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

GB/T 30399-2013

**Leather and fur - Chemical tests - Determination of
carcinogenic dyestuffs**

皮革和毛皮 化学试验 致癌染料的测定

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

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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, Maoshu Lu, Chen Hongbo, Zhao Liguang, Wang Lingxia, Wang Xiaoxia, Yin Honglei. Leather and fur - Chemical tests Determination of carcinogenic dyes

1 Scope

China's national test method for carcinogenic dyes in leather and fur. It specifies the determination of nine carcinogenic dyes together with Disperse Yellow 23 and Disperse Orange 149, two dyes that release harmful aromatic amines on cleavage, in dyed leather, dyed fur and articles made from them, and it applies to dyed leather and fur products. The restriction these dyes fall under is different in kind from the one on allergens. A sensitising dye causes a reaction in a susceptible person on contact; a carcinogenic dye is restricted because the molecule itself, or a compound released from it, is classified as capable of causing cancer, and the exposure route is skin contact with a material worn against the body for years. Some of them are directly classified carcinogens; others, including the two named in the title, are azo compounds whose reduction cleaves the azo bond and liberates an aromatic amine from the restricted list, so a material that contains none of the banned amines as supplied can still release one in use. That is why both categories are covered in one method. The procedure extracts the sample ultrasonically with methanol, filters the extract through a membrane, and analyses it by high performance liquid chromatography with diode array detection or by liquid chromatography with tandem mass spectrometry for confirmation, quantifying against external standards. The mobile phase chemistry is specified in detail - a tetrabutylammonium dihydrogen phosphate solution adjusted to pH 7.5 and an ammonium acetate solution adjusted to pH 6.0 - because several of these dyes

are ionisable and their retention and peak shape depend on it. Issued on 31 December 2013 and in force since 1 December 2014.

This standard specifies the dyeing of leather, fur products in nine carcinogenic dyes and cleave the release of harmful aromatic amines Disperse Yellow 23, Disperse Orange 149 Determination of dye. This standard applies to dyeing leather, 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/T 2716 Leather - Chemical test sample preparation Principle

3 The samples were methanol ultrasonic extraction, after membrane filtration, high performance liquid chromatography with a diode array detector (HPLC-DAD) Or high performance liquid chromatography - mass spectrometry/mass spectrometry (HPLC-MS/MS) and confirmed, external standard.

4 Reagents

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

4.1 Acetonitrile, HPLC grade.

4.2 Methanol, HPLC grade.

4.3 acetic acid, HPLC grade. 4.4 5% aqueous ammonia (mass fraction).

4.5 solution of tetrabutylammonium dihydrogen phosphate, 0.0025mol/L, adjusted with 5% aqueous ammonia (4.4) pH 7.5.

4.6 ammonium acetate solution, 0.005mol/L, adjusted with acetic acid (4.3) pH to 6.0.

4.7 single-component (Appendix A) standard stock solution, 200mg L methanol solution /.

4.8 standard stock solution mixed standard solution, respectively Pipette a volume of 11 kinds of carcinogenic dyes (4.7), placed in the same brown capacity Flask, diluted with methanol to the mark, shake. Concentration of the mixed standard solution can be formulated according to actual needs.

5 Instruments and devices

5.1 Tubular hard glass extractor, 50mL, with a screw cap (with PTFE gasket).

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