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

GB 27599-2011

Titanium dioxide for cosmetic use

化妆品用二氧化钛

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Foreword

The four indexes in Chapter 5, namely heavy metals, arsenic, lead and mercury, AND Chapter 8 of this Standard are mandatory; while others are recommended. This Standard is drafted according to the rules given in GB/T 1.1-2009. This Standard was proposed by China Petroleum and Chemical Industry Federation. This Standard shall be under the jurisdiction of the Inorganic Chemical Subcommittee of National Technical Committee for

Standardization of Chemistry (SAC/TC 63/SC 1). Drafting organizations of this Standard. Shanghai Jianghu Titanium White Product Co., Ltd, CNOOC Tianjin Chemical Research and Design Institute, Jiangsu Hehai Nanometer Science and Technology Co., Ltd, and Henan Billions Chemicals Co., Ltd. Main drafters of this Standard. Xie Yiyuan, Wang Zhaoyuan, Guo Yongxin, Fan Guoqiang, Xu Binhai and Chen Jianli. Titanium dioxide for cosmetic use

1 Scope

GB 27599-2011 is the Chinese national standard on titanium dioxide for cosmetic use, in the field of chemical technology. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 5 December 2011 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 August 2012. Classification: ICS 71.060.20, CCS G13. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Standard specifies the classification, requirements, test methods, inspection rules, marks, labels, packaging, transportation and storage of the titanium dioxide for cosmetic use. This Standard is applicable to the titanium dioxide powder mainly used as cosmetic raw materials.

2 Normative references

The following documents are essential to the application of this document. For dated references, only the editions with the dates indicated are applicable to this document. For undated references, only the latest editions (including all the amendments) are applicable to this document.

GB/T 191-2008 Packaging - Pictorial marking for handling of goods

GB/T 1706-2006 Titanium dioxide pigments

GB/T 5009.74-2003 Method for limit test of heavy metals in food additives

GB/T 6679 General rules for sampling solid chemical products

GB/T 6682-2008 Water for analytical laboratory use - Specification and test methods

GB/T 7917.1-1987 Standard methods of hygienic test for cosmetics - Mercury

3 Molecular formula and relative molecular mass Molecular formula.

TiO

2 Relative molecular mass. 79.87 (according to the international relative atomic mass in 2007)

4 Classification and types

4.1 Classification Titanium dioxide for cosmetic use is classified into two categories. Class I, without any surface treatment; Class II, with surface treatment.

4.2 Types Class I titanium dioxide for cosmetic use is divided into anatase type (A) and rutile type (R).

4.3 Specifications All types of Class II titanium dioxide for cosmetic use are divided into two specifications. hydrophilic and oleophilic.

5 Requirements

5.1 Appearance. white powder.

5.2 Titanium dioxide for cosmetic use shall respectively conform to the requirements in Tables 1 and 2.

6 Test method

6.1 Safety instructions Some of the agents used in this test method are toxic or corrosive. Be cautious during operations! RINSE with water immediately if splashing on the skins or eyes.

6.2 General provisions Unless otherwise specified, the reagents and water used in this Standard refer to the analytical reagents and the Level III water specified in GB/T 6682-2008.

6.3 Appearance inspection USE the visual observation method to determine the appearance in natural light.

6.5 Crystal form determination

6.5.1 Instrument X-ray diffractometer. The power of the X-ray generator can come up to (40kV / 40mA).

6.5.2 Analysis procedures CONDUCT tableting to the samples according to the requirements of the X-ray diffractometer. DETERMINE afterwards.

6.6.1 Method summary Same as the Section

7.1.1 of GB/T 1706-2006.

6.6.2 Reagents and materials Same as the Section

7.1.2 of GB/T 1706-2006.

6.6.3 Instruments and equipment Same as the Section

7.1.3 of GB/T 1706-2006.

6.7 Determination of the loss on drying Same as the Section

7.2 of GB/T 1706-2006. DRY for 3h. KEEP the specimens for the determination of the loss on ignition.

6.8 Determination of the loss on ignition

6.8.1 Instruments and equipment High-temperature furnace. The temperature shall be controlled at $800^{\circ}\text{C} \pm 25^{\circ}\text{C}$.

6.10 Determination of the heavy metal content

6.10.1 Method summary Same as the Chapter 2 of GB/T 5009.74-2003.

6.10.2 Reagents

6.10.2.1 Hydrochloric acid. 1 + 19.

6.10.2.2 Acetic acid solution. 1 + 19.

6.10.2.3 Other reagents are the same with those in the Chapter 3 of GB/T 5009.74-2003.

6.10.3 Instruments and equipment Same as the Chapter 4 of GB/T 5009.74-2003.

6.10.4 Analysis procedures

6.11 Determination of the arsenic content TAKE 10mL of test solution A (6.10.4.1). Other operations are the same with those in the Chapter 1 of GB/T 7917.2-1987.

6.12 Determination of the lead content TAKE 10mL of test solution A (6.10.4.1). Other operations are the same with those in the Chapter 1 of GB/T 7917.3-1987.

6.13 Determination of the mercury content TAKE 1mL of test solution A (6.10.4.1). Other operations are the same with those in the Chapter 5 of GB/T 7917.1-1987.