PCD 718: 2025
ICS 65.250; 83.080

DRAFT ZANZIBAR NATIONAL STANDARD

Baby feeding bottles — Specification

ZANZIBAR BUREAU OF STANDARDS

First Edition

PCD 718:2025

Foreword

This draft Zanzibar standard has been developed by Packaging and Polymer Standard Technical Committee (TCC8). In accordance with Zanzibar Bureau of Standards (ZBS) general procedures, this draft standard is presented to the public in order to receive any technical comment concerns.

Technical Committee Representatives

This Draft Zanzibar National Standard was prepared by the Packaging and Polymer Standards

Technical Committee which consists of representatives from the following organizations:

Chief Government Chemist Laboratory Agency (CGCLA)
Karume Institute of Science and Technology (KIST)
NN Group (TZ)
University of Dar es salaam - COeT
Zanzibar Environmental Management Authority (ZEMA)
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Baby feeding bottles — Specification

1 Scope

This Draft Zanzibar National Standard specifies requirements and test methods for feeding bottles used for nursing babies.

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;

EAS 1152 *Rubber teat (nipple) for baby feeding bottle — Specification*

ASTM E1252-98 *Standard Practice for General Techniques for Obtaining Infrared Spectra for Qualitative Analysis*

ASTM E168-16 *Standard Practices for General Techniques of Infrared Quantitative Analysis*

TZS 1452-3 *Materials and Articles in contact with foodstuffs – Plastics - Part 3: Test methods for overall migration into aqueous simulants by total immersion*

3 Terms and definitions

There is no terms and definition in this document

4 Description

Feeding bottles shall be made of plastics.

5 Requirements

5.1 Materials

The material shall be polypropylene which shall be of food grade. The material used for the bottles shall not allow migration of constituents of plastic into the baby food and tested according to Table 1.

5.2 Shape

a) The shape of mouth part shall be of two types: cap type and pullover type according to attaching methods of nipple/teats.

b) Bottle teats shall comply with EAS 1152, Elastomeric teats for babies' feeding bottles.

c) The neck shall be hollow to ensure proper cleaning in line with good manufacturing practices.

d) The mouth part shall be smooth and the shape of the body shall be well proportioned and free from visual defects.

5.3 Capacity

The capacity of feeding bottles shall be as indicated in Table 2.

5.4 Intervals

a) Intervals between scales shall indicate maximum of 50 mL and the minimum scale shall not be more than 20 % of the maximum indication scale.

b) The tolerance on the maximum indication scale shall comply with Table 2.

c) The scale lines and indication values shall be clear and permanently marked, and be unlikely to be affected by high temperature and/or germicidal treatment and cleaning.

5.5 Appearance

5.5.1 There shall be no crack, chip and crazing and substance not dissolved shall not be included.

5.5.2 There shall be no bubbles, foreign substance, line, die skin, distortion, flaw and stain.

5.6 The feeding bottles shall be free from remarkable variety and variation of capacity shall be as per Annex A.

5.7 The rate of flexibility of diameter in pressurizing direction shall be a minimum of 10%.

Table 1 — Requirements for baby feeding bottles

SL No	Characteristic	Requirement	Determination
i)	Material requirement	Polypropylene	ASTM E1252-98[a] ASTM E168-16[b]
ii)	Pigments and colorants	-	-
iii)	Migration of constituents	To pass test	TZS 1452-3
iv)	Transparency	Min. 60% in light transmittance	Annex B
v)	Ageing resistance	Variation within 1%	Annex C
vi)	Pressurized deformation resistance	Max. 10% rate of flexibility	Annex D

a) Polypropylene and its copolymers for its safe use in contact with foodstuffs, pharmaceuticals and drinking water — Specification.

b) Positive list of constituents of polypropylene and its copolymers in contact with foodstuffs — Pharmaceuticals and drinking water.

c) List of pigments and colorants for use in plastic in contact with foodstuffs, pharmaceuticals and drinking water.

d) Determination of overall migration of constituents of plastics materials and articles intended to come in contact with foodstuffs — Method of analysis.

