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REPUBLIC OF ZAMBIA

MINISTRY OF COMMERCE, TRADE AND INDUSTRY

P.O. Box 31968
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MCTI/6/7/28c

December 20, 2004

FS(1)

Please deal

H.E. Ambassador L. Mtesa
Permanent Mission of the Republic of Zambia
To the United Nations Offices in Geneva
Switzerland

22/12/04
P.M.

Re: Crude Vegetable Oil Standard

Reference is made to a fax message from C.P. Viviana Cumny requesting for a copy of the notification on crude edible vegetable oil standard (Notification G/TBT/N/ZMB/8).

Attached hereto is a copy of the Standard on Crude Edible Vegetable Oils-Specification 1st Revision for onward submission to Viviana Cumny.

Siazongo D Siakalenge
Acting Permanent Secretary
MINISTRY OF COMMERCE, TRADE



ZS 233:2004
ICS: 67,200

Draft Zambian Standard

CRUDE EDIBLE VEGETABLE OILS—Specification—1st revision

ZAMBIA BUREAU OF STANDARDS

DZS 233:2004

DATE OF PUBLICATION

This **Zambian Standard** has been published under the authority of the **Zambia Bureau of Standards** on

ZAMBIA BUREAU OF STANDARDS

The **Zambia Bureau of Standards** is the **Statutory National Standards Body** for **Zambia** established under an act of **Parliament**, the **Standards Act, Cap 416 of 1994** of the **Laws of Zambia** for the preparation and promulgation of **Zambian Standards**.

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Zambian Standards are revised, when necessary by the issue either of amendments or of revised editions. It is important that users of **Zambian Standards** ascertain that they are in possession of the latest amendments or editions.

CONTRACT REQUIREMENTS

A **Zambian Standard** does not purport to include all the necessary provisions of a contract. Users of **Zambian Standards** are responsible for their correct application.

TECHNICAL COMMITTEE RESPONSIBLE

The revision of this **Zambian Standard** was undertaken by the **Edible fats and Oils Technical Committee (AFD/12)**, upon which the following organisations were represented / consulted:

- Amanita Premier Oils
- Supa Oil (Z) Limited
- High Protein Foods Limited
- Unilever Southeast Africa
- Food & Drugs Control Laboratory
- National Institute for Scientific & Industrial Research
- National Food and Nutrition Commission
- University of Zambia
- Zambia Consumer Association

**ZAMBIA BUREAU OF STANDARDS, P.O BOX 50259, ZA 15101
RIDGEWAY, LUSAKA, ZAMBIA**

DZS 233:2004

FOREWORD

This Standard has been revised by the Edible fats and Oils Technical Committee (AFD/12), in accordance with the procedures of the Bureau.

Considerable quantities of crude vegetable oils are used in Zambia for cooking purposes and for the manufacture of edible oils and fats. In order to ensure proper quality of finished products, it is necessary to have strict quality control based on specifications. It was therefore, necessary to revise the Standard to update Specifications and requirements.

**COMPLIANCE WITH A ZAMBIAN STANDARD DOES NOT OF ITSELF
CONFER IMMUNITY FROM LEGAL OBLIGATIONS**

DZS 233:2004

Draft Zambian standard

DZS 233: 2004

CRUDE EDIBLE VEGETABLE OILS - Specification

1. SCOPE

This Draft Zambian Standard specifies the requirements for crude edible vegetable oils obtained from groundnuts (*Arachia hypogen*), cottonseeds (*Gossypium spp.*), sunflower seeds (*Helianthus annuus*), soyabeans (*Glycine max*), olives and palms (*Elaeis guineensis*)

2. NORMATIVE REFERENCES

- 2.1 ZS 002: Methods of sampling fats and fatty oils
- 2.2 ZS 226: Methods of test for oils and fats.
 - a. Part 1. Chemical tests
 - b. Part 2. Physical tests

3. DEFINITIONS

For the purpose of this Draft Zambian Standard, the definitions given in clause 2 of ZS 226:Part 1 and those given below shall apply.

3.1. Crude edible vegetable oil.

Crude oil shall be the oil obtained by the process of expression or solvent extraction from vegetable sources without further processing.

3.2 Virgin oil

Virgin oil shall be the product that has been subjected to mechanical procedures such as expelling or pressing and application of heat without altering the nature of the oil. Purification may be done by washing with water, settling, filtering and centrifuging only.

