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DRAFT TANZANIA STANDARD

Liquid toilet soap – Specification

TANZANIA BUREAU OF STANDARDS

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*Ministry of Industry and Trade
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Sabuni Detergent Limited (SDL)

Tanzania Bureau of Standards
P.O. Box 9524
Dar es Salaam
Tel +255 (22) 2450206/2450949/2450298
Fax: +255 22 2450959
E-mail: info@tbstz.org

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0 Foreword

Liquid toilet soap is gaining importance. The demand for this product is expected to increase due to convenience in use. It was therefore found necessary to formulate a Tanzania Standard for this product.

It is necessary that the raw materials used are such that in the concentration in which they would be present in the liquid toilet soap, after interaction with other raw materials used in the formulation, are free from any harmful effects. It is the responsibility of the manufacturer to ensure the dermatological safety of the product.

In reporting the results of a test or analysis made in accordance with this Tanzania Standard, if the final value, observed or calculated is to be rounded off, it shall be done in accordance with TZS 4 (see clause 2).

In the preparation of this Tanzania Standard, assistance has been derived from:

> SLS 1146:1996, *Specification for liquid toilet soap,* published by Sri Lanka Standards Institution

This second edition cancels and replaces the first edition (TZS 879: 2006), which has been technically revised

1. Scope

This Tanzania Standard prescribes the requirements, sampling and test methods for liquid toilet soap for personal hygiene.

2. Normative references

The following referenced documents are indispensable for the application of this document. The latest edition of the referenced document (including any amendments) applies.

TZS 638: (Parts 1-4) *Cosmetics and Cosmetics products*

TZS 4: *Rounding off numerical values*
Insert all used normative references specifically from Table 1

3. Definition

For the purpose of this Tanzania Standard the following definition shall apply:

3.1
liquid toilet soap

liquid personal wash product based on soap. It may contain a small amount of synthetic detergent.

4 Requirements

4.1 General requirements

The liquid toilet soap shall be in the form of liquid or emulsion. It shall be opaque or transparent, coloured or colourless and perfumed or unperfumed. It shall be of uniform consistency, free from sediments and suspended particles.

It shall be easily spreadable. It shall have good lathering and rinsing properties. It shall be non-toxic and non skin irritant. It may contain up to 2 percent synthetic detergents.

4.2 Ingredients

All Ingredients shall comply with TZS 638 all parts

4.3 Specific requirements

The liquid toilet soap shall comply with the specific requirements given in table 1 and tested using formula given in column 4 of the table.

Table 1 – Requirements for liquid toilet soap

S/N	Characteristic	Requirement	Method of test
1	Total fatty matter, percent by mass, min	15	TZS 1396-6/ ISO 685
2	pH at 27 ± 2°C	7.5 to 9.5	Annex A
3	Matter insoluble in ethanol, percent by mass, max	2.0	TZS 1396-3/ ISO 673
4	Synthetic detergents percent by mass, max	2.0	TZS 677/ISO 2271
5	Total free alkali, calculated as Na_2O/K_2O percent by mass, max	0.03	TZS 1396-12/ISO 684
6	Microbiorganisms N/ml, max	100	Annex B

5 Packaging and Labeling

5.1 Packing

The liquid toilet soap shall be packed in suitable containers that are strong enough to withstand normal usage and transportation.

5.2 Labeling

Each container shall be legibly and indelibly labelled either in English, Kiswahili or combination or any other language as agreed between the manufacturer and supplier with the following information:

a) Name and address of manufacturer (including the country of origin);
b) The words “Liquid toilet soap”;
c) Brand name or registered trade mark, if any;
d) Net volume, in milliliters;
e) Batch identification mark;
f) Date of manufacture;
g) Best before date; and
h) Instruction for use where necessary.

6 Sampling

6.1 General requirements of sampling

In drawing, preparing, storing and handling samples, the following precautions shall be observed:

6.1.1 Samples shall be drawn in an environment not exposed to damp air, dust and soot.

6.1.2 A sampling tube may be used for drawing the material from the containers. It shall be clean, and dry when used.

6.1.3 The samples shall be placed in clean, dry glass or any other suitable container. Containers shall be sealed air-tight after filling and shall be marked with necessary details of sampling.

6.1.4 The material being sampled, the sample, the sampling instrument and the sample containers shall be protected from adventitious contamination.

6.1.5 Samples shall be stored in such a way that conditions of storage do not affect the quality of the material.

6.1.6 When drawing samples for microbiological examination in addition to the requirement specified in 6.1.1 to 6.1.5, the following precautions shall be observed.

6.1.6.1 Samples shall be drawn under aseptic conditions.

6.1.6.2 The sampling instruments and sample containers shall be sterilized.

6.2 Scale of sampling

6.2.1 Samples shall be tested from each lot for ascertaining the conformity of the material to the requirements of this specification.

