DUS 2390

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Talc for cosmetic industry — Specification

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Compliance with this standard does not, of itself confer immunity from legal obligations

A Uganda Standard does not purport to include all necessary provisions of a contract. Users are responsible for its correct application

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Foreword

Uganda National Bureau of Standards (UNBS) is a parastatal under the Ministry of Trade, Industry and Cooperatives established under Cap 327, of the Laws of Uganda, as amended. UNBS is mandated to co-ordinate the elaboration of standards and is

(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 310, *Cosmetics and related products*

Talc for cosmetic industry — Specification

1 Scope

This Draft Uganda Standard specifies the requirements, sampling and test methods for talc used in cosmetic industry.

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.

ISO 16212, *Cosmetics — Microbiology — Enumeration of yeast and mould*

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

US EAS 847-2*, Cosmetics Analytical methods — Part 2: Determination of moisture content and volatile matter content*

US EAS 847-16, *Cosmetics analytical methods — Part 16: Determination of lead, mercury and arsenic content*

US EAS 847-24*, Cosmetics analytical methods — Part 24: Determination of matter insoluble in boiling water*

US ISO 21149*, Cosmetics Microbiology Enumeration and detection of aerobic mesophilic bacteria*

US ISO 24153, *Random sampling and randomisation procedures*

3 Terms and definitions

For the purposes of this document, the following term and definition applies. 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

talc
clay mineral composed of hydrated magnesium silicate with the chemical formula $Mg_3Si_4O_{10}(OH)_2$

4 Requirements

4.1 General requirements

Talc for cosmetic industry shall be finely powdered mineral consisting essentially of hydrated magnesium silicate. It shall be free from gritty particles

4.2 Specific requirements

Talc for cosmetic industry shall comply with the specific requirements given in Table 1 when tested in accordance with the test methods specified therein.

Table 1 — Specific requirements for talc for cosmetic industry

S/No.	Characteristic		Requirement	Test method
I	Fineness	Residue on 150-µ sieve, % m/m, max.	0.1	Annex A
		Residue on 90-µ sieve, % m/m, max.	2	
Ii	pH of aqueous solution ,max		9.5	Annex B
Iii	Moisture and volatile matter, % m/m		0.6	US EAS 847-2
iv	Magnesium (as MgO), max		20	Annex C
v	Loss on ignition% m/m, max		7	Annex D
vi	acid insoluble substance ,% m/m, min		94	Annex E
Vii	Matter insoluble in boiling water, % m/m, , min		90	US EAS 847-24
vii	Asbestos		Absent	Annex F

4.3 Heavy metal limits

Talc for cosmetic industry shall comply with the limits for heavy metal contaminants in accordance with Table 2 when tested in accordance with the methods specified therein.

Table 2 — Heavy metal limits for talc for cosmetic industry

S/No	Characteristic	Requirement, mg/kg, max.	Test method
i)	Lead	10	US EAS 847-16
ii)	Arsenic	2	US EAS 847-16
iii)	Mercury	2	US EAS 847-16

4.4 Microbiological limit

Talc for cosmetic industry shall comply with the microbiological limits given in Table 3 when tested in accordance with the methods prescribed therein

Table 3 — Microbiological limits for talc for cosmetic industry

S/No	Characteristic	Requirement	Test method
i	Total Aerobic Count, CFU/g ,max	1000	ISO 21149
ii	Yeast and moulds count, CFU/g, max	100	ISO 16212

5 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.

6 Labelling

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

product name as “Talc for cosmetic industry”,

7 Sampling

Sampling shall be done in accordance with US ISO 24153

Annex A
(normative)

Determination of fineness

A.1 Procedure for material retained on 150-micron sieve

Place about 10 g of the material, accurately weighed, in 150-micron sieve and wash by means of slow stream of running tap water and finally with fine stream from a wash bottle until all the material that can pass through the sieve has passed. Let the water drain from the sieve and then dry the sieve containing the residue on a steam bath. Carefully transfer the residue, on to a tared watch glass, dry it to constant mass at 105 °C ± 2°C and weigh.

A.2 Calculation

Material retained on the specified sieve, percent by mass=

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

where

M_1 mass in g of the residue retained on the sieve, and

M_2 mass in g of the material taken for the test

A.3 Procedure for material retained on 90-micron sieve

Carry out the test as given under A.1, using a fresh quantity of the material and 90-micron sieve. Calculate in the manner given under A.2

Annex B
(normative)

Determination of pH

B.1 Apparatus

pH meter — equipped with glass electrode.

B.2 Procedure

Boil about 10 g of the material, accurately weighed, with 50 ml of water for 30 minutes, adding water from time to time to maintain approximately the original volume of the liquid. Cool and filter. Determine the pH of the filtrate within 5 minutes of filtration

Annex C
(normative)

Determination of magnesium

C.1 Principle

On fusion with anhydrous sodium carbonate, magnesium silicate gets converted into magnesium oxide which is then titrated against Standard EDTA solution.

