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DRAFT UGANDA STANDARD

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Body oils— Specification

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The Executive Director
Uganda National Bureau of Standards
P.O. Box 6329
Kampala
Uganda
Tel: +256 414 333 250/1/2/3
Fax: +256 414 286 123
E-mail: info@unbs.go.ug
Web: www.unbs.go.ug

Foreword

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(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 5, Chemicals and Environment.

Body oils — Specification

1 Scope

This Daft Uganda Standard specifies the requirements method of sampling and test for body oils based on refined vegetable oils or vegetable oils blends, mineral oils or mixture of the vegetable oils and mineral oils meant for application on the skin

It does not cover skin creams, lotions, hair oils and pure essential oils.

Body oils for which therapeutic claims are made are not covered by this standard.

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.

FDEAS 846, *Glossary of terms relating to the cosmetic industry*

FDEAS 847- 2*: Oils for cosmetic industry — Methods of test — Part 2: Determination of Moisture Content*

FDEAS 847- 13: *Cosmetics — Analytical methods — Part 13: Determination of rancidity*

FDEAS 847-16, *Oils for cosmetic industry — Methods of test — Part 16: Determination of Heavy metal Content*

FDEAS 847-17, *Oils for cosmetic industry — Methods of test — Part 17: Physio-chemical tests*

FDEAS 847-18, *Cosmetics — Analytical methods — Part 18: Determination of thermal stability*

FDUS ISO 18416, *Cosmetics — Microbiology — Detection of candida albicans*

FDUS ISO 21148, *Cosmetics — Microbiology — General instructions for microbiological examination*

FDUS ISO 22717, *Cosmetics — Microbiology —Detection of Pseudomonas aeruginosa*

FDUS ISO 22718, *Cosmetics — Microbiology — Detection of Staphylococcus aureus*

FDUS ISO 24153, *Random sampling and randomisation procedures*

US EAS 346, *Labelling of cosmetics — General requirements*

US EAS 377 *(all parts), Cosmetics and cosmetic products*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in FDEAS 846 apply. ISO and IEC maintain terminological databases for use in standardization at the following addresses: — ISO Online browsing platform: available at http://www.iso.org/obp.

4 Types

There shall be three types of body oils, namely;

a) Type 1 — Based on vegetable oils or its blends;

b) Type 2 — Based on mineral oils; and

c) Type 3 — Based on a mixture of vegetable oil(s) and mineral oils.

5 Requirements

5.1 General requirements

5.1.1 Body oils shall be free from any sediment, suspended matter and separated water.

5.1.2 All ingredients used including dyes, pigment and colours shall conform to US EAS 377(all Parts) Cosmetics and cosmetic products.

5.1.3 The body oils shall be dermatologically safe and shall not cause irritation or harm to the skin when used as intended by the manufacturer.

5.1.4 The body oils shall not have any objectionable odour.

5.1.5 The product should possess lubricity and spreadability so that on application to areas of the body, it should leave a protective film.

5.2 Specific requirements

Body oils shall conform to the requirements specified in table 1, when tested according to the method indicated therein.

Table 1 — Specific requirements for body oils

Characteristic	Requirement	Test method
Moisture content, % by mass, max.	0.5	FDEAS 847- 2
Acid value, max.	1.0	FDEAS 847- 4
Peroxide value, mg/1 000 g, max.	7.5	Annex A
Rancidity	Shall be free from rancidity	FDEAS 847- 13
Total viable count for aerobic mesophyllic micro-organisms per g, max.	100	Annex B
Thermal stability	To pass the test	FDEAS 847-18
Lead, mg/kg, max.	20	FDEAS 847-16
Arsenic, mg/kg, max.	2	FDEAS 847-16
Mercury, mg/kg, max.	2	FDEAS 847-16
Pseudomonas aeruginosa	Not detectable in 0.5 g of cosmetic product	FDUS ISO 22717
staphylococcus aureus		FDUS ISO 22718
Candida albicans		FDUS ISO 18416
NOTE The total amount of heavy metals as lead, mercury and arsenic, in combination, in the finished product shall not exceed 20 mg/kg		

6 Packaging

The product shall be packaged in suitable well-sealed containers that shall protect the contents and shall not cause any contamination or react with the product.

7 Labelling

In addition to the labelling requirements in US EAS 346, the package shall be legibly marked with the following information:

a) manufacturer's name and physical address;

b) product name as “Body oils”;

c) type of body oils

d) net content of the material when packed;

e) month and year of manufacture and expiry

f) storage instructions;

g) country of origin; and

h) warning/ precautions.

8 Sampling

Random samples of the product for test shall be drawn from the market, factory or elsewhere in accordance with FDUS ISO 24153.

Annex A
(normative)

Determination of peroxide value

A.1 Principle

The sample is treated in solution with a mixture of acetic acid and a suitable organic solvent and then with a solution of potassium iodide. The liberated iodine is titrated with a standard solution of sodium thiosulphate.

A.2 Reagents

A.2.1 Glacial acetic acid

A.2.2 Chloroform

A.2.3 Potassium iodide solution, saturated, freshly prepared

A.2.4 Standard sodium thiosulphate solution, 0.01 N freshly standardized

A.2.5 Starch indicator solution. Mix 5 g of starch and 0.01 g mercuric iodide with 30 ml of cold water and slowly pour it while stirring into one litre of boiling water. Boil for three minutes. Allow to cool and decant off the supernatant clear liquid.

