

DRAFT UGANDA STANDARD

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20189

Sesame Oil— Specification



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Foreword

Uganda National Bureau of Standards (UNBS) is a parastatal under the Ministry of Trade, Industry and Cooperatives established under Cap 327, of the Laws of Uganda, as amended. UNBS is mandated to coordinate the elaboration of standards and is

- (a) a member of International Organisation for Standardisation (ISO) and
- (b) a contact point for the WHO/FAO Codex Alimentarius Commission on Food Standards, and
- (c) the National Enquiry Point on TBT Agreement of the World Trade Organisation (WTO).

The work of preparing Uganda Standards is carried out through Technical Committees. A Technical Committee is established to deliberate on standards in a given field or area and consists of key stakeholders including government, academia, consumer groups, private sector and other interested parties.

Draft Uganda Standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments. The committee reviews the comments before recommending the draft standards for approval and declaration as Uganda Standards by the National Standards Council.

The committee responsible for this document is Technical Committee UNBS/TC 2, *Food and agriculture*, Subcommittee SC 2, *Edible oil seeds, fats and oils*.

This second edition cancels and replaces the first edition (US 175:2009), which has been technically revised.

Sesame Oil — Specification

1 Scope

This Draft Uganda Standard specifies the requirements, test methods and sampling for sesame oil suitable for human consumption derived from Sesame seeds (*Sesamum indicum L.*).

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.

US 1673, Sesame grain specification

US EAS 38, *Labelling of pre-packaged foods — Specification*

US EAS 39, *Code of practice for hygiene for food and drink industries*

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

US ISO 662, *Animal and vegetable fats and oils — Determination of moisture and volatile matter content*

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

US ISO 3596, *Animal and vegetable fats and oils — Determination of unsaponifiable matter — Method using diethyl ether*

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

US ISO 3960, *Animal and vegetable fats and oils — Determination of peroxide value — Iodometric (visual) endpoint determination*

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

US ISO 5508: *Animal and vegetable fats and oils — Analysis by gas chromatography of methyl esters of fatty acids*

US ISO 5555, *Animal and vegetable fats and oils — Sampling*

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

US ISO 6321, *Animal and vegetable fats and oils — Determination of melting point in open capillary tubes (Slip point)*

US ISO 8294, *Animal and vegetable fats and oils — Determination of copper, iron and nickel contents — Graphite furnace atomic absorption method*

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

US ISO 15305, *Animal and vegetable fats and oils — Determination of Lovibond colour*

IUPAC 2.101, *Determination of Relative Density*

3 Terms and definitions

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

3.1

Virgin vegetable oils,

are edible vegetable fats and oils obtained, without altering the nature of the oil, by mechanical procedures, e.g. expelling or pressing, and the application of heat only. They may be purified by washing with water, settling, filtering and centrifuging only.

3.2

Non –Virgin (refined) vegetable oils,

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

4 Requirements

4.1 General requirements

Sesame oil shall

- a) be of colour characteristic of the designated product;
- b) be free from adulterants, sediments, suspended or foreign matter, separated water and added colouring or flavouring substances;
- c) be free from foreign or rancid odour and taste.

4.2 Specific requirements

Sesame oil shall have the physical and chemical characteristics shown in Table1.

Table 1 —Specific requirements for Sesame Oil

S/N	Characteristic	Requirement	Test Method
i	Relative Density (20oC/ water at 20oC)	0.915 – 0.923	IUPAC 2.101
ii	Refractive Index (n D 40	1.456 – 1.469	US ISO 6320
iii	Saponification Value (mg KOH/g oil)	187 – 195	US ISO 3657
iv	Iodine Value (Wij's)	104 – 120	US ISO 39611
v	Colour, units in a 25.4 mm Lovibond cell, max	Not specific	US ISO 15305
vi	Unsaponifiable Matter, g/kg, max.	20	US ISO 3596
viii	Acid Value, mg KOH/g, max.	Non Virgin 0.6	US ISO 5508
ix	Peroxide Value, meq. Peroxide oxygen/kg, max.	0.2	US ISO 3960
	Volatiles and Moisture	Virgin 0.4	US ISO 662

		Non Virgin 0.1	
v	Copper, mg/kg	Virgin 5 Non Virgin 1.5	US ISO 8294
iv	Iron, mg/kg	0.915 – 0.923	

4.3 Fortification

Sesame oil shall contain Vitamin A and its esters, Vitamin D, Vitamin E and its esters, and other vitamins in accordance with US EAS 769.

5 Food additives

Only the food additives permitted in US 45 may be used.

6 Contaminants

6.1 Pesticide residues

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

6.2 Heavy metals

Sesame oil shall comply with those maximum heavy metal limits established by CODEX Alimentarius commission for similar commodities

Table 2 — Limits for Contaminants in Edible Sesame oil

S/N	Contaminants	Maximum Level	Test Method
i	Lead, mg/kg	0.1	US ISO 12193
ii	Arsenic, mg/kg	0.1	US ISO 2590

6.3 Aflatoxin

When determined in accordance with the method prescribed in US ISO 16050, the maximum aflatoxin content in sesame oil shall not exceed 5mg/kg for total aflatoxins.

7 Hygiene

Sesame oil shall be produced, processed, handled and stored in accordance with US EAS 39.

8 Weights and measures

Sesame oil shall be packaged in accordance with the Weights and measures regulations of the destination country.

9 Packaging

Sesame oil shall be packaged in food grade containers which will safeguard the hygienic, nutritional, and organoleptic qualities of the product.

10 Labelling

In addition to the requirements in US EAS 38, each package shall be legibly and indelibly labelled with the following:

- a) name of the product shall be “sesame oil”;
- b) brand name/trade name;
- c) name and physical address of the manufacturer;
- d) lot identification;
- e) batch/code number;
- f) net weight in metric units;
- g) list of any additives used;
- h) date of manufacture;
- i) country of origin;
- j) storage conditions; and
- k) expiry date/best before date.

11 Sampling

Sampling of sesame shall be done in accordance with and prepared in accordance to US ISO 661

Bibliography

- [1] CODEX STAN. 26, 1981 (Rev 1 1989), Codex standard for edible Sesame oil
- [2] US 175:2008, Sesame oil specification

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