3.3 Cold pressed oil

Cold pressed oil shall be the product that has been subjected to mechanical procedures such as expelling or pressing and without the application of heat without altering the nature of the oil. Purification may be done by washing with water, settling, filtering and centrifuging only.

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TABLE 1. PHYSICAL REQUIREMENTS FOR CRUDE EDIBLE VEGETABLE OILS

CHARACTERISTIC	REQUIREMENTS					
	Groundnut	Cottonseed	Sunflower	Soyabeans	Palm	Virgin/col pressed
Specific gravity (15.5°C)	0.912-0.920	0.918-0.926	0.918-0.923	0.919-0.921	0.891-0.899	-
Refractive index (D _{Na} at 50°C)	1.4568 - 1.4608	1.4650 - 1.4660	1.4536 - 1.4641	1.4650 - 1.4710	1.454 - 1.456	1.4677 - 1.4707
Colour in 5.25" Lovibond cell:						
Red (max.)	2	12	2	12	-	-
Yellow (max.)	25	35	30	25	-	-
Moisture and Volatile matter At 105°C, % max	1	1	1	1	1	0.2
Titre, °C	27 - 32	30 - 37	16 - 20	20 - 21	-	-

4.3 Chemical requirements.

When tested in accordance with ZS 226;Part 1, the chemical requirements of crude edible vegetable oils shall conform to those specified in table 2,

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4. QUALITY REQUIREMENTS

4.1 Description.

4.1.1. **Crude groundnut oil:** golden yellow oil obtained from well-selected groundnut kernels, which may deposit a small quantity of steariness after standing at a low temperature. Kernels which have been infected by fungi shall be discarded to minimize aflatoxin contamination.

NOTE:

Aflatoxins are toxic metabolites produced by the moulds, *Aspergillus flavus* and *Aspergillus parasiticus* occurring in a variety of environments. Ingestion of these toxic substances can have deleterious effects on the health of the consumer. It is important that these compounds be kept minimum foods.

4.1.2. **Crude soyabean oil:** A medium to dark yellow brown liquid oil, which on standing, deposits an appreciable quantity of stearines. It has a slight characteristic odour.

4.1.3. **Crude sunflower oil.** Pale yellow oil, which may deposit small quantities of stearines. It has a slight characteristic odour.

4.1.4. **Crude cottonseed oil:** A medium to dark yellow brown oil which on standing deposits an appreciable quantity of stearine. It has a slight characteristic odour.

4.1.5. **Crude or virgin olive oil:** A clear, yellow or green oil, with specific odour and taste, free from odours or tastes indicating alteration or pollution.

4.2 Physical requirements.

When tested in accordance with ZS 226:Part 2, the physical requirements of crude edible vegetable oils shall conform to those specified in table 1.

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7. SAMPLING

Representative samples of the material shall be drawn as described in ZS 002.

8. TESTING

Tests shall be carried out as prescribed in ZS 226:Parts 1 and 2.

9. CRITERION FOR ACCEPTANCE

The lot shall be considered to conform to the requirements of this Draft Zambian Standard if the test samples satisfy all the requirements.

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TABLE 2. CHEMICAL REQUIREMENTS FOR CRUDE EDIBLE VEGETABLE OILS

CHARACTERISTIC	REQUIREMENTS					
	Groundnut	Soyabeans	Sunflower	Cottonseed	Palm	Virgin / Cold pressed
Saponification value, mg/g.	187 - 196	190 - 195	190 - 195	189 - 198	190-209	184-196
Unsaponifiable matter, % max	10	15	15	10	12	15
Peroxide value, mEq/Kg, max	10	10	10	10	10	15
Free fatty acids, % max	3	3	2	2	3	3
Iodine value	86 - 107	124 - 139	118 - 141	100 - 123	50-55	75-94
Gossypol content, ppm, max	-	-	-	1.55	-	-

5. PACKAGING, STORAGE AND TRANSPORTATION

The material shall be packed in suitable sound, clean, 210 litre drums or in bulk tankers thoroughly cleaned before use, or any other suitable plastic or glass containers as agreed to between purchaser and supplier.

6. FOOD USE

Crude vegetable oil is used for the manufacture of edible fats and oils. It may also be used in shortenings but may not be used directly for cooking.