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

GB/T 1545.1-2003

Replacing GB/T 1545.1-2003; GB/T 1545.2-2003

**Paper, board and pulp -- Determination of acidity or alkalinity
(English Translation)**

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Foreword

This revised standard adopts the International Standard ISO 6588. 1986 "Paper, paperboard and pulp - Determination of pH of aqueous extracts." this standard and ISO 6588. 1986 as compared to the main differences are as follows.

- Modify the standard name;
- Increasing the normative references (Chapter 2 of this edition);
- Remove the meaning;
- Modify the scope (Chapter 1 of this edition);
- Increased terms and definitions (Chapter 3 of this edition);
- Modified principle (Chapter 4 of this edition);
- Modify the test water is distilled water or purified water equivalent purity (edition 5.1);
- Preparation ISO 6588 Annex buffer solution was transferred to Chapter 5 of this standard reagent (edition 5.5);
- An increase of 0.04% phenol red indicator (edition 5.4) in the reagent;
- Sampling according to GB/T 450, GB/T 740 were measuring the moisture content in accordance with GB/T 462 performed;
- Test step 8.3, after completion of the extraction, the use of phenol red indicator was titrated with NaOH or H₂SO₄;
- Modified test procedure increases the Method A. titration (edition 8.1);
- Removed appendix.

This standard replaces GB/T 1545.1-2003 "Paper, paperboard and pulp extract water acidity or alkalinity determination", GB/T 1545.2-2003 "paper, board and pulp - Determination of pH of aqueous extract." this standard and GB/T 1545.1-2003, GB/T

1545.2-2003 compared to the main changes are as follows.

- Refers to the standard is amended as normative references (1989 edition Chapter 2; Chapter 2 of this edition), to increase the standard of reference, and Other wording corresponding change;
- Increasing the definitional elements (Chapter 3 of this edition);
- Increasing the introductory phrase and sample processing and reagent moisture measurement unit (Chapter 5 and Chapter 7 of this edition);
- Modify the contents of the reagent, Added Note (Chapter 5 of this edition);
- Modified test procedure, increasing the method A, method B (Chapter 8 of this edition);
- Increase the informative appendix "in this standard with the corresponding ISO 6588. 1986 reg number control" (see Appendix A);
- Increase the informative appendix "This standard and ISO 6588. 1986 technical differences and their causes" (see Appendix B).

The Standard Appendix A, Appendix B is an informative annex.

The standard proposed by China National Light Industry Council.

This standard by the National Standardization Technical Committee of the paper industry.

This standard was drafted. Product Quality Supervision and Inspection Institute of Henan Province, China Pulp and Paper Research Institute.

1 Scope

This standard specifies two methods of paper, paperboard and pulp water extract of acidity or alkalinity. titration method and pH meter.

This standard titration method for the determination of general paper, paperboard and pulp acidity or alkalinity, do not apply to contain a basic filler or coating Paper and cardboard. pH meter method is suitable for the electrical conductivity of aqueous extracts over 0.2mS/m variety of paper, board and pulp.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 450 and take samples to an aspect of paper and paperboard samples, positive and

negative determination (GB/T 450-2008, ISO 186.

2002, MOD)

GB/T 462 paper, board and pulp - Determination of water sample (GB/T 462-2008, ISO 287. 1985, ISO 638.

1978, MOD)

Preparation of GB/T 601 chemical reagent standard titration solution GB/T 740 pulp samples taken (GB/T 740-2003, ISO 7213. 1981, IDT)

3 Terms and Definitions

The following terms and definitions apply to this standard.

Paper water-soluble substance will change water $[H]^+$ and $[OH]^-$ the balance to produce excess hydrogen ions. In a particular bar Lower member, titrated with standard alkaline solution, measured by an excess of $[H]^+$ concentration, i.e. the paper acidity.

Paper water-soluble substance will change water $[H]^+$ and $[OH]^-$ balance, resulting in excess hydroxide ions. In a special Under the given conditions, the acidic solution is titrated with a standard, the measured excess of $[OH]^-$ concentration, namely paper alkalinity.

Principle 4

Extraction with distilled water samples 1h, then expressed pH or pH of the aqueous extract by titration or pH meter method.

5 Reagents

Unless otherwise indicated, the analysis uses only recognized as analytical grade reagents and distilled or deionized water or equivalent purity of purified water.

5.1

equivalent purity distilled water or purified water, pH value of 6.0 to 7.3. Using a pH meter method used distilled water or equivalent purity purge Water, press the hot extraction (8.2.1.2) was heated to near boiling and regulations after cooling, water conductivity should not exceed 0.1mS/m.

Note: When is impossible to obtain a predetermined purity of the water, you can use a higher conductivity of water, it should be explained that the conductivity of the water in the test report.

5.2 0.01mol/L sodium hydroxide standard solution.