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DRAFT EAST AFRICAN STANDARD

Cosmetics — Analytical methods — Part 15: Determination of ash content

EAST AFRICAN COMMUNITY

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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.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. 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 Principles and procedures for development of East African Standards.

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.

The committee responsible for this document is Technical Committee EASC/TC 071, *Cosmetics and related products*

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

This second edition cancels and replaces the first edition (EAS 847-15:2017), which has been technically revised.

EAS 847 consists of the following parts, under the general title *Cosmetics — Analytical methods*:

- *Part 1: Glossary of terms*
- *Part 2: Determination of moisture content and volatile matter content*
- *Part 3: Determination of insoluble impurities*
- *Part 4: Determination of acid value and free fatty acids*
- *Part 5: Determination of unsaponifiable matter*
- *Part 6: Determination of melting point*
- *Part 7: Determination of specific gravity*
- *Part 8: Titre test*
- *Part 9: Determination of colour*
- *Part 10: Determination of acetyl value and hydroxyl value*
- *Part 11: Determination of allyl isothiocyanate*
- *Part 12: Determination of flash point by Pensky – Martens Closed Cap Tester*
- *Part 13: Determination of rancidity*

- *Part 14: Determination of Polenske value*
- *Part 15: Determination of ash content*
- *Part 16: Determination of lead, mercury and arsenic content*
- *Part 17: Determination of pH*
- *Part 18: Determination of thermal stability*
- *Part 19: Determination of non-ionic, anionic and cationic surfactant content*
- *Part 20: Determination of lather volume (foaming power)*
- *Part 21: Determination of free acid in oils*
- *Part 22: Determination of sulphur and sulphides in oils*
- *Part 23: Test for absence of grit in powders*
- *Part 24: Determination of matter insoluble in boiling water*
- *Part 25: Determination of fineness*
- *Part 26: Determination of boric acid*
- *Part 27: Determination of total fatty substance by gravimetric method*
- *Part 28: Determination of free caustic alkali.*

Cosmetics — Analytical methods — Part 15: Determination of ash content

1 Scope

This Draft East African Standard prescribes the test method for the determination of ash content in cosmetics and oils and fats for cosmetic industry.

2 Normative references

The following documents are 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

EAS 847-1, *Cosmetics — Analytical methods — Part 1: Glossary of terms*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EAS 847-1 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>

— IEC Electropedia: available at <http://www.electropedia.org/>

4 Test method

4.1 Principle

The sample is ignited in a crucible and allowed to burn until only ash and carbon remain. The carbonaceous residue is then reduced to an ash by heating in a muffle furnace at 775 °C, cooled and weighed.

4.2 Apparatus

4.2.1 Evaporating dish or crucible, made of platinum silica, or porcelain, of 90-mL – 120-mL capacity

4.3.2 Electric muffle furnace, capable of maintaining a temperature of 775 °C ± 25 °C preferably having suitable apertures at the front and rear so as to allow a slow natural draught or air pass through

4.2.3 Hot plate

4.2.4 Desiccator

4.2.5 Analytical balance

4.4 Procedure

4.4.1 Heat the evaporating dish or crucible at 700 °C - 800 °C for 10 min or more. Cool to room temperature in a desiccator, and weigh to the nearest 0.1 g.

4.4.2 The quantity of sample to be taken will depend upon the ash content of the material. Weigh into the crucible sufficient sample (2 g – 10 g) to give up to 20 mg of ash. For sample weights which require more than one filling of the crucible, obtain the weight from the difference between the initial and final weights of a suitable sample container. Weigh the sample to the nearest 0.1 g. Heat the crucible and sample using a hot plate until the contents can be ignited with a flame. Maintain at such a temperature that the sample continues to burn at a uniform and moderate rate, leaving only ash and carbon when the burning ceases.

CAUTION The sample may contain water, which can cause spattering. The operator should heat the sample cautiously in a hood while wearing safety goggles.

4.4.3 Heat the residue in the muffle furnace at 775 °C ± 25 °C until all carbonaceous material has been completely destroyed. Cool the crucible to room temperature in a desiccator, and weigh to the nearest 0.1 g.

4.4.4 Reheat the crucible at 775 °C for 20 min - 30 min, cool in a desiccator and reweigh. Repeat the heating and weighing until consecutive weighings differ by not more than 0.5 g.

4.5 Calculation

The ash content, expressed as percent, shall be calculated using the formula below:

$$\frac{M_1}{M_2} \times 100$$

where

M₁ is the mass, in grams, of ash; and

M₂ is the mass, in grams, of sample.

Bibliography

EAS 847-15: 2017, *Cosmetics — Analytical methods — Part 15: Determination of ash content*

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