DEAS 847-3: 2025

ICS 71.100.70

DRAFT EAST AFRICAN STANDARD

Cosmetics — Analytical methods — Part 3: Determination of insoluble impurities

EAST AFRICAN COMMUNITY

Second Edition 2025

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.

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 847-3:2017), 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 3: Determination of insoluble impurities

1 Scope

This Draft East African Standard prescribes the test method for the determination of insoluble impurities in 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 material is dissolved in isopropyl alcohol and filtered. The residue is washed thoroughly with petroleum ether, dried at 100 °C ± 2 °C and cooled in a desiccator. This is repeated a number of times until constant weight is achieved.

4 2 Apparatus and equipment

4 2.1 Gooch crucible, about 2 mm thick. Rinse the crucible with water then alcohol/ether. Dry to constant weight at 100 °C ± 2 °C, cool in a desiccator to room temperature and weigh.

4 2.2 Filtration flask, of convenient size

4 2.3 Air oven

4 2.4 Hot plate

4 2.5 Glass rod

4 2.6 Analytical balance

4 2.7 Desiccator

4 2.8 Water bath

4 2.9 Glass beaker

4.3 Reagents

4.3.1 Isopropyl alcohol, analytical grade

4.3.2 Petroleum ether, boiling range 40 °C - 60°C, analytical grade

4.4 Procedure

4.4.1 Weigh approximately 10 g (W_1) of the oil or fat into the glass beaker which has been previously dried along with the small glass rod, cooled in the desiccator, and weighed. Heat the sample on the electric hot-plate, stirring continuously with the glass rod. Avoid spattering of the oil or fat which may result from too rapid ebullition moisture. The apparent end point is judged by the cessation of the rising bubbles of steam as well as by the absence of foam. Alternatively judge the end point by placing a clean, dry watch-glass on top of the beaker and observing when no further condensation takes place on the watch-glass on top of the beaker and observing when no further condensation takes place on the watch-glass.

4.4.2 When the apparent end point has been reached, heat momentarily to the point of incipient smoking taking care not to overheat.

4.4.3 Add 50 mL of isopropyl alcohol to this quantity of the oil or fat and heat on a water-bath to dissolve it. Filter through the prepared and weighed Gooch crucible (W_2) with the aid of vacuum. Wash the container and the crucible with five 10-mL portions of petroleum ether allowing each portion to drain before adding the next.

4.4.4 Dry the crucible and contents to constant weight at 100 °C ± 2 °C, cool to room temperature in a desiccator, and weigh (W_3).

4.5 Calculation

The insoluble impurities content, expressed as percent by weight, shall be calculated using the formula below:

$$\frac{W_3 - W_2}{W_1} \times 100$$

where

W_3 mass, in grams, of crucible and dried material;

W_2 mass, in grams, of empty crucible; and

W_1 mass, in grams, of the original material taken for the test.

Bibliography

EAS 847-3: 2017, *Cosmetics — Analytical methods — Part 3: Determination of insoluble impurities.*