DEAS 847- 1: 2015

ICS 71.100.70

DRAFT EAST AFRICAN STANDARD

Oils for cosmetic industry — Methods of test

Part 1: Terminology

EAST AFRICAN COMMUNITY

First Edition 2015

Copyright notice

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

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

DEAS 847-1 was prepared by Technical Committee EAS/TC 071, Cosmetics and cosmetic products.

Due to the similarity of methods of test for most of the Cosmetic Oils, it has been found necessary to standardize the methods that are most commonly used into one Standard, so as to avoid repetition on individual standards for oils. This standard will assist the manufacturers of such oils to know the types of test methods required. The standard is in various parts for easy reference as follows:

DEAS-1	Terminology
DEAS- 2	Determination of Moisture Content and volatile matter
DEAS- 3	Determination of Insoluble Impurities
DEAS- 4	Determination of Acid Value and Free Fatty Acids
DEAS- 5	Determination of Unsaponifiable Matter
DEAS- 6	Determination of Melting Point
DEAS- 7	Determination of Specific Gravity
DEAS- 8	Titre Test
DEAS- 9	Determination of Colour
DEAS- 10	Determination of Acetyl Value and Hydroxyl Value
DEAS- 11	Determination of Allyl Isothiocyanate
DEAS- 12	Determination of Flash Point by Pensky – Martens Closed Cap Tester
DEAS- 13	Determination of Rancidity
DEAS- 14	Determination of Viscosity
DEAS- 15	Determination of Ash Content
DEAS- 16	Determination of Lead, Mercury and Arsenic content
DEAS- 17	Determination of Physio-chemical tests

Oils for cosmetic industry — Methods of test

Part 1: Terminology

1. Scope

This Standard defines terms used in the methods of test for oils for cosmetic industry. This standard does not deal with the specifications of the oils or fats .

2.

3. Terminology

3.0 For the purpose of methods of test for oils for cosmetic industry, the following definitions shall apply

3.1 Acetyl Value - The number of milligrams of potassium hydroxide required to neutralize the acetic acid liberated by the hydrolysis of one gram of the acetylated oil or fat (see 3.3).

Acetyl value of an oil or fat is a measure of the hydroxyl content of the material.

3.2 Acid Value and Free Fatty Acids - The number of milligrams of potassium hydroxide required to neutralize the free acid present in one gram of the oil or fat under the prescribed conditions.

The acidity of the oil or fat indicated by its acid value is frequently expressed as free fatty acids present in the sample.

3.2 **Hydroxyl Value -** The number of milligrams of the potassium hydroxide required to neutralize the acetic acid capable of combining by acetylation with one gram of the oil or fat (see also 3.1).

Hydroxyl value is equivalent to the hydroxyl content of the material based on the weight of the unacetylated fat.

3.3 **Insoluble Impurities -** Dirt, meal and other foreign substances which are insoluble in kerosene and petroleum ether under the conditions of the prescribed test.

3.4 **Iodine Value (Wijs) -** The number of grams of iodine, absorbed per 100 grams of the oil or fat, when determined by using Wijs solution.

The iodine value of the oil or fat gives an indication of the degree of unsaturation of the constituent fatty glycerides. It is customary to give the method employed for its determination. Wijs method is applicable to all normal oils and fats not containing conjugated systems.

3.5 **Melting Point -** The temperature at which the oil or fat softens or becomes sufficiently fluid to slip or run as determined by the open-tube capillary-slip method. In the case of the closed-tube complete-fusion method, it is the temperature at which the oil or fat becomes perfectly clear and liquid.

3.6 **Moisture Content -** The moisture and any other material contained in the oil or fat which is volatile under the conditions of the prescribed test.

3.7 **Polenske Value -** The number of milliliters of 0.1 N aqueous sodium hydroxide solution required to neutralize the steam volatile, water insoluble fatty acids distilled from 5g of an oil or fat under the precise conditions specified in the method.

3.7.1 The polenske value is the measure of the steam volatile and water insoluble fatty acids, chiefly caprylic, capric and lauric acids, present in the oil or fat.

3.8 **Refractive Index -** The ratio of the velocity of light in vacuum to the velocity of light in the oil or fat; more generally, it expresses the ratio between the sine of the angle of incidence to the sine of the angle of refraction when a ray of light of a known wave-length (usually 589.3 mμ. the mean of the D lines of sodium) passes from air into the oil or fat.

3.9 **Reichert-Meissl Value -** The number of milliliters of 0.1 N sodium hydroxide solution required to neutralize the steam volatile, water soluble fatty acids distilled from 5g of an oil or fat under the precise conditions specified in the method.

3.9.1 Reichert-Meissl value is a measure of water soluble steam volatile fatty acids, chiefly butyric and caproic acids, present in an oil or fat.

3.10 **Saponification Value -** The number of milligrams of potassium hydroxide required to saponify completely one gram of the oil or fat.

3.11 Specific Gravity

3.11.1 Specific gravity of an oil – the ratio of the weight in air of a given volume of the oil at 30^{o} C to the weight in air of an equal volume of water at 30^{o}C.

3.11.2 Specific Gravity of a Fat - The ratio of the weight in air of a given volume of the fat at 95^{o}C to the weight in air of an equal volume of water at 30^{o}C.

3.12 **Titre -** The solidifying point (temperature) attained under standard conditions, during the solidification of the mixed fatty acids obtained from the oil or fat.

3.14 **Unsaponifiable Matter -** The fraction of substances in oils and fats which is not saponified by caustic alkali, but is soluble in ordinary fat solvents.

3.14.1 It includes the higher aliphatic alcohols, sterols, pigments, hydrocarbons and resinous matter.