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

GB/T 4497.2-2013

Replacing GB/T 13250-1991

**Rubber -- Determination of total sulfur content -- Part 2: Sodium
peroxide fusion method**

橡胶 全硫含量的测定 第2部分：过氧化钠熔融法
(English Translation)

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Foreword

GB/T 4497 "Determination of total sulfur content of the rubber" is divided into three parts.

- Part 1. oxygen flask combustion method;
- Part 2. Sodium peroxide fusion method;
- Part 3. furnace combustion method.

This section GB/T 24497 Part of.

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This Part replaces GB/T 13250-1991 "vulcanized rubber - Determination of total sulfur sodium peroxide fusion method." This portion GB/T 13250-1991 main changes are as follows.

- Modify the standard name;
- Modify the standard number;
- Increased word of warning;
- Added reagent and water purity requirements (see Chapter 3);
- Increased preparation methods hydrochloric acid and acetic acid solution is described (see 3.6 and 3.9);
- Modify the details of the description of the analytical procedures (see 5.3,1991 version 5.1 to 5.1 to 5.4);
- The "150mL (8 drops)" to "150mg (8 drops)" (see 5.2,1991 version 5.1);
- Increase the test section of the report (see Chapter 7).

This section uses redrafted law revision of international standards ISO 6528-2:1992 "Rubber Determination of total sulfur content - Part 2. Over Sodium peroxide fusion method. " This part of ISO 6528-2:1992 main technical differences and the reasons are.

--- Deleted gas oxygen bomb ignition part (ISO 6528-2:1992 5.2), because the gas-ignited the oxygen bomb poor security has been Eliminated.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee rubber and rubber products, Common test methods for Club (SAC/TC35/SC2) centralized.

This standard was drafted. National Rubber and Latex Products Quality Supervision and Inspection Center, Beijing Rubber Industry Research and Design Institute.

Standard drafters. Huajian Kun, Zheng forward Ding Xiaoying, Xiejun Fang.

This standard previously issued as follows.

--- GB/T 13250-1991.

Part 2 Determination of total sulfur content of the rubber.

Sodium peroxide fusion method Warning --- personnel should use this standard regular laboratory work experience. This standard does not point out all possible security asked Questions, the user has the responsibility to take appropriate safety and health practices and to ensure compliance with the conditions relevant national regulations.

1 Scope

This standard specifies the method for determination of sodium peroxide fusion method of rubber products in the total sulfur content.

This standard applies to natural rubber, chloroprene rubber, styrene-butadiene rubber, polybutadiene rubber, polyisoprene rubber, ethylene propylene rubber, nitrile rubber Raw rubber, and hard rubber was measured (including inorganic filler contained sulfur) total sulfur content.

Principle 2

Rubber samples and a small amount of ethylene glycol occurs in an oxygen bomb and sodium peroxide oxidation of sulfur into soluble sulfate, plus precipitant Barium chloride, barium sulfate precipitate is generated, the determination of sulfur content by gravimetric method.

Warning. When using this method should be noted that all the notes on health and safety.

Non-compliance with provisions of this standard or instrument instructions, may cause an explosion.

3 Reagents and solutions

3.1

During the analysis, use of analytical reagent grade and secondary water.

3.2

glycol.

3.3

granular sodium peroxide (water that deflagration should dry storage).

3.4

anhydrous sodium carbonate (GB/T 639).

3.5

anhydrous calcium carbonate.

3.6

hydrochloric acid ($\rho = 1.18\text{g/mL}$).

3.7

hydrochloric acid solution (14). 1 volume of hydrochloric acid ($\rho = 1.18\text{g/mL}$) was added to 4 volumes of water.

3.8

barium chloride. 50g/L, 50g of barium chloride dihydrate ($\text{BaCl}_2 \cdot 2\text{H}_2\text{O}$) was dissolved in water, together with 0.5mL of hydrochloric acid ($\rho = 1.18\text{g/mL}$), diluted with water to 1L.

3.9

CUPFERRON solution. 60g/L, copper and iron dissolving 6g reagent (N-nitrosophenylhydroxylamine amine) in 100mL of water;

3.10

in acetic acid (120). 1 volume of acetic acid ($\rho = 1.05\text{g/mL}$) was added to 20 volumes of water.

3.11

Silver nitrate solution. 17g/L, was dissolved 1.7g of silver nitrate in 100mL water.

4 Instruments and equipment

4.1

Analytical balance. accurate to 0.1mg.

4.2

Oxygen Bomb. electronic ignition.

4.3

Nickel Crucible. a capacity of 30mL.