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

GB/T 22866-2008

**Leather hardware accessory -- Determination of release of
nickel**

皮革五金配件 镍释放量的测定

(English Translation)

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Foreword

This revised standard adopts EN1811:1998 "directly into and long-term exposure to products of nickel release the skin of the reference test methods" (In English).

This standard EN1811:1998, the difference is as follows.

- a) adding a reagent of nickel standard solution;
- b) Instruments and equipment increased by atomic absorption spectrophotometer (with graphite furnace atomic device) and inductively coupled plasma emission light Spectrometer instrumentation reference conditions;
- c) determination of nickel in the refined drawing working curve was measured in two steps and the sample solution of nickel;
- d) delete the original data Appendix D, Appendix E.

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

- a) Remove European standard foreword and preface.
- b) "The European Standard" be replaced by "of this standard."
- c) use the decimal point. "" instead of a comma as the decimal point "." Appendix A of this standard is a normative appendix, Appendix B, Appendix C is informative appendix.

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 Jiaying Exit Inspection and Quarantine.

Drafters of this standard. Shen Bing to Yan Fang, Wang practice, Zhu Hongmin, ZHANG MENG MENG.

Determination of nickel release hardware accessories leather

1 Scope

This standard specifies the method for determination of metal accessories in leather nickel release.

This standard applies to all types of leather hardware accessories.

Principle 2

The sample is immersed in artificial sweat week. Artificial sweat dissolved nickel ion concentration by atomic absorption spectrometry, inductively coupled plasma Spectroscopy or other appropriate analytical method for the determination. Nickel release in micrograms per square centimeter weeks [$\mu\text{g}/(\text{cm}^2 \cdot 2 \text{ weeks})$].

3 Reagents

Unless otherwise indicated in the analysis using only recognized as analytical reagents.

3.1

deionized water, conductivity of no greater than $1\mu\text{S}/\text{cm}$.

3.2

sodium chloride.

3.3

DL- lactic acid, mass fraction is greater than 0.88, $\rho = 1.21\text{g}/\text{mL}$.

3.4

urea.

3.5

ammonia water and the concentration was 0.25, $\rho = 0.91\text{g}/\text{mL}$.

3.6

dilute ammonia, the mass fraction of 0.01. Aqueous ammonia (3.5) 10mL water placed inside a pre-loaded with 100mL 250mL beaker, stirring and cooled to room temperature, the solution is transferred to 250mL volumetric flask, dilute with water to volume, and mix.

3.7

nitric acid, the mass fraction of 0.65, $\rho = 1.40\text{g}/\text{mL}$.

3.8

with dilute nitric acid, the mass fraction of about 0.05. Nitric acid (3.7) 30mL placed in a pre-loaded with 350mL 500mL beaker of water, stir Mixed and cooled to room temperature,

the solution is transferred to 500mL volumetric flask, dilute with water to volume, and mix.

3.9

anionic surfactant, dodecylbenzene sulfonate or alkylaryl sulfonate.

3.10

degreasing solution, the anionic surfactant (3.9) 5g 1000mL dissolved in water, can also be used neutral degreaser.

3.11

wax or paint (for the electroplating industry), should be able to paint or wax coated layer or layers on the surface of the sample, the purpose is to carry out nickel release test when the non-test surface to prevent the nickel from escaping.

3.12

Nickel standard solution, 1000 μ g/mL.

4 Instruments and devices

4.1

pH meter with an accuracy of 0.02pH units.

4.2

Analysis Spectrometer, the instrument after optimized to meet the requirements of 4.2.1 and 4.2.2. We recommend using atomic absorption spectrophotometer (with Graphite furnace atomic device) or inductively coupled plasma emission spectrometer.

4.2.1

Minimum precision. The nickel content of 0.05mg/L solution of full matrix correction, the standard deviation of 10 measurements does not exceed 10%.

4.2.2

Detection limit. a nickel content selected for their absorbance just over the whole substrate solution absorbance zero concentration calibration solution, 10 times Twice the standard deviation as a measure of the detection limit. In the final test solution is similar to the matrix of the detection limit of nickel should not at 0.01mg/L.

4.2.3

atomic absorption spectrophotometer (with graphite furnace atomic device),
Instrumentation reference conditions. wavelength 232.0nm, spectral band Width 0.2nm, the lamp current 10mA, integral time 4.0s.

4.2.4

inductively coupled plasma emission spectrometer, instrumentation reference conditions.
auxiliary gas flow rate 0.5L/min; pump speed 100r/min; plot Divided time, long wavelength
(> 260nm) 5s, short-wave (