A.3 Procedure

A.3.1 Weigh accurately about 5 g of the sample in a 250-ml glass stoppered conical flask and dissolve by shaking in 30 ml of a mixed solvent containing 3 parts by volume of glacial acetic acid and 2 parts by volume of chloroform. Add 0.5 ml of saturated potassium iodide solution, allow the solution to stand for exactly one minute with occasional shaking, then add 30 ml of water and titrate with standard sodium thiosulphate solution.

A.3.2 Add the thiosulphate solution until the colour of the titrated solution becomes light yellow. Then add 1 ml of starch indicator and continue the titration until the disappearance of the blue colour.

A.3.3 Carry out a blank determination without using the sample.

A.4 Calculation

The peroxide value, expressed in milligrams per 1 000 grams, shall be calculated as follows:

$$\text{Peroxide value} = \frac{1\,000(V_1 - V_2)N}{M}$$

Where

V_1 is the volume of standard sodium thiosulphate solution required with the sample;

V_2 is the volume of standard sodium thiosulphate solution required with the blank;

N is the normality of standard sodium thiosulphate solution; and

M is the mass, in grams, of the sample taken for the test.

Annex B
(normative)

Microbiological examination

B.1 Outline of the method

The test consists of plating a known dilution of the sample or any digest agar medium (soyabean casein is recommended) suitable for the total count of aerobic bacteria and fungi after incubating them for a specified period to permit the development of visual colonies.

Note Take precaution in ascertaining that only fresh samples, from carefully sealed containers that had not been opened before, are used for this test. This is very necessary for getting accurate results.

B.2 Apparatus

B.2.1 Tubes, of resistant glass, provided with closely fitting metal caps.

B.2.2 Autoclaves, of sufficient size. They shall keep uniform temperature within the chamber up to and including the sterilizing temperature of 122 ˚C. They shall be equipped with, an accurate thermometer, located so as to register the minimum temperature within the sterilizing chamber, a pressure gauge and, properly adjusted safety valves.

B.2.3 Petri dishes, of 100 mm diameter and 15 mm depth. The bottom of the dishes shall be free from bubbles and scratches and shall be flat so that the medium is of uniform thickness throughout the plate.

B.2.4 Colony counter, an approved counting aid, such as a Quebec colony counter. If such a counter is not available, counting may be done with a lens giving a magnification of one and a half times of the diameter. In order to ensure uniformity of conditions during counting, illumination equivalent to that provided by the Quebec colony counter shall be employed.

B.3 Media and buffer

B.3.1 Soyabean casein digest agar media.

Dissolve 1.5 g of pancreatic digest of casein, 5 g of papic digest of soyabean meal; and 5 g of sodium chloride in 100 mL of distilled water contained in a 2-litre beaker by heating in a water-bath. Add 15 g of powdered agar and continue boiling until the agar is completely digested. Adjust the pH to 7.5 with sodium hydroxide solution. Distribute in 20 mL quantities, close the tubes with metal cups and autoclave at 122 ˚C for 20 min. After auto-claving, store the tubes in a cool place and use them within 3 weeks.

B.3.2 Stock solution pH phosphate buffer.

Dissolve 34 g of monobasic potassium in about 500 mL of water contained in a 100 mL volumetric flask. Adjust the pH to 7.2 ± 0.1 by the addition of sodium hydroxide solution (4 %). Add water to volume and mix. Sterilize at 122 ˚C for 20 min, store under refrigeration.

B.3.3 Dilute phosphate buffer solution pH 7.2.

Dilute 1 mL of stock solution with distilled water in the ratio of 1: 800. Fill 50 mL each in conical flasks of 100 mL capacity. Plug the flasks with cotton and sterilize at 122 ˚C for 20 min.

B.4 Sterilization of apparatus

B.4.1 Tubes

These shall be sterilized in the autoclave at a temperature of 122 ˚C and 1.05 kg/cm pressure for 20 min or in the hot air oven at 180 °C for one hour.

B.4.2 Petri dishes

These shall be packed in drums and autoclaved at 122 ˚C and 1.85 kg/cm pressure for 20 min or individually wrapped in kraft paper and sterilized in hot oven at 160 ˚C for 1 h.

B.4.3 Pipettes

These shall be placed in pipette cones (copper, stainless steel or aluminium) after plugging the broader and with, cotton and sterilized in the autoclave at 122 ˚C and 1.05 kg/cm pressure for 20 min or at 160 ˚C for 1 h in hot air oven.

B.5 Procedure

B.5.1 Melt a sufficient number of soyabean casein, digest agar medium tubes in hot water-bath and transfer while hot into a constant temperature water-bath maintained at 48 ± 2 ˚C.

B.5.2 Weigh and transfer aseptically 1 g of the sample to a conical flask containing sterile 50 mL, or any suitable dilution factors, of dilute phosphate buffer at pH 7.2. Shake well. Pipette out in 1 mL portions into three sterile petri dishes. Pour melted and cooled (at 45 ˚C) soyabean casein digest agar medium over it, and rotate the plates to mix thoroughly. Incubate the plates at 32 ˚C for 72 h in an inverted position.

B.6 Expression of results

Get the average number of colonies on soyabean casein digest agar medium plates determine the number of micro-organisms per gram of the sample. If no colony is recovered from any of the plates it can be stated as less than 50 micro-organisms per gram.

Bibliography

[1] 76/768/EEC, *The European Economic Community Cosmetics Directive*

[2] ISO 9001:2015, *Quality management systems — Requirements*

[3] KS 1766:2006, *Specification for body oils*

[4] US EAS 339:2013, *Hair creams, lotions and gels — Specification*

Certification marking

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