

Saudi Standards, Metrology and Quality Org (SASO)

SAUDI STANDARD

SASO ...:2020

Plastic Bottles Used for Water Bottling (Water Flasks)

Introduction

The Saudi Standards, Metrology and Quality Organization (SASO) has prepared the Saudi Standards for Plastic Bottles Used for Water Bottling (Water Flasks) after reviewing the specifications of Arab, foreign and international standards and reviewing the related reference literature.

Plastic Bottles Used for Water Bottling (Water Flasks)

1. Scope

This Saudi Standard Specification is concerned with requirements and test methods for plastic bottles used for bottling and preservation of water (Water Flasks), used for filling and preserving drinking water.

2. Complementary References

- 2.1 SASO GSO 1863/2013 Food Packaging - Part 2: Plastic Packaging-General Requirements.
- 2.2 SASO GSO 2231:2012 General Requirements for the materials intended to come into contact with food
- 2.3 BS EN 1186-1:2002 Materials and articles in contact with foodstuffs-Plastics-Part 1 : Guide to the selection of condition and test methods for overall migration
- 2.4 BS EN 1186-3:2002 Materials and articles in contact with foodstuffs-Plastics-Part 3 : Test methods for overall migration into aqueous food simulants by total immersion

3. Requirements

3.1 Raw materials

Raw materials used in manufacture of these bottles shall be of the material allowed for contact with food and subject to SFDA requirements and accordance with specifications of Clause 2.1. and 2.2

3.2 Visual inspection

- 3.2.1 Bottles shall be free from any apparent defects in manufacturing such as incomplete formation or missing formation or protruding bulge and free from impurities and black dots on the wall of the bottle or any similar defects. The outer surface of bottle should be homogeneous and free from scratches, especially at the base and nozzle, by direct inspection.
- 3.2.2 Quality of Injection point
The height of injection point should not exceed 25% of the wall thickness
- 3.2.3 Hardness of the Injection point
The space of harsh area at the injection point shall not exceed 2 mm² and shall not exceed 4 mm in diameter

3.3 Color

The bottles shall be transparent or colored, provided that color of the bottle is homogeneous and free from any visible color differences and subject to

SFDA requirements and in accordance with specifications mentioned in Clause 2.1 and 2.2

3.4 Measurement of Bottle Dimensions (Water Flask)

Unless measurement and permittivity are stated, measurement of bottles and permittivity of each measurement depends on the design provided by the manufacturer.

3.5 Volume (Capacity)

Volume of water flask is calculated according to the amount of water it contains until the beginning of the nozzle neck area.

3.6 Fall Resistance

Cracking of bottle or leak of water should not occur when it is freely dropped from a height of 4 meters on a flat wooden surface.

3.7 Heat and Cold Resistance

Cracking should not occur and the outer shape should not change when placed at -5°C and 60°C respectively for 72 hours.

3.8 Effect on Water

The color, taste, or smell of distilled water inside the bottle should not change when filled with water at 60°C for 72 hours.

3.9 Migration of Substances

The migration of substances from the wall of bottle should not exceed 60 mg per kg according to the specification mentioned in clause 2.1 when tested according to the specifications mentioned in the item 2.3 & 2.4

3.10 Heavy elements

The percentage of heavy elements should not exceed as shown in Table No. (1) according to the specification mentioned in item 2/1

Table (1) – Heavy metals

element	Limits (max.) mg/kg
lead	2
arsenic	1
copper	5
zinc	100
chromium	1

4. Sampling

Take five samples from each production batch.

5. Test Methods:

The following tests shall be carried out on samples drawn in accordance with clause 4

- 5.1 Visual inspection.
- 5.2 Measurement of Size (capacity)
- 5.3 Fall Resistance
- 5.4 Heat and Cold Resistance
- 5.5 Effect on water
- 5.6 Migration of Substances
- 5.7 Determination of heavy elements

6. Packaging

The product should be packed in suitable packages to protect it from damage during transportation, storage and handling.

7. Marking

The following details must be indicated on the packaging in Arabic or Arabic and English in a clear place that is difficult to remove.

- 7.1 Name of product
- 7.2 The manufacturer's name or trademark.
- 7.3 The country of origin
- 7.4 Type of plastic.
- 7.5 Date & number of Production Batch.
- 7.6 Volume (Capacity) in milliliters.
- 7.7 Logo of validity for food use, figure (1)
- 7.8 Minimum & maximum temperature borne by the bottle.
- 7.9 Warnings (if any)



Figure (1)
Logo of validity for food use

References

1. ES 907/2008 Plastic cups and glasses
2. SASO-ASTM-D4316 Standard Specification for Rubber Water Bottles
3. SFDA.FD.1863 Food containers - Part 2: Plastic Containers - General Requirements.
4. SFDA.FD 839 Food Containers - Part 1: General Requirements.