- The value is under development

Table 2 — Capacity of baby feeding bottles (maximum indication scale)

Indicated capacity in mL	40 - 200	210 - 290	300 - 450
Tolerance on maximum indication scale	± 4	± 5	± 6

6 Marking and packaging

6.1 Marking

Each bottle shall be legibly and indelibly marked with the following information:

i) The name and/or registered trade mark of the manufacturer/distributor; or logo of manufacturer; and

ii) Sign for recycling.

6.2 Packaging

Each package shall be legibly and identifiably marked with the following information:

i) Product name;

a) the name and/or registered trade mark of the manufacturer/distributor; or logo of manufacturer;

b) address of manufacturer or importer;

c) batch number;

d) country of origin;

e) maximum indicated capacity;

f) Resin identification code; and

g) sign for recycling.

Annex A
(normative)

Determination of capacity

The capacity of feeding bottles shall be obtained using a mass meter the maximum scale of which is 0.1 g or under, by converting 1 g to 1 mL with regard to the mass of the bottle at the time when water is filled up to the upper end of scale line for indicated volume by the mass in which no water is put.

Annex B
(normative)

Determination of transparency

B.1 Test specimen

Test specimen shall be prepared from the part of feeding bottle where scale marks or other marks are not found.

B.2 Apparatus

Light transmittance measurement device.

B.3 Size of test specimen

The size of test specimen shall be 50 mm x 50 mm and the thickness shall be the original thickness of the test specimen. Three test specimens shall be prepared.

B.4 Measurement

Install the white standard plate, adjust the reading (T_1) of the device's current meter to be 100; adjust the amount of incident light.

Under the status where the white standard plate is installed, install and measure the test specimen to obtain the indication (T_2) of the current meter. The full light transmittance shall be calculated according to the following formula:

$$T = \frac{T_2}{T_1} \times 100$$

where,

*T*is the full light transmittance (per cent).#

Annex C
(normative)

Determination of ageing resistance

Immerse the bottles into the boiling water for 20 min, then immediately into the ice water for 20 min alternately and repeat it 3 times. At the end of the test, the change in the capacity of bottles shall not be more than 1 percent and also there shall be no defective changes in the bottle. There shall be no significant changes in appearance when the accessories are tested in accordance with the method indicated above.

Annex D
(normative)

Determination of pressurized deformation resistance

Using a compressive jig as shown in Figure D.1, the compressive load of 20 N shall be applied to the middle or the part of the maximum outside diameter of the shell of feeding bottle and the deflection of this part is measured. Calculate the rate of flexibility by the following formula. The temperature in the test room shall be (20 ± 5) °C.

Unit : mm

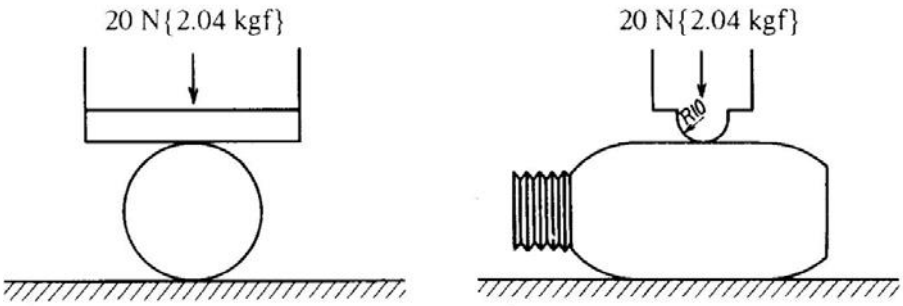

Figure D.1 — Pressurized deformation resistance test compressive jig

$$B = \frac{D_1 - D_2}{D_1} \times 100$$

where,

B is the rate of flexibility (5);

D_1 is the outside diameter before the test (mm); and

D_2 is the outside diameter at the time of compression (mm).