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

GB 8058-2003

**Standard permissible limits and testing method for release of
lead or cadmium from ceramic cookware**

陶瓷烹调器铅、镉溶出量允许极限和检测方法

(English Translation)

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Foreword

Chapter 4 of this Standard is mandatory content, the rest are recommended content.

This Standard is the revision of GB 8058-1987 "Standard permissible limits and testing method for release of lead or cadmium from ceramic cookware".

This Standard equivalently adopts international standards ISO 8391-1.1986

"Ceramic cookware in contact with food - Release of lead and cadmium - Part 1.

Method of test" and ISO 8391-2.1983 "Ceramic cookware in contact with food - Release of lead and cadmium - Part 2. Permissible limits".

This Standard makes the following modifications to the technical content of GB 8058-1937.

- TIGHTEN the permissible limit indicators in Chapter 4;
- DELETE the Chapters 3, 5, 4, 2 of original standard;
- DEFINE more specific provisions about atomic absorption spectrophotometer.

This Standard was proposed by China Light Industry Federation.

This Standard shall be administrated by National Ceramic Standardization Center.

Drafting organizations of this Standard. Ceramic Research Institute of Light

Industry, Jingdezhen University, and Jingdezhen Ceramic Institute.

Main drafters of this Standard. Shen Wei, Yao Jilie, Chen Benxing, Yu Jinbao, and Yu Xiaoqin.

This Standard was first released in June 1987.

From the date of implementation of this Standard, it shall replace GB 8058-1987.

Standard permissible limits and testing method for release of lead or cadmium from ceramic cookware

eqv ISO 8391-1.1986

eqv ISO 8391-2.1986

Replacing GB 8058-1987

1 Scope

This Standard specifies the standard permissible limits and testing method for release of lead or cadmium from ceramic cookware.

This Standard applies to casserole, boiler, hot pot, wok, heating pot and other kinds of ceramic cooking products in contact with food.

2 Reference standards

The following standards contain provisions which, through reference in this Standard, become provisions of this Standard. At time of publication, the editions indicated are valid. All standards are subject to revision. The parties who are using this Standard shall explore the possibility of using the latest version of the following standards.

GB/T 6682-1992 Water for analytical laboratory use - Specification and test methods (neq ISO 3696. 1987)

3 Definitions

This Standard uses the following definition.

3.1

Ceramic cookware

The ceramic products that are used to heat and prepare food, but excluding scale. SHAKE it well.

5.3.2 100mg/L of lead standard solution

Accurately TRANSFER 10mL of lead standard solution of which the concentration is 1000mg/L INTO 100-mL volumetric flask. DELUTE it with 4% acetic acid solution until it reaches the scale. SHAKE it well.

5.3.3 Series of lead standard solutions

Accurately TRANSFER 0.0, 0.5, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0mL of lead standard solutions of which the concentration is 100mg/L. And PLACE them in 100-mL volumetric flasks respectively. DELUTE them with 4% acetic acid solution until they reach the scale. SHAKE well. The solutions contain 0.0, 0.5, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0µg lead per milliliter respectively. REPLACE it by new solutions after being used for 4 weeks.

5.3.4 1000mg/L of cadmium standard solution

WEIGH and TAKE 1.1423g of cadmium oxide which has been baked at DISSOLVE it with 40mL of glacial acetic acid. COOL it down. MOVE it in 1000-mL volumetric flask. DILUTE it with distilled water until it reaches the scale. SHAKE it well.

5.3.5 10mg/L of cadmium standard solution

Accurately TRANSFER 10mL of cadmium standard solution of which the concentration is 1000mg/L INTO 1000-mL volumetric flask. DILUTE it with 4% acetic acid solution until it reaches the scale. SHAKE it well.

5.3.6 Series of cadmium standard solutions

Accurately TRANSFER 0.00, 0.50, 1.00, 2.00, 3.00, 4.00, 5.00mL of cadmium standard solutions of which the concentration is 10mg/L. And PLACE them in 100-mL volumetric flasks respectively. DILUTE them with 4% acetic acid solution until they reach the scale. SHAKE well. The solutions contain 0.00,

0.05, 1.00, 2.00, 3.00, 4.00, 5.00µg cadmium per milliliter respectively.

REPLACE it by new solution after being used for 4 weeks.

from the standard curve directly.

5.5.4.2 Close interpolation method

According to the solution's probable content, TAKE upper-and-lower closely adjacent standard solution and test sample solution, and COMPARE and determine at the same time. WRITE down the reading values of absorbance (A) of each solution for three times or more. TAKE the average value. CALCULATE by the formula (2).

...(2)

In the formula. C -- Absorbance of lead or cadmium in extract liquor;

A1 -- Absorbance of standard solution with lower concentration;

A2 -- Absorbance of standard solution with higher concentration;

C1 -- Concentration of standard solution with lower concentration, mg/L;

C2 -- Concentration of standard solution with higher concentration, mg/L.

6 Precision

The results of lead shall be accurate to 0.1mg/L;

The results of cadmium shall be accurate to 0.01mg/L.

7 Test report

The test report shall include the following content.

- a) Application organization, submission date, inspection nature;
- b) Sample's name, serial number, and required inspection items;
- c) Name and number of inspection standard;
- d) Inspection result;
- e) Inspector, inspector's signature, and seal of inspection organization;
- f) Reporting date of inspection result;
- g) Other explanations relevant to inspection result.