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

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**Plastics - Determination of yellowness index and change in
yellowness index**

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Foreword

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

This standard uses the redrafting method to modify and adopt ISO 17223.2014 "Determination of Plastic Yellow Index and Its Change Value".

Compared with ISO 17223.2014, this standard has structural adjustments as follows.

--- Move "6.3 Precision" to Appendix A;

---Move the ISO 1043-1 and ISO 5725-2 in the normative references in Chapter 2 to the references.

The technical differences between this standard and ISO 17223.2014 and the reasons are as follows.

--- Regarding normative reference documents, this standard has made adjustments with technical differences to adapt to my country's technical conditions and adjustments.

The situation is collectively reflected in Chapter 2 "Normative Reference Documents", and the specific adjustments are as follows.

* Replace ISO 291.2008 with GB/T 2918-2018, which is modified to adopt international standards;

* Replace ISO 1043-1 with GB/T 1844.1, which is equivalent to adopting international standards, and move GB/T 1844.1 to reference literature;

* Replace ISO 5725-2 with GB/T 6379.2, which is equivalent to adopting international standards, and move GB/T 6379.2 to reference

literature.

--- Move 6.3 precision related content to Appendix A as informative content.

For ease of use, this standard has made the following editorial changes.

---Add informative Appendix B factors that affect test results.

This standard was proposed by the China Petroleum and Chemical Industry Federation.

This standard is under the jurisdiction of the National Plastics Standardization Technical Committee (SAC/TC15).

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1 Scope

This standard specifies the method for determining the yellow index and its change value of transparent or opaque plastics.

This standard applies to the determination of the yellow index of plastic materials and their change values.

Note 1. The shape of the sample includes molded plates or discs, films, flakes, powders and particles. Not suitable for plastics containing fluorescent agents.

Note 2. The yellow index change value is often used to evaluate the impact of the environment on the color stability, such as high temperature, ultraviolet radiation and so on.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 2918 Standard environment for condition adjustment and testing of plastic specimens (GB/T 2918-2018, ISO 291.2008, MOD)

ASTME313 Standard Practice for Calculating Yellow and White Indexes Based on the Color Coordinates Determined by the Instrument (Standardpractice

forcalculatingyelownessandwhitenessindicesfrominstrumentalymeasuredcolorcoordinates)

CIE15.2004 Colorimetry

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Yellowness index

YI

Deviates from white or colorless, and tends to the degree of yellow.

3.2

Yellow index change value changeofyelownessindex

deltaYI

The difference between the yellow index of the sample before aging and the yellow index of the sample after aging.

Note. For example, before and after exposure to specified conditions.

4.1 Sample and specimen preparation

Statistical methods should be used to extract from the batch to be tested. Under normal circumstances, the test should be carried out in the original state of the received sample, unless the evaluation

The target sample is a molded plate or disc, film or flake prepared from granules or powder.

4.2 Test environment and standard conditions

According to GB/T 2918, the standard condition of the test environment is 23/50.