GB

NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

ICS 83.060

CCS G 35

GB/T 40126-2021

Liquid silicone rubber - Application for baby nipple

液体硅橡胶 婴儿奶嘴用

Issued on: May 21, 2021 **Implemented on: December 01, 2021**

Issued by: State Administration for Market Regulation;

Standardization Administration of the People's Republic of China.

Table of Contents

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1 Scope

This Standard specifies classification and designation, technical requirements, test methods, inspection rules, packaging, marks, transportation and storage for liquid silicone rubber for baby nipple (hereinafter referred to as silicone rubber for baby nipple).

This Standard is applicable to liquid silicone rubber that is used to produce nipples and pacifiers used by infants and young children and other similar use products.

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.

GB/T 528, *Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties*

GB/T 529, *Rubber, vulcanized -determination of tear strength (trouser, angle and crescent test pieces)*

GB/T 531.1, *Rubber vulcanized or thermoplastic - Determination of indentation hardness - Part 1: Shore hardness tester method (Shore hardness)*

GB/T 533, *Rubber vulcanized or thermoplastic - Determination of density*

GB/T 1681, *Rubber - Determination of rebound*

GB/T 2941, *Rubber - General procedures for preparing and conditioning test pieces for physical test methods*

GB 4806.11, *National Food Safety Standard - Food Contact Rubber Materials and Articles*

GB/T 36804, *Liquid silicone rubber - Classification and system nomenclature*

than 16h.

6.2.3 Hardness

Determine according to GB/T 531.1.

6.2.4 Density

Determine according to GB/T 533.

6.2.5 Tensile properties

In accordance with GB/T 528, use type 1 specimen to determine the tensile strength and elongation at break. The number of specimens is not less than 5.

6.2.6 Tear strength

Determine according to GB/T 529. Use crescent specimen.

6.2.7 Resilience

Determine according to GB/T 1681.

6.2.8 Volatile compound content

Determine in accordance with Annex A.

6.3 Hygienic properties

Determine according to GB 4806.11.

7 Inspection rules

7.1 Type inspection

The type inspection items are all items specified in Chapter 5. In one of the following situations, type inspection should be carried out:

a) when the product is stereotyped, the production is transferred to another factory or the product is resumed after the production is stopped for more than half a year;

b) when there are changes in raw materials, formulas or process conditions;

c) when there is a big difference between the exit-factory inspection results and the previous type inspection;

d) when it shall be carried out every six months during normal production.

7.2 Exit-factory inspection

The exit-factory inspection items shall include: appearance, hardness, density, tensile strength, elongation at break, tear strength, resilience.

7.3 Batching and sampling

Take the products not more than 2000kg but of the same raw materials, the same formula, and the same process as a batch.

2kg of samples are randomly selected from each batch.

7.4 Qualification judgement

If the inspection items meet the requirements of Chapter 5, the batch of products is qualified. If any item of the inspection result is not in conformity, double sampling may be used to re-inspect the unqualified items. If the re-inspection result meets the requirements, the batch of products is qualified. If the re-inspection results still do not meet the requirements, the batch of products is not qualified.

8 Marks, packaging, transportation, storage

8.1 Marks

The surface of the product or packaging shall at least indicate the following information:

a) Manufacturer's name (or trademark) and address;

b) Reference to this Standard;

c) Product name;

d) Designation;

e) Batch number;

f) Date of manufacture;

g) Net weight or capacity.

8.2 Packaging

The product is packed in clean, dry and well-sealed iron or plastic drums. Other packaging methods agreed between the manufacturer and the user can also be used. Each batch of products shall be accompanied by a product certificate, quality inspection report and product instruction manual.

Annex A

(normative)

Linear shrinkage test

A.1 Overview

Dry the specimen at high temperature. Determine the content of volatile compounds by mass change.

A.2 Instruments and equipment

A.2.1 Oven: 200°C±5°C, ventilated.

A.2.2 Desiccator.

A.2.3 Balance: the accuracy is 0.1mg.

A.2.4 Shallow aluminum foil box.

A.2.5 Mold: 2mm thick.

A.3 Specimen preparation

Weigh a certain amount of unvulcanized liquid silicone rubber. Mix well according to the product manual. After vacuum deaeration, put it into the cold-mold mold. Refer to the product manual for specific curing conditions.

The specimen shall be smooth and clean, uniform in thickness, and free of bubbles.

The specimen size shall meet the requirements of each test performance.

A.4 Test steps

A.4.1 Cut the vulcanized rubber test piece into a small square with a side length of about 1cm. Weigh about 10g of specimen. Place in a desiccator (A.2.2) and park at room temperature for 48h.

A.4.2 Weigh the weight of the shallow aluminum foil box (A.2.4) with a balance (A.2.3). Record as m_0. Remove the specimen from the desiccator and place it in an aluminum foil box. Weigh it and record as m_1. Then put it into an oven (A.2.1) at a temperature of 200°C±5°C and keep it for 4h. Take it out. Put it in a desiccator to cool for 1h. Take it out and weigh. Record as m_2.

A.4.3 If the test material is a paste, only need to take 10g ± 0.5g of specimen

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