

**DRAFT KENYA STANDARD**

**DKS 551: 2025**

ICS 67.040

**Fourth Edition**

**Emulsified sauces — Specification**

PUBLIC REVIEW DRAFT

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Agriculture and Food Authority (AFA) — Nuts and Oil Crops Directorate (NOCD) and Horticultural Crops Directorate (HCD)

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Bidco Africa Ltd.

Crofts Ltd.

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Fairoils EPZ Ltd.

Giloil Group Ltd.

Government Chemists Department

Jungle Nut Ltd.

Kenya Agricultural and Livestock Research Organization (KALRO)

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Kenya Bureau of Standards — Secretariat

## **REVISION OF KENYA STANDARDS**

In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

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## **Emulsified sauces — Specification**

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## **Foreword**

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

Kenya Bureau of Standards (KEBS) has established Technical Committees (TCs) mandated to develop Kenya Standards (KS). The Committees are composed of representatives from the public and private sector organizations in Kenya.

Kenya Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft Kenya Standards are circulated to stakeholders through the KEBS website and notifications to World Trade Organization (WTO). The comments received are discussed and incorporated before finalization of the standards, in accordance with the Procedures for Development of Kenya Standards.

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

This standard applies to emulsified sauces such as mayonnaise and related products for direct consumption including products which are destined for catering purposes. These products are consumed in large quantities in catering establishments. Food is one of the most important tools of trade in the tourist industry and so Kenya being a tourist destination must therefore be in a position to meet the tastes of the many varied visitors. This standard takes into account all the necessary factors and ensures that all products which are covered are prepared and handled safely

During the preparation of this standard, reference was made to the following document (s):

Vegetable Oils in Food Technology, Frank D. Gunstone, CRC Press.

The lipid Handbook, 3<sup>rd</sup> ed, John H. Et. Al, CRC press.

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

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## Emulsified sauces — Specification

### 1 Scope

This Draft Kenya Standard specifies the requirements and methods of test for emulsified sauces intended for direct human consumption.

### 2 Normative references

The following referenced documents 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 952.13, *Arsenic in food. Silver diethyldithiocarbamate*

KS CXS 192, *General Standard for Food Additives*

KS EAS 12, *Potable water – Specification*

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

KS EAS 39, *General principles of food hygiene — Code of practice*

KS EAS 803, *Nutrition labelling — Requirements*

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 3960, *Animal and vegetable fats and oils — Determination of peroxide value*

KS ISO 6579-1, *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 1: Detection of Salmonella spp.*

KS 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*

KS ISO 11290-1, *Microbiology of the food chain — Horizontal method for the detection and enumeration of Listeria monocytogenes and of Listeria spp. — Part 1: Detection method*

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

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

KS ISO 16649-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 2: Colony-count technique at 44 degrees C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide*

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

KS 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 Terms and definitions

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

#### 3.1

##### **emulsified sauces**

sauces, gravies and dressings based at least In part on a fat or oil in water emulsion

#### 3.2

##### **emulsified sauces with a high fat content**

emulsified sauces with a fat content of at least 50 %

#### 3.3

##### **emulsified sauces with a low-fat content**

emulsified sauces with a fat content of less than 50 %,

### 4 Ingredients

#### 4.1 Essential ingredients

4.1.1 Water complying to KS EAS 12.

4.1.2 Emulsifying agents complying with KS CXS 192.

4.1.3 Fats and oils complying with the relevant Kenya Standard, and the phases of the oil in the final product shall not separate when placed in the refrigeration.

#### 4.2 Optional ingredients

4.2.1 The following ingredients among others may be added as optional ingredients to improve on the physical or organoleptic properties of the product or as technologically may be considered:

- a) Egg products;
- b) Sugars;
- c) Honey;
- d) Food grade salt;
- e) Condiments, spices, herbs;
- f) Fruits and vegetables, including fruit juice and vegetable juice;
- g) Mustard;
- h) Dairy products;
- i) Starch;
- j) Lemon;
- k) Vitamins and minerals.
- l) Vinegar



4.2.2 When used, the optional ingredients shall comply with the relevant Kenya Standards.

## 5 Requirements

### 5.1 General requirements

Emulsified sauces shall:

- a) maintain their consistency; and
- b) be characteristic of their ingredients

### 5.2 Specific requirements

Emulsified sauces shall comply with the specific requirements in Table 1 below:

**Table 1 — Specific requirements for emulsified sauces**

S/N	Characteristic	Requirement	Test method
i)	Total fat content, % m / m	Emulsified sauces with a high fat content $X \geq 50^a$	KS ISO 17189
		Emulsified sauces with a low-fat content $X < 50^b$	
ii)	Peroxide value, mEq peroxide-oxygen/kg, max. <ul style="list-style-type: none"> <li>• Where refined edible fats and oils are used 10</li> <li>• Where virgin edible fats and oils are used 15</li> </ul>		KS ISO 3960
iii)	Acid value, %, m/m, max <ul style="list-style-type: none"> <li>• Where refined edible fats and oils are used 0.6</li> <li>• Where virgin edible fats and oils are used 4.0</li> </ul>		KS ISO 660
NOTE 1 "X" denotes fat content			
<sup>a</sup> Fat content shall be greater than or equal to 50 %.			
<sup>b</sup> Fat content shall be less than 50 %			
NOTE 2 Emulsified sauces with low fat content have a tendency to separate			

## 6 Food additives

Only the food additives permitted in KS CXS 192 may be used for the stated technological purpose and within the outlined principles and without exceeding the stated limits.

## 7 Contaminants

### 7.1 Heavy metals

Emulsified sauces shall comply with the maximum limits of heavy metals as specified in Table 2 when tested in accordance with the test methods therein.

**Table 2 — Heavy metal contaminants limits in emulsified sauces**

S/N	Contaminant	Maximum limit mg/kg	Test Method
i)	Lead (Pb)	0.1	KS ISO 12193
ii)	Arsenic (As)	0.1	AOAC 952.13 or KS ISO 13547-2

## 7.2 Pesticide Residues

Emulsified sauces shall comply with those maximum residue limits established by the Codex Alimentarius Commission.

## 8 Hygiene

**8.1** Emulsified sauces shall be manufactured in premises complying with the hygienic practices stipulated in KS EAS 39.

**8.2** Emulsified sauces shall comply with the microbiological requirements given in Table 4 when tested in accordance with the test methods specified therein.

**Table 4 — Microbiological requirements for emulsified sauces**

S/No.	Characteristic	Requirement	Test method
i.	<i>Escherichia coli</i> , CFU/g	Absent	KS ISO 16649-2
ii.	<i>Salmonella spp.</i> per 25 g	Absent	KS ISO 6579-1
iii.	<i>Staphylococcus aureus</i> , CFU/g	Absent	KS ISO 6888-1
iv.	<i>Listeria monocytogenes</i> per 25g	Absent	KS ISO 11290-1
v.	Yeast and moulds per g max.	< 10 <sup>2</sup>	KS ISO 21527-2

## 9 Packaging

Emulsified sauces shall be packaged in food grade packaging material that will safeguard the hygienic, nutritional, technological and organoleptic properties of the product

## 10 Labelling

### 10.1 General labelling requirements

The products shall be labelled according to KS EAS 38. In addition to the requirements the following specific provisions shall apply.

- a) Name of the product shall be according to categories given in i) of Table 1.

### **10.2 Nutrition and health claims**

Emulsified sauces may have claims on nutrition and health. Such claims when declared shall comply with KS EAS 803, KS EAS 804 and KS EAS 805.

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