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

GB/T 8296-2008

Replacing GB/T 8296-1987

**Raw natural rubber and rubber latices -- Determination of
manganese content -- Sodium periodate photometric methods**

天然生胶和胶乳 锰含量的测定 高碘酸钠光度法

(English Translation)

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Foreword

This revised standard adopts ISO 7780:1998 "Rubber and latex manganese content - Sodium periodate photometric method" (in English).

This standard is based on ISO 7780:1998 re-drafted.

This standard and ISO 7780:1998 compared to major differences are.

--- This standard applies only to natural rubber and determination of trace manganese content of natural rubber latex, by deleting the irrelevant portions.

This standard replaces GB/T 8296-1987 "Determination of manganese content of natural rubber latex (potassium periodate photometric method)." the main difference compared with the standard GB/T 8296-1987 as follows.

--- International Standard is different, since GB/T 8296-1987 reference adopted by ISO 1655. 1975 "manganese-containing raw rubber and latex Determination of the amount of (potassium periodate photometric method) "has been abolished, the use of this revised standard ISO 7780:1998;

--- Expand the scope of the standard to the determination of trace manganese in natural rubber content;

The concentration of manganese standard solution --- use by 20mg/L to 10mg/L, and more is provided a method of preparation;

--- Standard solution ratio used by the 0mL, 0.25mL, 0.50mL, 0.75mL, 1.00mL, 1.25mL, 1.50mL changed 0mL ~ 10mL, making it easier to operate and reduce operator error.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee of standard rubber products natural rubber and the Technical Committee.

This standard was drafted. Chinese Tropical Institute of Agro Agricultural Sciences.

1 Scope

This standard specifies the method for determination of natural rubber latex and trace manganese content --- sodium periodate spectrophotometry.

This standard applies to the determination of trace natural rubber latex and manganese content.

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 8290 Natural rubber latex concentrate sampling (GB/T 8290-1987, eqv ISO 123. 1985) GB/T 8298 Natural rubber latex concentrate - Determination of total solids content (GB/T 8298-2001, eqv ISO 124:1997) GB/T 11415 Laboratory sintered (porous) filter pore size, grade and grade (GB/T 11415-1989, neq ISO 4793.

1980)

GB/T 15340 natural, synthetic rubber raw sampling and sample preparation method (GB/T 15340-1994, idt ISO 1795:1992) Principle 3 the natural rubber sample is placed in a quartz crucible and ash, ash with sulfuric acid and potassium hydrogen sulfate treatment, the manganese into a soluble form. Sulfur Acidified ash is dissolved in dilute sulfuric acid, phosphoric acid and then complexed iron present in the solution of ions, and then with sodium periodate solution was azeotropically manganese oxide A permanganate. Measuring the absorbance of the solution at 525nm, measured absorbance is directly proportional to the concentration of manganese.

4 Reagents

Reagents used shall be of analytical reagent, the water used is only stable water (see 4.6).

4.1

potassium bisulfate.

4.2

sodium periodate.

4.3

sulfuric acid.

$\rho = 1.84\text{g/mL}$.

4.4

sulfuric acid solution.

1 volume of concentrated sulfuric acid (4.3) was added 19 volumes stable water (4.6) was diluted.

4.5

Phosphate.

85% to 90% (volume fraction) H_3PO_4 .

4.6

stable water.

Take about 1L of water, adding about 0.1g of potassium permanganate and a few drops of sulfuric acid. Through a distillation apparatus was distilled water. Discard the first and last each 50mL distilled water evaporated, collect the rest of the distilled water and stored in a glass bottle stoppered live.

4.7

potassium permanganate solution.

At a concentration of 30g/L.