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**CHEMICAL INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

HG/T 3689-2014

**Test method of discoloration for footwear
(English Translation)**

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1 Scope

This Standard specifies the test method for the degree of yellowing resistance of the upper and sole of the shoes and other products against the sunlight and ultraviolet light.

This Standard specifies two test methods A and B. Method-A is the solar lamp method and Method-B is ultraviolet lamp tube method.

This Standard is applicable to test the materials used for white and light-colored shoes.

2 Normative References

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

GB/T 250-2008 Textiles - Tests for Color Fastness - Grey Scale for Assessing
Change in Color

3.1 Method-A: solar lamp method

According to the phenomenon that the white or light-colored products are prone to yellowing under the long-term exposure to the natural sunlight, under the condition with solar lamp and heating temperature control device simulating the natural environment, observe the change of the color on the sample surface within a predetermined time; confirm

the degree of the sample discoloration; so that judge the material's yellowing resistance under solar radiation.

3.2 Method-B: ultraviolet lamp tube method

According to the phenomenon that the white or light-colored products are prone to yellowing under the long-term exposure to the ultraviolet light, the sample is irradiated with ultraviolet rays, observe the color change on the surface of the sample within the

4.3 Gray scale

It shall meet the requirements of GB/T 250-2008.

4.4 Standard light source box

The light source in the standard light source box shall use D65 light source.

5 Sample Preparation

5.1

Shape and specification of the sample

Cut 2 samples with size no less than

30mmx10mm per group; one sample is sent to the test chamber for the yellowing resistance test; the other sample is placed outside the chamber for the assessment of the test results.

5.2

The shape and specification of the special sample can be determined by the actual situation.

5.3

The sample quantity shall be determined according to the number of test items; the effective samples for each test item shall be no less than 3 groups.

6.1 Method-A

6.1.1

The temperature inside the test chamber is specified to be $50^{\circ}\text{C}\pm 2^{\circ}\text{C}$.

6.1.2

The sample surface shall be parallel to the bottom surface of the bulb, the distance between two which is $250\text{mm}\pm 2\text{mm}$.

6.2 Method-B

The sample surface shall be parallel to the bottom surface of the lamp tube, the distance between two which is $250\text{mm}\pm 2\text{mm}$.

7.1.1 Sample installation

Place the sample on the tray at the position between the two concentric circles of 75mm and 300mm diameters. The illuminated surface of the sample faces the light

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