



DRAFT EAST AFRICAN STANDARD

Hair remover — Specification — Alkaline thioglycollic based

EAST AFRICAN COMMUNITY

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East African Community
P.O. Box 1096,
Arusha
Tanzania
Tel: + 255 27 2162100
Fax: + 255 27 2162190
E-mail: eac@eachq.org
Web: www.eac-quality.net

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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 third edition cancels and replaces the second/ edition (EAS 336:2013), which has been technically revised.

Introduction

Depilatories are preparations applied to the body to remove unwanted hair. Such preparations may involve epilation or chemical depilation. Epilation is a process in which hair is embedded in an adherent material which can then be pulled away from the skin bringing the hair with it.

Epilatory preparations are essentially based on rosin and beeswax. Alkaline thioglycolic based depilatories on the other hand cause chemical degradation of the hair, and may have organo-mercapto compounds (the most common being thioglycolic acid and its salts), metal sulphides or stannites (tin)-based composition.

DEAS 336:2023 for public comments

Hair remover — Specification — Alkaline thioglycolic based

1 Scope

This Draft East African Standard specifies the requirements, sampling and test methods for alkaline thioglycolic based hair removers.

NOTE The product may also be referred to as chemical depilatory.

This standard does not cover hair removers of the epilatory type and those having metallic sulphides or stannite composition.

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 346, *Labelling of cosmetics — General requirements*

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

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

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

EAS 847-17, *Cosmetics — Analytical methods — Part 17: Determination of pH*

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

ISO 18416, *Cosmetics — Microbiology — Detection of *Candida albicans**

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

ISO 21150, *Cosmetics — Microbiology — Detection of *Escherichia coli**

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

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

ISO 24153, *Random sampling and randomization procedures*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EAS 846 and the following 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>

depilatory

preparation applied to the body to remove unwanted hair. They may be in the form of a cream, gel or lotion

4 Requirements

4.1 General requirements

4.1.1 Alkaline thioglycollic based hair remover shall comply with the requirements specified in all parts of EAS 377.

4.1.2 In addition, the product shall:

- a) convert human hair completely, in accordance with the instructions of use, to a soft plastic mass which may be easily removed from the skin by wiping or rinsing;
- b) non-toxic systemically and non-irritant to skin even on long contact; and
- c) be stain-free to clothing.

4.2 Specific requirements

Alkaline thioglycollic based hair remover 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 alkaline thioglycollic based hair remover

S/No.	Characteristic	Requirement	Test method
i.	pH neat	11.0- 12.7	EAS 847-17
ii.	Calcium thioglycollate, calculated as thioglycollic acid, % by mass	2.5- 5.0	Annex A
iii.	Thermal stability	To pass the test	EAS 847-18
iv.	Free alkali	To pass test	Annex B

4.3 Heavy metal contaminants

Alkaline thioglycollic based hair remover shall comply with the limits for heavy metal contaminants given in Table 2 when tested in accordance with the test methods specified therein.

Table 2 — Limits for heavy metal contaminants for alkaline thioglycollic based hair remover

S/No.	Characteristic	Maximum limit ^a mg/kg	Test method
i.	Lead	10	EAS 847-16
ii.	Arsenic	2	
iii.	Mercury	2	

^a The total amount of heavy metals as lead, mercury and arsenic, in combination, in the finished product shall not exceed 10 mg/kg.

4.4 Microbiological limits

Alkaline thioglycolic based hair remover shall comply with the microbiological limits given in Table 3 when tested in accordance with the test methods specified therein.

Table 3 — Microbiological limits for Alkaline thioglycolic based hair remover

S/No.	Micro-organism	Limit,	Test method
i	Total viable count for aerobic mesophyllic microorganisms, CFU/g, max.	100	ISO 21149
ii	<i>Pseudomonas aeruginosa</i>	Not detected in 1 g of cosmetic product	ISO 22717
iii	<i>Staphylococcus aureus</i>		ISO 22718
iv	<i>Candida albicans</i>		ISO 18416
v	<i>Escherichia coli</i>	Not detected in 1 g of cosmetic product	ISO 21150

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 given in EAS 346, each package shall be legibly and indelibly marked with the following

- a) product name as "Alkaline thioglycolic based hair remover" or "Hair remover X" where "X" denotes the form/presentation of the product.
- b) contact time permitted for the product to completely remove hair from the body;
- c) instruction for use including the following:
 - i. never use the product beyond the time as specified on the package by the manufacturer.
 - ii. never use the product on inflamed or broken skin or near the eyes. Should this occur, rinse with running water. If symptoms persist, seek medical advice .
 - iii. if used for the first time, carry out the following patch test.

Use a little hair remover over 5 cm² of skin on the inner elbow. If 24 h later the skin is normal, the material may be safely used.

d) warnings:

- i. contains thioglycolate
- ii. follow the instructions
- iii. keep out of reach of children

7 Sampling

Sampling shall be done in accordance with ISO 24153.

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Annex A (normative)

Determination of calcium thioglycolate

A.1 Reagents

A.1.1 Concentrated hydrochloric acid

A.1.2 Standard iodine solution, 0.1 N

A.1.3 Starch indicator solution, 0.5 % (m/v), freshly prepared

A.2 Procedure

Accurately weigh about 5 g of the sample in a 250 mL conical flask. Add about 75 mL of water and 15 mL of concentrated hydrochloric acid and heat on a water bath for 10 min. Cool to room temperature and then titrate with iodine solution using starch solution as the indicator.

A.3 Calculation

The thioglycollic acid, expressed as percent, shall be calculated as follows;

$$\frac{V \times 0.00921}{M} \times 100$$

where

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

V is the volume, in millilitres, of 0.1 N iodine solution used

Annex B (normative)

Determination of free alkali content

B.1 Outline of the method

This method consists of dissolving the sample in alcohol, and titrating against standard acid.

B.2 Reagents

B.2.1 Phenolphthalein indicator solution, dissolve 1 g of phenolphthalein in 100 mL of 95 % (v/v) rectified spirit.

B.2.2 Ethyl alcohol, freshly boiled, and neutral to phenolphthalein, 95 % (v/v)

B.2.3 Standard hydrochloric acid, 0.1 N

B.3 Procedure

Dissolve 2 g of the product in 100 mL of ethyl alcohol by warming, if necessary. Cool and add a few drops of phenolphthalein indicator. Titrate with standard hydrochloric acid.

B.4 Calculation

The free alkali, expressed as percent, shall be calculated as follows;

$$\frac{V \times N}{M} \times C$$

where

C is a Constant

C = 2.4 for LiOH

C = 4 for NaOH, KOH and LiOH

C = 5.6 for KOH

C = 3.7 for Ca(OH)₂

C = 3.5 for NH₄OH

V is the volume, in millilitres, of standard hydrochloric acid;

N is the normality of standard hydrochloric acid; and

M is the mass, in grams, of the sample.

Where mixtures of sodium, lithium and potassium hydroxide are present in the product, the free alkali content shall not exceed 2.5 % by mass when calculated as sodium hydroxide

DEAS 336:2023 for public comments

Bibliography

EAS 336: 2013, Chemical depilatories — Specification

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