Edusei, O.,V. (2015). Evaluation of saponification value, iodine value and insoluble impurities in coconut oils from Jamoro district in western region of Ghana. *Asian Journal of Agriculture and Food Sciences*, 3, 5, (pg 494 – 499).

Acknowledgement is hereby made for the assistance derived from these sources.

Virgin Coconut Oil - Specification

1 Scope

This Draft Kenya Standard specifies the requirements, methods of sampling and tests for virgin coconut oil for human consumption.

2 Normative references

The following referenced documents are indispensable for the application of this standard. The latest edition of the standard shall apply:

3 Definition

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

KS EAS 38, Labeling of prepackaged foods - Specification.

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

KS EAS 804, Claims – General requirements

KS EAS 805, Use of Nutrition and health claims - Requirements

KS ISO 660, Animal and vegetable fats and oils- determination of acid value and acidity

KS ISO 661, Animal and vegetable fats and oils- preparation of test sample

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

KS ISO 663, Animal and vegetable fats and oils - Determination of insoluble impurities content.

KS ISO 2590, General method for the determination of arsenic- Silver diethyldithiocarbamate photometric method

KS ISO 3960, Animal and vegetable fats and oils - Determination of peroxide value.

KS ISO 5555, Animal and vegetable fats and oils - Sampling.

KS ISO 8294, Animal and vegetable fats and oils- determination of copper, iron and nickel contents- graphite furnace atomic absorption method

KS ISO 10539, Animal and vegetable fats and oils - Determination of alkalinity.

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

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

3.1

Virgin Coconut oil

edible oil obtained without altering the nature of oil. For example by use of mechanical procedures such as expelling or pressing, and the application of heat only without the use of solvents. It may have been purified by washing with water, settling, filtering and centrifuging only

3.2

fats and oils

food stuffs which are composed of glycerides of fatty acids of vegetable, animal or marine 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

3.3

non –virgin (refined) fats and oils

fats and oils obtained by mechanical procedures and/or solvent extraction and subjected to refining processes to adopt it specially for use in food products.

3.4

edible fats and oils

food stuffs which are composed of glycerides of fatty acids of vegetable, animal or marine origin complying with the provisions of this standard. They may contain small amounts of other lipids such as phosphatides, unsaponifiable constituents and free fatty acids naturally present in the in the fat or oil.

3.5

edible vegetable fat

3.6

Health claim

is a representation that states, suggests or implies that a relationship exists between a food or constituent of that food and health

3.7

Label

is any tag, brand, marks, pictorial or other descriptive matter, written, printed, stencilled, marked, embossed or impressed on, or attached to, a container of any products within the scope of this standard.

3.8

Nutrition claim

is any representation which states, suggests or implies that a food had particular nutritional properties including but not limited to the energy value and to the content of protein, fat and carbohydrates, as well as the content of vitamins and minerals with the exception of mentioning the substance on the list of ingredients and qualitative and quantitative declaration of nutrient as may be required in regulations or product standards

4 Quality requirements and essential composition

4.1 General requirements

4.1.1 Virgin coconut oil shall be free from foreign and/or rancid odour and/or taste.

4.1.2 The colour shall be characteristic of coconut oil

4.1.3 Chemical extraction using solvents shall not be used in the production of virgin coconut oil

4.2 Specific compositional requirements

The virgin coconut oil shall comply with the quality requirements in Table 1.

Table 1 — Specific compositional requirement for blended oils

SL No.	Characteristic	Requirement	Test method
i).	Fat content, % by mass, min.	99.5	ISO 17189
ii).	Moisture and Volatile matter at 105 °C, %, m/m, max.	0.2	ISO 662
iii).	Insoluble impurities, %, m/m, max.	0.05	ISO 663
iv).	Soap Content, %, m/m, max.	0.005	ISO 10539
v).	Acid value, (mg/KOH/g (max).	4	ISO 660
vi).	Peroxide value, (mEq oxygen/kg (max.))	15	ISO 3960
vii).	Iron (Fe) mg/kg, max.	5	ISO 8294
viii).	Copper, mg/kg, max.	0.4	

5 Contaminants

5.1 Pesticide residues

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

5.2 Other contaminants

Virgin coconut oil shall comply with those maximum limits specified in Table 2.

Table 2 — Heavy metal contaminants limits in Virgin coconut oil

SL No	Contaminant (mg/kg)	Max. Limit	Method of test
i)	Lead (as Pb)	0.1	ISO 12193
ii)	Arsenic (as As)	0.1	ISO 2590

6 Hygiene

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

7 Packaging

7.1 Virgin coconut oil shall be packaged in food grade containers and sealed in manner to ensure the safety and quality requirements specified in this standard are maintained throughout the shelf life of the product.

7.2 The packaging material, printing inks used and adhesives (where used) on the labels shall not contain harmful chemicals that may migrate into the Virgin coconut oil to present a hazard to human.

8 Labelling

8.1 Labelling of Virgin coconut oil shall be done in accordance with KS EAS 38. In addition the following shall be shown:

- a) name of the product; The name shall be 'Virgin coconut oil';
- b) the name, address and physical location of the manufacturer/distributor;

8.2 Any health and nutrition claim attached to blended oil shall be in accordance with KS EAS 804 and KS EAS 805.

11 Sampling

Sampling shall be carried in accordance with ISO 5555 and samples prepared for testing according to ISO 661.