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

GB/T 18866-2017

Rubber -- Dissolution by acid digestion

橡胶 酸消化溶解法

(English Translation)

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Foreword

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

This standard replaces GB/T 18866-2002 "Acetic acid digestion and dissolution method". Compared with GB/T 18866-2002, the main technology changes as follows.

- increase the preparation of hydrochloric acid solution (see 4.4);
- a description of the preparation of the specimen has been modified (see Chapter 6, Chapter 6 of the 2002 edition);
- modified the description of the test process (see 7.1, 2002, 7.1).

This standard uses the re-drafting method to modify ISO 9028.:2006 "Acrylic Acid Digestion and Dissolution" (English version).

The technical differences between this standard and ISO 9028.:2006 are as follows.

- a) Change "Hydrogen peroxide, 38% by mass" to "Hydrogen peroxide, 30% by mass" (see 4.7).
- b) on the normative reference documents, this standard has made a technical differences in the adjustment to meet China's technical conditions, adjust the situation the situation is reflected in Chapter 2, "Normative references", as follows.

Replace GB 247 with GB/T 4498.1 with international standard.

--- GB/T 8298 and SH/T 1154 are used instead of ISO 124.

Replace ISO 1042 with non-equivalent GB/T 12806 with international standard.

--- equivalent to the use of international standards GB/T 15340 instead of ISO 1795.

This standard is proposed by the China Petroleum and Chemical Industry Association.

This standard by the National Rubber and Rubber Products Standardization Technical

Committee (SAC/TC35) centralized.

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1 Scope

This standard specifies the use of nitric acid or nitric acid and sulfuric acid mixed acid digestion latex, raw rubber, and rubber products.

Because the standard method of operation in the process of low temperature, can reduce the loss of volatile substances. So when there is volatile element in the rubber product (Such as As, Sb, Bi and ZnCl, CuCl and PbCl), the use of this standard method to reduce the volatile loss.

If GB/T 4498.1 is not applicable, it is recommended to use this standard method to prepare a solution of the metal ions to be tested (for example, as a microanalysis).

The process can prevent the loss of volatile metal derivatives or the formation of insoluble metal silicates (in dry ashing containing halogenated rubber or There is a sample of silica, this may occur).

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 4498.1 Determination of rubber ash content - Part 1. Muffle furnace method (GB/T 4498.1-2013, ISO 247.:2006, MOD) GB/T 8298 Determination of total solid content of concentrated natural latex (GB/T 8298-2008, ISO 124.:1997, MOD) GB/T 12806 laboratory glass instrument single standard line capacity bottle (GB/T 12806-2011, ISO 1042.:1998, NEQ) GB/T 15340 Natural, synthetic raw rubber samples and sample preparation methods (GB/T 15340-2008, ISO 1795.:2000, IDT) Determination of Total Solid Content of SH/T 1154 Synthetic Rubber Latex (SH/T 1154-2011, ISO 124.:2008, MOD)

3 Principle

3.1

Method A.

In an open flask, the sample was digested with sulfuric acid and then oxidized with nitric

acid.

If silicon or silicate is present, in order for all of the silicon to be volatilized in the form of silicon fluoride and to produce metal sulfates, sulfur Acid and hydrofluoric acid.

3.2 Method B

In a pressure vessel lined with polytetrafluoroethylene, the dissolved rubber was digested with nitric acid.

If silicon or silicate is present, in order for all of the silicon to be volatilized in the form of silicon fluoride and to produce metal sulfates, sulfur Acid and hydrofluoric acid.

4 Reagent

4.1

Unless otherwise stated, only analytical reagents and distilled water or fairly pure water are used during the analysis.