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

GB/T 8943.3-2008

Replacing GB/T 8943.3-1988

**Paper, board and pulp -- Determination of manganese
(English Translation)**

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Foreword

GB/T 8943 is divided into four parts.

- GB/T 8943.1 "paper, board and pulp - Determination of copper content";
- GB/T 8943.2 "paper, board and pulp - Determination of iron content";
- GB/T 8943.3 "paper, board and pulp - Determination of manganese content";
- GB/T 8943.4 "Paper, paperboard and pulp calcium and magnesium content determination." this part of GB/T 8943 Part 3, 1830 corresponds to the international standard ISO .2005 test "Paper, paperboard and pulp manganese content set". This part is GB/T 8943.3-1988 "Pulp, paper and board Determination of manganese content Law" amendment.

The partial modification of international standards ISO 1830:2005.

This part of ISO 1830:2005 technical differences are listed in Appendix A.

This part of ISO 1830:2005 structure comparison are listed in Appendix B.

This Part replaces GB/T 8943.3-1988.

This portion of the GB/T 8943.3-1988 have compared the following changes.

- Increased warnings;
- Increasing the normative references;
- Modify some narrative statement.

This section of the Appendices A and B are informative appendices.

This part is proposed by the China National Light Industry Council.

This part of the National Standardization Technical Committee under the jurisdiction of the paper industry.

This section is drafted. Paper Quality Supervision, Inspection Station, Zhejiang Province, China Pulp and Paper Research Institute.

1 Scope

This section GB/T 8943 provides for two methods, namely sodium periodate spectrophotometric method (Method A) and flame atomic absorption spectrophotometry (Method B), determination of pulp, paper and paperboard in manganese content.

This section applies to a variety of paper, board and pulp - Determination of manganese content. A, B two methods have the same effect.

2 Normative references

The following documents contain provisions which, through GB/T reference in this 8943 constitute provisions of this part. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 450 to take a sample of paper and cardboard (GB/T 450-2002, eqv ISO 186:1994)
GB/T 462 paper and board Determination of moisture (GB/T 462-2003, ISO 287. 1985, MOD)
GB/T 740 pulp samples taken (GB/T 740-2003, ISO 7213:1991, IDT)
GB/T 741 Determination of pulp sample moisture (GB/T 741-2003, ISO 638. 1978, MOD)
GB/T 742 paper, paperboard and pulp residue (ash) determination (900 °C) (GB/T 742-2003, ISO 2144:1997, MOD)

3.1 Principle

The sample is ashed and the residue (ash) was dissolved in hydrochloric acid, phosphoric acid under the conditions of the existence of bivalent manganese oxide with sodium periodate seven Manganese, and then measured using a spectrophotometer at 525nm wavelength.

3.2 Reagents

All reagents in this part of the test used should be analytical grade (AR), test water should be distilled or deionized water.

3.2.1

sodium sulfite solution. 50g/L.

3.2.2

hydrochloric acid (HCl). about 6mol/L.

3.2.3

sodium periodate - phosphoric acid solution. the density of 1.70g/mL, containing 50g per liter of sodium periodate (NaIO_4) phosphoric acid and 200mL (H_3PO_4).

3.2.4 0.1g/L manganese standard solution I. Weigh 0.2749g was dried at 450 °C manganese sulfate (MnSO_4), dissolved in distilled water, Moved 1000mL volumetric flask, diluted with distilled water to the flask scale, and mix well. 1mL of the solution standard solution containing 0.1mg manganese.

3.2.5 0.01mg/mL standard manganese solution II. Measure 100mL standard manganese solution I in 1000mL volumetric flask. Diluted with distilled water Explanation to the flask scale, and mix well. The standard solution 1mL containing 0.01mg manganese. The solution is unstable, the use of time should not exceed 24h.

3.3 Instrument

3.3.1

General laboratory equipment.

3.3.2

spectrophotometer.