



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

GB/T 22807-2019

**Leather and fur - Chemical tests - Determination of chromium VI
content**

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Foreword

This Standard was drafted according to the rules given in GB/T 1.1-2009.

This Standard replaces GB/T 22807-2008 "Leather and fur - Chemical tests - Determination of chromium VI content".

Compared with GB/T 22807-2008, the main technical changes of this Standard are as follows.

- ADD references to GB/T 6682 and GB/T 38402 (see Clause 2 of this Standard, Clause 2 of 2008 edition);
- DELETE the specific test conditions involved in the principle, and ADJUST some of the contents to "7.1 Preparation of analytical solution" (see Clause

3 and 7.1 of this Standard, Clause 3 of 2008 edition);

- ADD methanol in "Reagents and materials" (see 4.9 of this Standard);
- MODIFY the requirements for the frequency of oscillator (see 5.1 of this Standard, 5.1 of 2008 edition);
- ADD filter paper and analytical balance in "Apparatus and equipment" (see

5.7 and 5.11 of this Standard);

- CLARIFY the temperature, temperature control method and mechanical oscillation frequency of sample extraction (see 7.1 of this Standard);
- EXTEND the allowable range of pH value of the solution after extraction, and ADJUST the filter method of the extract to filtration with filter paper (see

7.1 of this Standard, 7.3 of 2008 edition);

- ADD the decolorization procedure of the sample extract (see 7.2.1 of this Standard);
- ADD the dispute handling method (see 8.4 of this Standard).

This Standard uses the redrafting method to modify ISO 17075-1.2017 "Leather

- Chemical determination of chromium (VI) content in leather - Part 1. Colorimetric method".

Compared with ISO 17075-1.2017, this Standard has many structural adjustments. Annex A gives a list of comparisons between this Standard and ISO 17075-1.2017.

There are technical differences between this Standard and ISO 17075-1.2017.

Annex B gives a list of the corresponding technical differences and their reasons.

This Standard has also made the following editorial changes.

- CHANGE the standard name TO "Leather and fur - Chemical tests - Determination of chromium (VI) content. Colorimetric method";
- In 4.3, ADD the description that 1,5-diphenylcarbazide (DPC) solution cannot be used if its color has changed;
- DELETE the informative annexes "Annex A" and "Annex B" of ISO 17075-1.2017;
- ADJUST the verification data in Annex C of ISO 17075-1.2017 to the domestic laboratory verification results.

This Standard was proposed by China National Light Industry Council.

This Standard shall be under the jurisdiction of National Technical Committee on Leather Industry of Standardization Administration of China (SAC/TC 252).

Drafting organizations of this Standard. Shaanxi University of Science and Technology, Guangzhou Inspection, Testing and Certification Group Co., Ltd., Zhejiang Tongtianxing Group Co., Ltd., Yangzhou Jianbu Footwear Co., Ltd., Dongguan Runbang Shoes Material Co., Ltd., China Leather and Footwear Research Institute Co., Ltd.

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The previous released version replaced by this Standard is as follows.

- GB/T 22807-2008.

Leather and fur - Chemical tests - Determination
of chromium (VI) content. Colorimetric method

1 Scope

This Standard specifies the colorimetric method for the determination of chromium content in leather and fur.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 6682 Water for analytical laboratory use - Specification and test methods (GB/T 6682-2008, ISO 3696:1987, MOD)

3 Principle

Use phosphate buffer to extract the soluble chromium in the sample. If necessary, it may use solid phase extraction to remove the co-extracted colored substances that interfere with the test. After filtration, the chromium in the filtrate

is reacted with 1,5-diphenylcarbazide under acidic conditions to form a purple-red complex.

4 Reagents and materials

Unless otherwise stated, all reagents used are of analytical grade.

5 Apparatus and equipment

Quartz cuvette, thickness of 2 cm, or other cuvettes of suitable thickness.

Solid phase extraction column, C18 or PA, or packing with equivalent effect.

Analytical balance, to the nearest 0.1 mg.

6 Sampling and preparation of samples

Leather. according to the provisions of QB/T 2716.

Fur. according to the provisions of QB/T 1272.

REMOVE the glue and attachments on the sample as cleanly as possible, MIX the sample evenly, and PUT it into a clean sample bag for test.

7 Test procedure

PIPETTE 10 mL of the analytical solution obtained in 7.1, ADD an appropriate amount of chromium standard solution, so that the content of chromium is close to 2 times (+/-25 %) of the content of chromium in the original analytical solution (7.1). The final volume of the solution after adding the chromium standard solution does not exceed 11 mL.

8 Calculation and expression of results

Calculate the recovery rate according to formula (4).

For the chromium content in the sample, it takes the arithmetic mean value of the two parallel test results as the test result, expressed in mg/kg, to the nearest

0.1 mg/kg. The ratio of the difference between the two parallel test results to the mean value shall be less than 10 %.