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

GB/T 42349-2023

**Determination of antiviral activity of photocatalytic materials -
Test method using bacteriophage Q-beta**

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Standardization Administration**

Table of Contents

Preface	
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 symbols	2
5 Principle	2
6 Material	3
6:1 Test microorganisms and test preparation	3
6:2 Medium	4
7 Instruments and equipment	5
7:1 Test device	5
7:2 Cover film	6
7:3 Humidifying glass panels	6

foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents"

drafting:

This document is equivalent to ISO 18061:2014 "Fine Ceramics (Advanced Ceramics, Advanced Industrial Ceramics) Semiconductor Photocatalytic Materials for Disease Resistance

Determination of Toxic Activity Q-beta Phage Test Method":

The following minimal editorial changes have been made to this document:

---In order to coordinate with the existing standard system, the name of the standard was changed to "Determination of antiviral activity of photocatalytic materials Q-beta phage test method":

Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents:

1 Scope

This document describes the test method for the antiviral activity of surfaces containing photocatalysts or coated with photocatalysts or photocatalytic materials:

This method determines its antiviral activity by counting the reduction of Q-beta phage after ultraviolet light irradiation:

Note: In this test method, Q-beta bacteriophage is used as a substitute virus for influenza virus:

This document is applicable to different types of semiconductor photocatalytic materials used in building materials, and its basic shapes include sheet, block or flat

etc., but does not include powders, granules or porous photocatalytic materials:

This document is applicable to the detection of photocatalytic materials with anti-virus properties, not applicable to anti-bacterial, anti-fungal, degradation of pollutants in water, self-

Detection of cleaning, anti-fog and air purification performance:

Quantities expressed in this document are in International System of Units (SI) units:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document:

ISO 10677 Fine ceramics (advanced ceramics, advanced technical ceramics) Ultraviolet light source for the detection of semiconductor photocatalytic materials [Finece-

ISO 27447:2009 Fine ceramics (advanced ceramics, advanced technical ceramics) Test method for antibacterial activity of semiconductor photocatalytic materials

ISO 80000-1 Quantities and units Part 1: General (Quantities and units-Part 1: General)

3 Terms and Definitions

The following terms and definitions apply to this document:

3:1

Photocatalyst photocatalyst

Under the excitation of a certain light source, it can produce catalytic substances, including

decomposition and removal of pollutants in air and water, deodorization, antibacterial, and self-activation:

Cleaning and anti-fog etc:

3:2

A material that contains or uses a photocatalyst and has photocatalytic properties:

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