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

GB/T 8295-2008

Replacing GB/T 8295-1987

**Natural Rubber and latex -- Determination of copper content --
Photometric method**

天然橡胶和胶乳 铜含量的测定 光度法

(English Translation)

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Foreword

This revised standard adopts ISO 8053:1995 "rubber latex and spectrophotometric determination of copper content" (in English).

This standard is based on ISO 8053:1995 re-drafted.

This standard and ISO 8053:1995 compared to major differences are.

--- This standard applies only to natural rubber latex and rubber compound and the determination of trace copper content to them as the raw material, deleted this Independent portion.

This standard replaces GB/T 8295-1987 "Determination of copper content of natural rubber latex." this standard and GB/T 8295-1987 The main differences are as follows.

--- International Standard is different, since GB/T 8295-1987 reference adopted by ISO 1654. 1971 "copper-containing raw rubber and latex Determination of the amount "has been abolished, the use of this revised standard ISO 8053:1995.

--- Scope extended to them as raw material to the determination of trace copper content in the rubber compound include natural raw rubber and latex as well.

--- GB/T 8295-1987 the principle of a copper complex with butyl acetate extraction, this standard principles copper complexes with 1,1,1-tris Ethyl chloride extraction.

--- Reagents and preparation process used is different.

--- GB/T 8295-1987 specified using 72-1 spectrophotometer, this standard does not specify a spectrophotometer models, only the provisions Wavelength photometer used.

--- Copper standard solution used by the 0mL, 0.25mL, 0.5mL, 0.75mL, 1.00mL, 1.25mL, 1.50mL, instead 0.00mL, 2.00mL, 4.00mL, 6.00mL, 8.00mL, 10.00mL, which makes it easier to operate and reduce operator error.

--- The results measured by the average value of the average of the second of three measurements was changed.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Rubber and rubber products natural rubber Standardization Technical Committee Technical Committee (SAC/TC35/SC8) Centralized.

1 Scope

This standard specifies the method for determination of natural rubber and latex, and use them as raw material for rubber compounds of trace copper content --- spectrophotometry.

This standard applies to natural rubber, latex and determination of these rubber compounds of trace copper 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 can you use these files and the latest version. For undated reference documents, the latest versions apply to this standard.

GB/T 4498 Rubber Determination of ash (GB/T 4498-1997, eqv ISO 247:1990) 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 12806 Laboratory glassware single marking flask (GB/T 12806-1991, eqv ISO 1042. 1983) GB/T 12808 standard laboratory glassware single line pipette (GB/T 12808-1991, eqv ISO 648. 1977) GB/T 15340 natural, synthetic rubber raw sampling and sample preparation method (GB/T 15340-2008, ISO 1795:2000, IDT) Principle 3 Rubber samples in concentrated sulfuric acid and concentrated nitric acid in a mixture of ashing or digestion, and then remove the excess calcium ammonium citrate (if present) and the presence of iron complex. After the solution was basified with an aqueous solution of the 1,1,1-trichloroethane, diethyl dithio carbamate together Shaken to extract the yellow copper complex. Finally, the solution was determined by spectrophotometry, and the results compared with the standard comparison solution, and further quantitative Measured copper content.

4 Reagents

The reagents should be of recognized analytical reagent, the use of water can only be distilled water or water of equivalent purity.

4.1 Anhydrous sodium sulfate

4.2 of concentrated sulfuric acid $\rho = 1.84\text{g/mL}$.

4.3 Concentrated nitric acid

$\rho = 1.42\text{g/mL}$.

4.4 Mixture of hydrochloric acid and nitric acid

2 The volume of hydrochloric acid ($\rho = 1.18\text{g/mL}$), 1 volume of nitric acid, 3 volumes of water were mixed together.

4.6 Ammonia

$\rho = 0.890\text{g/mL}$.