C.2 Reagents

C.2.1 Concentrated Hydrochloric Acid

C.2 2 Strong Ammonia Solution

C.2.3 Anhydrous Sodium Carbonate

C.2.4 Standard EDTA Solution — 0.05 M.

C.2.5 Strong Ammonia — Dissolve 6.75 g of ammonium chloride in 74 ml of strong Ammonia solution and dilute to 100 ml with water.

C.3 Procedure

C.3.1 Weigh accurately a clean, dry platinum crucible containing approximately about 0.2 g of anhydrous sodium carbonate. Weigh in accurately about 0.12 g of the talc sample, followed by a further quantity of approximate 0.4 g of anhydrous sodium carbonate.

C.3.2 Fuse the mixture by heating the crucible with the lid over a flame for about 30 minutes. Extract the fused mass with instalments of about 3-4 ml of concentrate. Hydrochloric acid (crush the fused mass with a glass rod to facilitate the extraction) and transfer quantitatively to 150-ml beaker.

C.3.3 Wash the crucible and the lid with water and transfer to the beaker. Dissolve by stirring and gentle crushing with the glass rod and boil, if required for complete digestion.

C.3.4 Cool and neutralise by slowly adding ammonia solution till a white precipitate appears. Add a little excess of ammonia.

C.3.5 Cool and filter through a wet filter paper into 500-ml conical flask. Give washings with distilled water. Add 10ml - 12 ml strong Ammonia — Ammonium Chloride solution, a pinch of solochrome black indicator and titrate against standard 0.05 M EDTA solution to a blue end point.

C.4 Calculation

$$\text{Magnesium as MgO ,Percent by mass} = \frac{V \times 0.002015 \times M \times 100}{W \times 0.05}$$

where

V volume of 0.05 M EDTA solution,

M molarity of EDTA solution, and

W weight of talc taken for fusion in g.

Annex D
(normative)

Loss on ignition

D.1 Procedure

Weigh accurately about 4 g of the material in a tared crucible and ignite at red heat to constant mass. Cool in a desiccator and weigh.

D.2 Calculation

Loss of ignition, Percent by mass = $\frac{M_1 - M_2}{M_1} \times 100$

where

M_1 Mass in g of sample taken for the test.

M_2 Mass in g of the sample after ignition

Annex E
(normative)

Determination of acid insoluble substance

E.1 Reagents

E.1.1 Dilute Hydrochloric acid

E.1.2 Dilute sulphuric acid

E2 Procedure

Weigh 2 g of the material and digest with 40 ml of dilute hydrochloric acid for fifteen minutes. Filter, evaporate the filtrate, to the residue add 0.1 ml of sulphuric acid and ignite to constant weight.

Annex F
(normative)

Absence of asbestos

Procedure

Proceed as directed test A of test B. If either test is positive perform test C.

F.1 Test A: IR absorption

The IR absorption spectrum of a potassium bromide dispersion of Talc at the absorption band at 758 ± 1 cm–1, using scale expansion, may indicate the presence of tremolite or chlorite. If the absorption band remains after ignition of the substance at 850° for at least 30 min, it indicates the presence of tremolite. In the range 600 cm^{-1} to 650 cm^{-1} using scale expansion, any absorption band or shoulder may indicate the presence of serpentines.

F.2 Test B: X-Ray Diffraction

Use the following conditions Cu Kα monochromatic 40 kV radiation, 24–30 mA; incident slit is set at 1°; the detection slit is set at 0.2°; the goniometer speed, the scanning range is 10°–13° 2Θ and 24°–26° 2Θ; is not oriented. Prepare a random sample, and place on the sample holder. Pack and smooth its surface with a polished glass microscope slide. Record the diffractograms: the presence of amphiboles is detected by diffraction peak at 10.5 ± 0.1° 2Θ, and the presence of serpentines is detected by diffraction peaks at nm 24.3 ± 0.1° 2Θ to 12.1 ± 0.1° 2Θ.

F.3 Test C: Optical Microscopy

The presence of asbestos is shown if there is a range of length to width ratios of 20:1 to 100:1, or higher for fibers longer than 5 µm; if there is a capability of splitting into very solution thin fibrils; and if there are two or more of the following criteria:

a) parallel fibers occurring in bundles,

b) solutions. fiber bundles displaying frayed ends,

c) fibers in form of thin needles, and

d) matted masses of individual fibers and/or fibers showing curvature

Bibliography

[1] IS 1462:1985, *Talc for Cosmetic Industry*

[2] USP 29-NF24

Certification marking

Products that conform to Uganda standards may be marked with Uganda National Bureau of Standards (UNBS) Certification Mark shown in the figure below.

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