

ICS 97.040.32

QB

**LIGHT INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

QB/T 4695-2014

**Household and similar Pre-filter
(English Translation)**

Issued on: April 12, 2017

Implemented on: October 1, 2017

**Issued by: Ministry of Industry and Information Technology of the
People's Republic of China**

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1 Scope

This Standard stipulates the terms, definitions, requirements, test methods and marking for antibacterial and eliminating bacterial function for household and similar electrical dish washers (hereinafter referred to as dish washers).

This Standard is applicable to dish washers for household and similar occasions; and have explicitly instructed antibacterial and eliminating bacterial function on the appliances, or, in the instructions for use.

2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 411 Printed and Dyed Cotton Fabric

GB 1355-1986 Wheat Flour

GB 4789.2 National Food Safety Standard - Microbiological Examination of Food.

Aerobic Plate Count

GB 5296.2 Instructions for Use of Products of Consumer Interest - Part 2.

Household and Similar Electrical Appliances

GB 19489 Laboratories - General Requirements for Biosafety

GB/T 20290-2006 Electric Dishwashers for Household Use - Methods for
Measuring the Performance

GB 21551.1 General Requirement of Antibacterial and Cleaning Function for
Household and Similar Electrical Appliances

GB 21551.2-2010 Antibacterial and Cleaning Function for Household and Similar
Electrical Appliances - Particular Requirements of Material

4.1 Antibacterial Properties

In terms of dish washers that have antibacterial function, the antibacterial rate of antibacterial components shall not be less than 99.0%; or, the preventing mildew level shall be Level-0 or Level-1.

Antibacterial properties shall merely be evaluated through materials used as utensils.

4.2 Eliminating Bacterial Properties

In terms of dish washers that have eliminating bacterial function, the eliminating bacterial rate shall not be less than 99.9% (namely. eliminating bacterial activity shall not be less than 3.0).

5.1 Test Environment

Laboratory environment shall comply with relevant requirements in GB 19489.

5.2 Antibacterial Test Method

5.2.1

Non-absorbent antibacterial components which may be made into a certain area shall be tested in accordance with the method described in Appendix A in GB 21551.2-2010.

5.2.2

Absorbent antibacterial components which may be made into a certain area shall be tested in accordance with the method described in Appendix B in GB 21551.2-2010.

5.2.3

In terms of antibacterial components which have an irregular shape, please refer to Appendix A in this Standard.

5.2.4

Components which have antifungal (mildew-preventing) function may be tested in accordance with the method in Appendix C in GB 21551.2-2010.

5.3 Eliminating Bacterial Test Method

Please refer to Appendix B for eliminating bacterial test method.

6.1 Principle, Requirements and Content of Marking

The principle, requirements and content of marking shall comply with GB 5296.2 and

Appendix A (Normative)

Antibacterial Test Method

A.1 Scope

This Method is applicable to test the antibacterial function of irregularly shaped antibacterial components used by dish washers.

A.2 Method Overview

Place quantitative test sample in quantitative bacterial suspension. Through oscillation, make the test sample and the bacterial suspension thoroughly contact with each other.

After a certain period of oscillating culture, respectively count the bacterial contained in the test group and the control group; calculate the antibacterial rate.

A.3.1.1 Selection of test strains

Escherichia coli AS 1.0090

Staphylococcus aureus AS 1.0089

NOTE: in accordance with the requirements of usage, other bacterial strains may also be selected as test strains.

All the bacterial strains shall be provided by corresponding national bacterial strain conservation management centers. In addition, the name and classification No. of the test bacterial strains shall be indicated in the report.

Laboratory shall safely use test microorganisms in accordance with relevant national stipulations; try to select non-pathogenic or low-pathogenic microorganisms.

The various medium components used for strain culture shall comply with the requirements of the bacterial strain conservation management centers.

All the utensils and materials that involve microbial operation shall be sterilized in advance.

Moist heat sterilization (121 °C, 20 min) is preferred here.

A.3.1.2 Conditions of culture

A.3.1.2.1 Conditions of strain culture

Commonly used instruments in the laboratory, such as. plates, test tubes, pipettes, inoculation rings and alcohol lamps, etc.

A.4.1 Control sample

Medium bleaching medium plain cloth that complies with the requirements in GB/T 411, with (21 ± 2) wraps and (21 ± 2) wefts. Through de-sizing pretreatment, make it into 10 mm x 10 mm sample blocks.

A.4.2 Test sample

Directly cut from test samples which have already received antibacterial treatment. Cut the test samples into 10 mm x 10 mm sample blocks. If the original area of the samples is not sufficient to be cut into such size, then, conduct the test in accordance with the original shape of the samples.

A.4.3 Sample preparation

Before the test, at 121 °C, conduct high pressure sterilization of the control samples and the test samples for 20 min. If the test samples cannot endure high temperature and high pressure, irradiate them under UV lamp for at least 30 min, or, use sterile water to rinse them, then, naturally dry them.

A.5.1 Preparation of test solutions

Respectively weigh-take (1.0 ± 0.05) g of samples from the control group and the test group; place them into a conical flask. Add 95 mL of PBS that contains 0.1% (volume fraction) of Tween-80; thoroughly mix it up. Then, add 5.0 mL of bacterial suspension.

Each time, respectively adopt 3 parallels in the control group and the test group.

A.5.2 Determination of initial bacterial concentration in control group

Before oscillation, take a proper amount of sample solution in the control group.

Through proper dilution, select an appropriate dilution ratio. Pour the panel. At (37 ± 1) °C, culture for 24 h ~ 48 h, then, count it.