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

GB/T 30398-2013

**Leather and fur - Chemical tests - Determination of allergenic
disperse dyestuffs**

皮革和毛皮 化学试验 致敏性分散染料的测定

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**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Normative references
- 4 Reagents

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. The standard proposed by China National Light Industry Council. This standard by the National Leather Industry Standardization Technical Committee (SAC/TC252) centralized. This standard was drafted. People's Republic of China Fujian Exit Inspection and Quarantine, National Leather Quality Supervision and Inspection Center (Zhejiang), China National Leather and Footwear Industry Research Institute, the national footwear testing center. The main drafters of this standard. Chenxue Can even Xiaobin, Zhang Huimin, Zhao Ligu, Wang Lingxia, Wang Xiaoxia, Li Xiaoya. Leather and fur - Chemical tests Determination of allergenic disperse dyes

1 Scope

China's national test method for allergenic disperse dyes in leather and fur. It specifies the determination of twenty allergenic disperse dyestuffs in dyed leather, dyed fur and articles made from them, and it applies to dyed leather and fur products. Disperse dyes are the class used on hydrophobic fibres and, in this sector, on the synthetic components and finishes that accompany leather and fur; they are small, largely non-ionic molecules with low water solubility, and that combination is precisely what makes some of them sensitizers. Because the molecule is small and poorly bound, it migrates out of the material with warmth and perspiration, penetrates the outer layer of the skin, and can act as a hapten - binding to skin protein and provoking an allergic contact dermatitis that, once established, recurs on every subsequent exposure. A set of these dyes, mostly in the Disperse Blue, Disperse Red, Disperse Orange and Disperse Yellow series, has been identified as clinically significant and restricted in the major consumer markets, which is why a Chinese national method matters commercially as much as it does technically: leather and footwear exporters have to demonstrate compliance with those restrictions, and they need a method the buyer will accept. The procedure extracts the sample ultrasonically with methanol and analyses the extract by high performance liquid chromatography with diode array detection for identification and quantification, or by liquid chromatography with tandem mass spectrometry where confirmation at low levels is required. Standard stock solutions are prepared for each of the twenty dyes individually and combined into working solutions in

groups chosen so that the dyes within a group separate chromatographically. Issued on 31 December 2013 and in force since 1 December 2014.

This standard specifies the dyeing of leather, fur and products Determination of 20 kinds of allergenic disperse dyes. This standard is suitable for dyeing leather and fur products.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document. Laboratory use specifications and test methods

GB/T 6682 Analysis QB/T 1267 fur finished specimen parts and sign Preparation and chemical QB/T 1272 chemical analysis of samples of finished fur General Analysis QB/T 2706 leather chemical, physical, mechanical and color fastness test sample sites QB preparation of leather chemical test samples/T 2716 Principle

3 The samples were methanol ultrasonic extraction, a diode array detector with high performance liquid chromatography (HPLC/DAD) to extract intake Line qualitative and quantitative determination; or by high performance liquid chromatography - tandem mass spectrometry for qualitative (HPLC-MS/MS), quantitative determination.

4 Reagents

Unless otherwise specified, the reagents were of analytical grade water to comply with two water GB/T 6682 regulations.

4.1 methanol (HPLC grade).

4.2 dibasic sodium phosphate.

4.3 sodium dihydrogen phosphate.

4.4 ammonium acetate.

4.5 acetic acid.

4.6 Single-component standard stock solution (200mg/L). formulating effective concentration of a single component disperse 200mg/L listed in Appendix A Sample standard stock solution in methanol.

4.7 for a standard working solution (5mg/L) HPLC/DAD analysis. Group A. from Disperse Blue 1, Disperse Blue 35, Disperse Blue 106, Disperse Blue 124, Disperse Red 1, Disperse Red 11, Disperse Yellow 3, Disperse Yellow 9, points Scattered orange 1, Disperse Orange 3, Disperse Orange 37/76, one-component dispersion brown standard stock solution 1 from each 2.5mL placed on the same volumetric flask Methanol to 100mL. Group B. from

Disperse Blue 3, Disperse Blue 7, Disperse Blue 26, Disperse Blue 102, Disperse Red 17, Disperse Yellow 1, Disperse Yellow 39, Disperse Yellow 49, single Component standard stock solution into the same flask depicting 2.5mL with methanol to 100mL. Standard solution (2mg/L)

4.8 for HPLC/MS/MS Analysis. Each pipette from the standard single-component stock solution 1mL placed on the same Flask with methanol to 100mL.

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