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

GB/T 21241-2022

Toilet bowl and ceramic tile cleansers

卫生洁具清洗剂

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Foreword

This document was issued on 30 December 2022 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 July 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 21241-2022 covers cleansers for toilet bowls and ceramic tiles in liquid, paste and gel form - the product categories, the requirements, the test methods, the inspection rules, and the marking, packaging, transport and storage. Products are divided into two types according to what they are meant to be used on, a division that matters because the soil in a bowl and the soil on a tiled wall are not the same problem and a product formulated for one is not necessarily safe on the surface of the other. The requirements begin with what the product may be made of, calling up the Category C requirements of GB/T 26396 for the finished product and for the raw materials behind it, since these are aggressive household preparations that end up on hands, down drains and in wastewater. The test methods are run with reagents confirmed as analytical grade and with grade-3 or better water to GB/T 6682, inspection follows QB/T 2951, and the marking follows GB/T 36970, so that whoever picks the bottle off a shelf can read what is in it and how it is to be stored and carried. Written for cleanser manufacturers, retail and institutional buyers setting acceptance conditions, and the laboratories checking batches against the requirements.

This document stipulates the classification, requirements, test methods, inspection rules

and marking, packaging, transportation, storage of toilet bowl and ceramic tile cleansers. This document is applicable to the production and testing of liquid, paste, gel sanitary ware cleaning products, that are composed of inorganic acids, organic acids, surfactants or other auxiliaries as the main raw materials.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, for dated reference documents, only the version corresponding to the date applies to this document; for undated reference documents, the latest version (including all amendments) applies to this document.

GB/T 3810.13-2016 Test methods of ceramic tiles - Part 13.Determination of chemical resistance

GB/T 4100-2015 Ceramic tiles

GB/T 6682 Water for analytical laboratory use - Specification and test methods

GB/T 13173-2021 Surface active agents - Test methods for detergents

GB/T 26396 Technical specification for safety of soaps and detergents

GB/T 36970 Instruction for use of consumer products - Labelling for detergents

QB/T 2117-1995 General water-based metal detergents

3 Terms and definitions

There are no terms or definitions to be defined in this document.

4 Product categories

According to the objects of use of the products, sanitary ware cleaning agent products are divided into two types.

5 Requirements

5.1 Basic requirements

The products and raw materials used shall comply with the requirements of Category C products in GB/T 26396.

5.2 Sensory requirements

The sensory requirements of the product shall comply with the provisions of Table 1.

5.3 Physical and chemical performance indicators

The physical and chemical performance indicators of the product shall comply with the provisions of Table 2.

6 Test methods

6.1 Basic requirements

Unless otherwise stated, only reagents confirmed to be of analytical grade and grade-3 water or above complying with GB/T 6682 are used in the analysis.

6.2 Appearance

Measure a specimen of no less than 200 mL. Place it in a dry and clean colorless glass container. Observe it under non-direct light conditions.

6.3 Odor

Take an appropriate amount of specimen and place it in a container without peculiar smell, for identification by smell.

6.5 Total acidity

6.5.1 Principle

Using phenolphthalein as an indicator, titrate the specimen solution with sodium hydroxide standard titration solution until it appears reddish. Calculate the total acidity based on the consumption.

6.5.2 Reagents

6.5.3 Instruments

6.5.4 Procedure

6.6 Total effective substance content

If there are no special instructions, the provisions of 7.4.1 in GB/T 13173-2021 shall be followed.

6.7 Corrosiveness

6.7.1 Ceramic tile corrosiveness

The measurement is carried out according to the test method of 8.1 in GB/T 3810.13-2016.

6.7.2 Corrosion of metal test pieces

The corrosion resistance of 1Cr18Ni9Ti stainless steel, H62 brass, Cu/Ni10bCr brass chromium plating is measured according to QB/T 2117-1995; H62 brass is rated according to 5.6.5.2 in QB/T 2117-1995; 1Cr18Ni9Ti stainless steel and Cu/Ni10bCr brass chromium plating are rated according to the following criteria.

6.8 Total phosphorus pentoxide content

Follow the provisions of 6.2 in GB/T 13173-2021.

7 Inspection rules

Follow the requirements of QB/T 2951.

8 Marking, packaging, transportation, storage

8.1 Marking

It is carried out according to the provisions of GB/T 36970.

8.3 Transport

During transportation, it shall be loaded and unloaded gently. It shall not be turned upside down.

8.4 Storage

The product shall be stored in a ventilated, dry place away from direct sunlight and rain. It shall not be stored in high temperature or freezing environments.

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