

DRAFT TANZANIA STANDARD

**TBS/CDC-2(4983) P3 Soap – Laundry powders – Specification
(Revision of TZS 38: 1979)**

Draft for comment only

TANZANIA BUREAU OF STANDARDS

0 Foreword

This Draft Tanzania Standard is being developed by the Soap and Detergents Technical Committee under supervision of the Chemical Division Standards Committee and it is in accordance with the procedures of the Bureau.

This Draft Tanzania Standard is the first revision of TZS 38:1979 “Soap – Laundry powders – Specification”.

In the preparation of this Draft Tanzania Standard assistance was drawn from IS 2887: 2011 Laundry soap powders/flakes – specification; published by the Indian Standards Institutes and KS 2115: 2007 Soap powder or chips – Specification; published by the Kenyan Bureau of Standards.

In reporting the results of analysis of a test if the final value is to be rounded off, it shall be done in accordance with TZS 4 *Rounding off numerical values*.

Soap – Laundry powders – Specification

1 Scope

This Draft Tanzania Standard specifies the requirements, sampling and methods of testing for soap powders for use in laundries.

2 Normative references

The following referenced documents are indispensable for the application 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.

TBS/CDC 2(4968) P3 *Soaps – Sampling and test methods*

TZS 1396-2/ISO 672 *Analysis of soaps – Part 2: Determination of moisture and volatile matter content – Oven method*

TZS 1396-4/ISO 456 *Analysis of soaps – Part 4: Determination of free caustic alkali*

TZS 1396-6/ISO 685 *Analysis of soaps – Part 6: Determination of total alkaline content and total fatty matter content*

TZS 1396-9/ISO 1067 *Analysis of soaps – Part 9: Determination of unsaponifiable, saponified and unsaponified saponifiable matter*

TZS 1396-3/ISO 673 *Soaps – Part 3: Determination of content of ethanol-insoluble matter*

TZS 1396-11/ISO 1066 *Analysis of soaps – Part 11: Determination of glycerol content -- Titrimetric method*

TZS 1396-8.2/ISO 457 *Soaps – Part 8.2: Determination of chloride content -- Titrimetric method*

TZS 1784: 2015 *Determination of biodegradability of surfactants — Test method*

3 Terms and definitions

For the purpose of this standard the following terms and definitions shall apply:

3.1 Total fatty matter:

substances, soluble in ether under the conditions of the test, such as fatty and rosin acids present in a combined state as well as unsaponified and unsaponifiable matter

3.2 Unsaponified matter:

neutral fat (unsaponified, neutral glycerides) present in soap

3.3 Free caustic alkali:

free (uncombined) caustic alkali present in soap

3.4 Matter insoluble in alcohol:

alkaline salts, such as talc, carbonates, borates, silicates and phosphates, as sulphates

3.5 Free fatty acid:

fatty acid present in soap and is expressed as percent by mass as oleic acid

3.6 Moisture and volatile matter:

moisture and any other material contained in soap volatile under the conditions of the test

3.7 Titre:

highest temperature reached when the mixed fatty and rosin acids obtained from soap are crystallized under the conditions of the test

Note 1:

Titre is generally taken to represent the solidification point of the mixed fatty and rosin acids; although they actually solidify over a range of temperatures.

3.8 Builder:

complementary component of a soap powder usually inorganic, which with reference to the washing action, adds its characteristic properties to those of the essential constituents

Note 2:

Builders are added to soap powders to improve their effectiveness under the conditions of use. The action of builders is mostly physico-chemical and comprises a series of effects which result in a more economic usage and better cleansing action of soap powders, especially in hard water areas. Substances commonly used as builders are soda ash, sodium silicates, sodium phosphates borax and cellulose derivatives.

4 Requirements

4.1 General requirements

4.1.1 Types

The soap shall be of one of the following types:

Type I (Pure) and

Type II (Built)

4.1.2 Description

The soap shall be well saponified in powder form with or without builders, free flowing, and not contain ingredients in quantities that are toxic to human beings.

