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REVISION OF KENYA STANDARDS

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Synthetic liquid laundry detergents – Specification
Part 1: Hand wash

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Foreword

This Part of KS 2434 was developed by the Technical Committee on Surface Active Agents under the guidance of the Standards Projects Committee and it is in accordance with the procedures of the Bureau.

Part 1 of this standard prescribes requirements and methods of test for Liquid synthetic laundry detergents used to wash laundry manually or by hand.

Liquid detergents are becoming popular around the world due to their convenience in dispensing, easy dispersion and dissolution in the wash water. They give a better performance than soaps and detergent powders, especially when used for laundering delicate fabrics like silk, wool and synthetic fabrics.

In order to protect the consumer, minimum active detergent level has been set to produce a satisfactory detergent.
Synthetic liquid laundry detergents – Specification
Part 1: Hand wash

1. Scope

This part of DKS 2434 specifies the requirements and methods of test for hand wash synthetic liquid laundry detergents.

2. Normative references

This Kenya Standard incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate place in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Kenya Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

KS 2385; Determination of the microbial inhibition of cosmetic soap bars and liquid hand and body washes – Test method
KS 683 -1; Methods of test for formulated detergents
KS 698 -1; Specification for liquid detergents, Part 1, Detergents for household hand dish washing
KS 801-8; Oils for cosmetic industry - Methods of test - Part 8: Determination of specific gravity. Cosmetics and related products
KS 220; Method for the microbiological examination of food
KS 92 – 3; Determination of biodegradability of surfactants

3. Requirements

3.1 The product shall be a stable, uniform solution of synthetic detergents, with sequestering agents and builders and with or without optical brighteners, enzymes and softeners.

3.2 The active ingredient used must be biodegradable when tested against KS 92-3.

3.3 The product shall be a free flowing liquid.

3.4 The product shall not give any unpleasant odour and shall have good cleaning properties.

3.5 The product shall be free-rinsing when tested according to Annex A

3.6 If the product is antibacterial, it shall pass antibacterial activity test when tested against KS 2385.

3.7 The product shall also comply with the requirements given in Table 1.

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Characteristic</th>
<th>Requirement</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>Total Active Content, min, % m/m</td>
<td>10</td>
<td>KS 698: Part 1, Annex A</td>
</tr>
<tr>
<td>ii)</td>
<td>pH at 25°C, neat, range</td>
<td>5 – 11</td>
<td>Annex C</td>
</tr>
<tr>
<td>iii)</td>
<td>Total viable count, cfu/g</td>
<td>&lt;200</td>
<td>KS 220</td>
</tr>
</tbody>
</table>
4. Packaging and Marking

4.1 Packaging
The detergent shall be packed in suitable containers that are strong enough to withstand normal usage and transportation and that will prevent leaking, drying out and contamination of the product.

4.2 Marking
Each container and bulk package shall bear in prominent, legible, and indelible marking the information in English or Kiswahili:

a) Manufacturer’s name and address and/or registered trade mark if any
b) Product name i.e. “synthetic liquid laundry detergent”
c) Batch or code number
d) Net weight
e) Country of origin
f) List of ingredients in descending order
g) Instructions for use
h) Date of manufacture and best before date
i) Antibacterial agents if used, and their levels
Annex A  
(normative)

Determination of rinsing properties

A1. Rinsing properties

A1.1 Make a solution of the material at the recommended dilution, following the manufacturer’s directions, in enough synthetic hard water (300 ppm hardness), to give 100 ml of total solution. Pour the resultant solution into a clean, dry 250 ml Erlenmeyer flask. Stopper the flask and shake vigorously for 1 min. Pour out the solution and rinse the flask three times with 75 ml portions of synthetic hard water alone. Invert the flask and allow to dry. Examine for any residue. The flask shall contain no more residue than a flask allowed to dry after rinsing with synthetic hard water alone.

NOTE: Synthetic hard water contains:

0.246 g/l of CaCl₂·2H₂O

0.295 g/l of MgSO₄·7H₂O
Annex B
(normative)

Determination of hydrogen ion concentration

B.1 General
pH determination shall be made in acid free atmosphere.

B.2.1 pH meter
Any standard electrometric instrument, equipped with a low sodium error glass electrode. The instrument shall be calibrated and standardized with standard buffer solution before use.

B.2.2 Volumetric flask –100 mL capacity.

B.3 Reagents

B.3.1 Distilled water
Distilled water shall be boiled thoroughly or purged with carbon dioxide free air to remove carbon dioxide, and shall be protected with soda lime or soda asbestos while cooling and in storage. The pH of this water shall be between 6.2 and 7.2 at 30°C. The residue on evaporation when heated at 105°C for one hour shall not exceed 0.5 mg per litre.

B.3.2 Standard buffer solution
Any two suitable buffer solutions within the pH range, pH 3 to 11 at 30°C for calibrating the pH meter.

B.3.3 Procedure
Weigh 10 ± 0.001 g material and transfer to a 1 litre volumetric flask. Partially fill the flask with distilled water and agitate until the sale is completely dissolved. Adjust the temperature of the solution and the distilled water to 30 ±0.5°C, and fill to the calibration mark with distilled water. Stopper the flask, mix thoroughly, and allow the solution to stand at a temperature of 30°C for two hours prior to measuring the pH. Measure the pH of the solution using a glass electrode.