6.2.2 The number of containers to be selected shall be in accordance with table 2.

Table 2 – Scale of Sampling

No. of containers in the lot	No. of containers to be selected
Up to 150	3
151 to 500	5
501 to 1200	6
1201 to 3200	8
3201 and above	10

Annex A

Determination of pH

B.1 Apparatus

pH meter equipped with electrode.

B.2 Procedure

Calibrate the pH meter and measure the pH of the sample directly at a temperature of 27 ± 2°C.

Annex B

Microbiological examination of liquid soaps

F.1 Outline of the method

The test consists of plating a known dilution of the sample or any digest agar medium (soya bean casein is recommended) suitable for total count of bacteria and fungi after incubating them for a specified period to permit the development of visual colonies.

> IMPORTANT – Fresh samples, from carefully sealed containers that had not been opened before, are used for this test. This is very necessary for getting accurate results.

F.2 Apparatus

F.2.1 Tubes – Of resistant glass, provided with closely fitting metal caps.

F.2.2 Autoclaves – Of sufficient size. They shall keep uniform temperature within the chamber up to and including the sterilizing temperature of 122°C. They shall be equipped with an accurate thermometer, located so as to register the minimum temperature within the sterilizing chamber, a pressure gauge and properly adjusted safety valves.

F.2.3 Petri dishes – Of 100 mm diameter and 15 mm depth. The bottom of the dishes shall be free from bubbles and scratches and shall be flat so that the medium is of uniform thickness throughout the plate.

F.2.4 Colony counter – An approved counting aid, such as Quebec colony counter. If such a counter is not available, counting may be done with a lens giving a magnification of 1.5 diameter. In order to ensure uniformity of conditions during counting, illumination equivalent to that provided by the Quebec colony shall be employed.

F.2.5 Media buffer

Soya bean casein digest agar medium – Dissolve 1.5 g of pancreatic digest of casein, 5 g of papaic digest of soya bean meal, and 5 g of sodium chloride in 100 ml of distilled water contained in a 2 litre beaker by heating in a water bath. Add 15 g of powdered agar and continue boiling until the agar is completely digested. Adjust the pH to 7.5 with sodium hydroxide solution. Distribute in 20-ml quantities, close the tubes with metal caps and autoclave at 122°C for 20 minutes. After autoclaving, store the tubes in a cool place and use them within 3 weeks.

F.2.6 Stock solution pH 7.2 phosphate buffer

Dissolve 34 g of monobasic potassium phosphate in about 500 ml of water contained in a 1000-ml volumetric flask. Adjust the pH to 7.2 ± 0.1 by the addition of sodium hydroxide solution hydroxide solution (4%). Add water to volume and mix. Sterilize at 122°C for 20 min. Store under refrigeration.

Dilute phosphate buffer solution pH 7.2. Dilute 1 ml of stock solution with distilled water in the ratio of 1:800. Fill 50 ml in each of the conical flasks of 100-ml capacity. Plug the flasks with cotton and sterilize at 122°C for 20 minutes.

F.3 Sterilization of apparatus

F.3.1 Tubes – These shall be sterilized in the autoclave at 122°C and 1.05 kg/cm^2 pressure for 20 minutes or in hot air oven at 160°C for one hour.

F.3.2 Petri dishes – These shall be sterilized in the autoclave at 122°C temperature and 1.05 kg/cm^2 pressure for 20 minutes or individually wrapped in kraft paper and sterilized in a hot air oven at 160°C for one hour.

F.3.3 Pipettes – These shall be placed in pipette cones (copper, stainless steel or aluminum) after plugging the broader end with cotton and sterilize in the autoclave at 122°C temperature and 1.05 kg/cm^2 pressure for 20 minutes, or at 160°C for one hour in hot air oven.

F.4 Procedure

Melt a sufficient number of soya bean casein digest agar medium tubes in a hot water bath and transfer while hot into a constant temperature water bath maintained at 48°C ± 2°C.

Weigh and transfer aseptically 1 g of the sample to a conical flask containing sterile 50 ml or any suitable dilution factors of dilute phosphate buffer at pH 7.2. Shake well. Pipette out in 1-ml portions into three sterile petri dishes. Pour melted and cooled (at 45°C) soya bean casein digest agar medium over it, and rotate the plates to mix thoroughly. Incubate the plates at 32°C for 72 hours in an inverted position.

F.5 Expression of results

Get the average number of colonies on soya bean casein digest agar medium plates and determine the number of micro – organisms per gram of the sample. If no colony is recovered from any of the plates, micro – organisms can be stated as less than 50 per gram.