4.1.2.2 It shall possess good lathering and cleaning properties in water at ambient temperature.

4.1.2.3 When stored or transported under normal conditions in its original container, the soap shall not cake into hard lumps.

4.1.3 Odour

The soap, both as received and when dissolved in water, shall possess a pleasant, fresh odour and shall not develop an objectionable one during storage at ambient temperature.

4.2 Specific requirements

4.2.1 The following specific requirements shall be complied with for **Type 1** (pure) laundry soap powders;

4.2.1.2 The titre of fatty acids, when determined as described in TBS/CDC 2(4968) P3, shall not be more than 25°C.

4.2.2 The non-soapy detergent (NSD), if used, in the manufacture of laundry soap powders shall be readily biodegradable when tested as prescribed in TZS 1784: 2015/EAS 814.

4.2.3 Laundry soap powders shall comply with the requirements given in Table 1.

Table 1 – Specific requirements for laundry soap powders

S/ No.	Parameter	Requirements		Method of test reference to
		Type I	Type II	
1	Total fatty matter, percent by mass, min	76	40.0	TZS 1396-6
2	Rosin acids, percent by mass of total fatty matter, max	3.0	15.0	TBS/CDC 2(4968) P3
3	Unsaponified fatty matter, percent by mass, max	0.5	0.3	TZS 1396-9
4	Free caustic alkali, percent by mass max	0.05	0.2	TZS 1396-4
5	Matter insoluble in alcohol, percent by mass, max	2.0	30.0	TZS 1396-3/ISO 673
6	Glycerol, percent by mass, max	1.5	-	TZS 1396-11/ISO 1066
7	Chloride, percent by mass, max	1.0	2.0	TZS 1396-8.2/ISO 457
8	Matter insoluble in water percent by mass, max	0.5	1.0	TBS/CDC 2(4968) P3

6 Sampling

6.1 For the purpose of general precautions, scale of sampling and preparation of test samples, shall be as prescribed in TBS/CDC 2(4968) P3

6.2 Number of tests

6.2.1 Tests for the determination of total fatty matter, Unsaponified fatty matter, and free caustic alkali shall be conducted on each of the individual samples separately.

6.2.2 Test for the determination of all the remaining characteristics shall be conducted on the composite sample.

6.3 Criteria for conformity

6.3.1 For individual samples

For each of the characteristics which have been determined on the individual samples the mean (\bar{X}) and the range (R) of the test results shall be calculated as follows:

$$\text{Mean } (\bar{X}) = \frac{\text{the sum of test results}}{\text{number of the test result}}$$

Range (R) = the difference between the maximum and the minimum value of the test results

The lot shall be deemed as conforming to the requirements if the expression $(\bar{X} - 0.5R)$ is greater than or equal to minimum value given in Table 1 and $(\bar{X} + 0.5R)$ is less than or equal to maximum value given in Table 1.

6.3.2 For composite sample

For declaring the conformity of lot to the requirements of other characteristics determined on the composite sample, the test results for each of the characteristics shall satisfy relevant requirements.

7 Tests

7.1 Tests to evaluate the characteristics specified shall be conducted as prescribed in Table 1.

7.2 Quality of reagents; unless specified otherwise chemicals used shall be of analytical grade; distilled water shall be employed in the tests.

8 Packing and marking

8.1 Packing

8.1.1 The soap powder shall be so packed as to prevent excessive drying out, leakage, or contamination of the product.

8.1.2 The containers shall be strong enough to withstand normal usage and transportation.

8.2 Marking

The packages shall be securely closed, legibly and indelibly marked in Kiswahili and English, and any other language as agreed between the manufacturer and supplier with the following information:

- a) name of product as "soap powder" as relevant and the type,
- b) manufacturer's name and physical address,
- c) batch number or lot number,
- d) net content,
- e) Total Fatty Matter content (TFM),
- f) country of origin,
- g) list of ingredients in descending order of quantity; and
- h) dates of manufacture and expiry.