



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 13173-2021

Surface active agents - Test methods for detergents

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 13173-2008 Surface active agents - Detergents - Testing methods. The following main technical changes have been made with respect to GB/T 13173-2008.

- The sample reduction method of block sample is added (see 4.2.4);
- The specimen treatment of phosphorus molybdenum blue colorimetry in the determination of total phosphorus oxide content is modified (see 6.2.4.2; 6.2.4.2 of Edition 2008);
- The extraction of ethanol solution in the determination of total active substance content is modified (see 7.4.1.1; 7.5.1.1 of Edition 2008);
- The procedure of determining sodium oxide in the determination of total active substance content is modified (see 7.4.1.2; 7.5.1.2 of Edition 2008);
- The application of mixed bed resin in the determination of non-ionic surface active agent content is added (see 8.2.1.3 and 8.4.1.3);
- The relative foaming power determination in the determination of foaming power is added (see 11.7);
- The determination of relative enzyme activity or content of protease is deleted (see Clause 18 of Edition 2008);
- The determination of alkylphenol ethoxylates content in detergents is added (see Clause 18);
- The determination of free alkali content in detergents is added (see Clause 20);
- The determination of dry sodium soap content in detergents is added (see Clause 21);
- The determination of high and low temperature stability of detergents is added (see Clause 22);
- The determination of odour is added (see Clause 23);
- The determination of colour and appearance is added (see Clause 24);
- The informative annex "Identification test of alkylphenol ethoxylates" is added (see Annex C).

This standard has been redrafted and modified in relation to ISO 607.1980 Surface active agents and detergents -- Methods of sample division, ISO 697.1981 Surface active agents -- Washing powders -- Determination of apparent density -- Method by

measuring the mass of a given volume, ISO 4313.1976 Washing powders -- Determination of total phosphorus oxide content -- Quinoline phosphomolybdate gravimetric method, ISO 4321.1977 Washing powders -- Determination of active oxygen content -- Titrimetric method, ISO 4325.1990 Soaps and detergents -- Determination of chelating agent content -- Titrimetric method, and ISO 21264.2019 Surface active agents -- Detergents -- Determination of alkylphenol ethoxylates. This standard is changed largely in terms of structure due to the integration of several international standards; the comparison between this standard and the international standards in clause/subclause number is listed in Annex A. Technical differences have been made in this standard with respect to the above international standards, and relevant technical differences and their causes have been listed in Annex B. This standard was proposed by China National Light Industry Council. This standard shall be under the jurisdiction of the National Technical Committee on Surfactant and Detergent of Standardization Administration of China (SAC/TC 272). The drafting organizations of this standard. China Daily Chemical Research Institute Co., Ltd., Shanghai Kaimi Technology Co., Ltd., Blue Moon (China) Co., Ltd., Unilever (China) Co., Ltd., Shenzhen Bagmei Biotechnology Co., Ltd., Zhejiang Keli Technology Co., Ltd., Xiamen Amber Daily Chemical Co., Ltd. Technology Co., Ltd., South China University of Technology.

1 Scope

This standard describes the test methods for indexes of surface active agents and detergents, such as sample reduction, particle size, total phosphorus oxide content, total active substance content, non-ionic surface active agent content, various phosphate content, toluenesulfonate content, foaming power, chelating agent (EDTA) content, apparent density, whiteness, moisture and volatile matter content, active oxygen content, 4A zeolite content, alkylphenol ethoxylates content, effective chlorine content, free alkali content, dry sodium soap content, stability at high and low temperature, odour,

colour and appearance, etc.

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 6003.1 Test sieves -- Technical requirements and testing -- Part 1. Test sieves of metal wire cloth (GB/T 6003.1-2012, ISO 3310-1.2000, MOD)

GB/T 6682 Water for analytical laboratory use -- Specification and test methods (GB/T 6682-2008, ISO 3696.1987, MOD)

JJG 512 Whiteness meters

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

surface active agents

The surface-active compound that dissolves in liquids, especially in water, and has a significant reduction in surface or interfacial tension due to preferential adsorption on liquid/gas surfaces or other interfaces

3.2

detergent

The specially prepared product that is used for cleaning in the process of cleaning

4 Reduction of sample

Reduction of a bulk sample by a mechanical process until a reduced sample is obtained.

The sample reduction process may be required for the following reasons.

The procedure specified is applicable to powders, including spray-dried powders, and particularly, those that contain additives that have been introduced after the drying process.