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

GB/T 9742-2008

Replacing GB/T 9742-1988

**Chemical reagent -- General method for the determination of
silicate**

化学试剂 硅酸盐测定通用方法

(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references
3 PRINCIPLE OF THE METHOD
4 Reagents and materials
5 Instruments
6 Determination
6.1 Visual colorimetry

Foreword

This standard and ISO 6353-1. 1982 "Chemical analysis of reagent --- Part 1. General test method" non-equivalent.

This standard replaces GB/T 9742-1988 "General method for determination of chemical reagents silicate", compared with the GB/T 9742-1988 Main Changes are as follows.

--- Improve the spectrophotometric measurement (1988 edition, Chapter 6; edition 6.2).

--- Canceled Appendix A (1988 edition of Appendix A).

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee Chemistry Chemicals Branch (SAC/TC63/SC3) centralized.

This standard was drafted. Sinopharm Chemical Reagent Co., Ltd.

1 Scope

This standard specifies the general method of silicon molybdenum blue colorimetry silicate.

This standard applies to the determination of trace chemical reagents silicate or fluorosilicate. Spectrophotometric or visual colorimetric detection range 0.2 μ g/mL ~ 3 μ g/mL (in SiO₃ dollars).

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 602 Determination of impurities in chemical reagents prepared standard solution (GB/T 602-2002, ISO 6353-1. 1982, NEQ) with GB/T 603 chemical reagent test method Preparations of articles (GB/T 603-2002, ISO 6353-1 with. 1982, NEQ) GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD) GB/T 9721 Chemicals General molecular absorption spectrophotometry (UV and visible part)

3 PRINCIPLE OF THE METHOD

Ba concentration in sulfuric acid ($12\text{H}_2\text{SO}_4$) Is not greater than 0.4mol/L sulfuric acid solution, silicic acid and ammonium molybdate quantitatively, generating silicomolybdenum Miscellaneous Acid (silicon molybdenum yellow). In the presence of oxalic acid, hydrochloric acid solution was added stannous chloride, silicon molybdenum yellow reduced to molybdenum blue silicon, silicon-molybdenum based on deep blue colors Shallow, usable visual colorimetry or spectrophotometry silicate.

Oxalic acid can eliminate phosphates, arsenate and an excess of ammonium molybdate assay interference.

4 Reagents and materials

Unless otherwise specified in this standard, the standard solution used in formulations and products, according to GB/T 602, the provisions of the preparation of GB/T 603; and experiments Water should be consistent with GB/T 6682 water in three specifications, are the mass fraction of the solution used in "%" represents.

5 Instruments

5.1

General laboratory equipment.

5.2

Spectrophotometer shall comply with GB/T 9721's.

6.1 Visual colorimetry

Sampling according to product standards and the preparation of test solution (if necessary, add 2 drops of saturated 2,4-dinitrophenol indicator solution, adjusting the pH value of the solution).

Of 10mL test solution, add 4.5mL sulfuric acid solution (5%), then the solution acidity Ba (H

+) is about 0.3mol/L. Add 2mL molybdate solution (100g/L), placed 20min. Add 5mL oxalic acid solution (50g/L), placed 5min. Stannous chloride hydrochloride was added 0.2mL (20g/L), diluted to 25mL, shake for 5min. The solution was blue comparison with the standard colorimetric solution.

Preparation of the standard color solution containing a predetermined amount than is taken silicate (SiO_3) standard solution was diluted to 10mL, and at the same time with the same volume of test solution