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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Test method for air-purification performance of photocatalytic materials - Removal of toluene

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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 22197-3.2019 "Fine Ceramics (Advanced Ceramics, Advanced Industrial Ceramics) Semiconductor Photocatalytic Materials Air

Purification Performance Test Method Part 3.Removal of Toluene".

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

--- In order to coordinate with the existing standard, the name of the standard is changed to "Test Method for Air Purification Performance of Photocatalytic Materials Removal of Toluene".

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 a method for testing the air purification performance of materials containing or attached to the surface of photocatalysts.

The agent is usually a semiconducting metal oxide such as titanium dioxide (TiO2) or other ceramic material. This test method exposes the sample to ultraviolet light

(UV-A) irradiation, continuous exposure to simulated polluted air.

This document applies to different types and uses of panels, such as veneer, wood and other building materials.

This document also applies to structured filter materials, such as honeycomb filter panels, knitted or non-woven fabrics. Also suitable for composite ceramic microcrystals

Plastic, paper materials, etc. This document does not apply to powdered or granular photocatalytic materials.

This test method is generally applicable to the detection of air purification of photocatalytic materials, but not to the determination of other properties of photocatalytic materials, such as water

Pollutant degradation, self-cleaning, anti-fog or antibacterial, etc. This method only involves the removal of toluene.

2 Normative references

The content in the following documents constitutes the essential provisions of this document through normative references in the text, among which, the 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 4892-3 Laboratory light source exposure test methods for plastics Part 3.Fluorescent ultraviolet lamps (Plastics-Methodsofex-

Note. GB/T 16422.3-2022 Plastic laboratory light source exposure test method Part 3.Fluorescent ultraviolet lamp (ISO 4892-3.2016, IDT)

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

Note. GB/T 27025-2019 General requirements for the competence of testing and calibration laboratories (ISO /IEC 17025.2017, IDT)

ISO 80000-1 Quantities and units Part 1.General (Quantitiesandunits-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.