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

GB/T 5211.12-2007

Replacing GB/T 5211.12-1986

Determination of resistivity of aqueous extract pigments

颜料水萃取液电阻率的测定

(English Translation)

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Foreword

The partial modification using ISO 787-14:2002 "pigments and extenders - Common test methods - Part 14. Water extract resistivity Determination "(in English).

This section in the use of international standards have been modified, these technical differences between a single vertical line identifies the page in terms of which they are involved Margin. It gives a list of the technical differences and their reasons in Appendix A for reference.

This part of ISO 787-14:2002 main technical differences are as follows.

--- Increased "by measuring the conductivity and conductivity meter step results in terms of the relationship." GB/T 5211 Test Method pigment series of standards, the standard series is divided into 20 parts.

- Part 1. Determination of matter soluble pigments cold extraction method;
- Part 2. Determination of matter soluble pigment heat extraction method;
- Part 3. color at 105 °C volatile matter determination;
- Part 4. Determination of pigment loading volume and apparent density;
- Part 5. Determination of the water resistance of the pigment;
- Part 6. pigment acid assays;
- Part 7. Determination of pigment alkali resistance;
- Part 8. Determination of pigment and oil resistance;
- Part 9. Determination of pigment and solvent resistance;
- Part 10. Determination of the paraffin-resistant pigment;

- Part 11. soluble pigment sulfates, chlorides and nitrates determination;
- Part 12. Determination of resistivity of aqueous extract of pigments of;
- Part 13. Determination of pH of aqueous extract of pigments;
- Part 14. Determination of residue on sieve pigment Mechanical flushing procedure;
- Part 15. Determination of oil absorption of the pigment;
- Part 16. Comparison of tinting strength of white pigments;
- Part 17. Comparison of white pigment ratio (hiding power) of;
- Part 18. Determination of hand-paint sieve residue method is water;
- Part 19. Determination of relative tinting strength of colored pigments and color dilute visual comparison;
- Part 20. The character system, white, black and colored pigments colorimetric color comparison.

This section GB/T 5211 Part 12.

This Part replaces GB/T 5211.12-1986 "Determination of aqueous extract of pigments resistivity." this part of the previous version GB/T 5211.12-1986 main technical differences are as follows.

- Front line version is equivalent to using ISO 787-14. 1973;
- Remove the "step of determining electrical conductivity meter conductivity solution" and "aqueous extract of pigments conductivity computing";
- Increased "by measuring the conductivity and conductivity meter step results in terms of the relationship." Appendix A of this section is an informative annex.

This part is proposed by the China Petroleum and Chemical Industry Association.

This part of the National Standardization Technical Committee and is under the jurisdiction of paints and pigments.

This section drafted by. China National Chemical Construction Corporation, Changzhou coating Chemical Research Institute.

1 Scope

This section provides aqueous extract of pigments resistivity (resistivity) General Test Method for Determining. This method is applicable to all paint and body Body pigment (water-soluble pigments obvious exception).

It must be noted, the resistivity of aqueous extract of pigments as a pigment properties, it

has nothing to do with the amount of water-soluble material, can be used as agreed Cold extraction method, but need to be noted in the report.

Standard temperature measurement is 23 °C, by the concerned parties can also be used at different temperatures, but must take into account the temperature difference and make the necessary Correction.

Note: The general method is applicable to specify a pigment in the pigment product standard should be noted that the present method, and indicate any due to the characteristics of the pigment and the need to do Detailed changes. Only when this generic method does not apply to a specific pigment, only the provisions of a special method to measure the resistivity of aqueous extract.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this section, however, encourage the parties to this part of the research agreement Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 3186-2006 Paints, varnishes and raw materials for paints and varnishes - Sampling (ISO 15528:2000, IDT)

3 Reagents

The reagents used were of analytical grade.

3.1

water. resistivity of not less than 2500ohm · m.

3.2

methanol. resistivity of not less than 2500ohm · m.

3.3

KCl. 0.02mol/L.

4 Instrument

4.1

high-speed centrifuges or centrifuge (if necessary, use).

4.2

filter. fine quality, pure water until the filtrate resistivity greater than 2000ohm · m.

NOTE: Depending on the diameter of the filter paper pigment apparent density, certain organic pigments require a diameter of at least 185mm filter paper in order to meet the needs.

4.3

cylinder (beaker). diameter of about 35mm, a depth of about 125mm, or other electrically conductive electrode adapted to support the container.

4.4

Thermometer. minimum scale of 0.2 °C.

4.5

bridge or conductivity meter.

4.6

conductivity electrode. cell constant K is about 1.

5 Sampling

According to the provisions of GB/T 3186-2006 to take a representative sample of the test pigment.

6 Determination of cell constant

Preparation of working standard potassium chloride solution 6.1 is the potassium chloride solution (3.3) was diluted with water to a known concentration. Conducting electricity pole (4.6) This was measured according to the standard working solution 7.2.2 resistor R at 23 °C (can also be measured at other temperatures and agreed Appropriate corrections).