ICS 73.080
CCS D53

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 14840-2010

Replacing GB/T 14840-1993

Methods for chemical analysis of limestones - Determination of free silicon dioxide content

石灰岩化学分析方法 游离二氧化硅量测定

Issued on: November 10, 2010 **Implemented on: February 1, 2011**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China;
Standardization Administration of China

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Foreword

This standard replaces GB/T 14840-1993 "free silica limestone for chemical analysis method." This standard compared with GB/T 14840-1993, the main changes are as follows:

--- Changing the name of the standard;

--- The formula for calculating the mass fraction represented by the symbol omega instead w;

--- Increased caution, warning section. Appendix A of this standard is an informative annex. The standard proposed by the People's Republic of China Ministry of Land Resources. This standard by the National Standardization Technical Committee of Land and Resources. This standard is drafted by: National Geological Experimental Test Center. This standard was drafted. National Geological experimental test center, Sinoma Geological Engineering Exploration Institute. The main drafters of this standard. Hanxiu Qing, Li Shumin. This standard replaces the previous standard release case. GB/T 14840-1993. Methods for chemical analysis of limestone Determination of the amount of free silica Warning. Use of this standard shall have a person experiences regular laboratory work. This standard does not point out all possible security issues. Users have the responsibility to take appropriate safety and health practices and to ensure compliance with the conditions relevant national regulations.

1 Scope

GB/T 14840-2010 is the Chinese national standard on methods for chemical analysis of limestones - determination of free silicon dioxide content, in the field of mining and minerals. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 10 November 2010 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 February 2011. Classification: ICS 73.080, CCS D53. This page is published

from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the amount of free silica limestone (fSiO2) measurement method. This standard applies to the amount of limestone in the determination of free silica, it can also be used for ordinary Portland cement raw meal amount of free silica Determination. Measuring range. 1.00% to 10.00% (by mass) of the amount of free silica.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms of dated references, all subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to study under this agreement is standard Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard. Laboratory use specifications and test methods

GB/T 6682 Analysis Principle

3 Make use of concentrated phosphoric acid dissolved silicate mineral solubility but this feature has little free silica when heated, under certain conditions Under allow free silica and most aluminosilicate mineral separation, followed by gravimetric method was measured.

4 Reagents

Unless otherwise indicated, the analysis uses only recognized as an analytical reagent; the water is distilled or deionized water or equivalent purity Water, should meet the requirements GB/T 6682's.

4.1 phosphoric acid (rho1.70g/mL).

4.2 fluoroborate (rho1.84g/mL). Warning. fluoroborate toxic, corrosive, the operation should wear gloves to prevent skin contact

4.3 Hydrofluoric acid (rho1.15g/mL). WARNING. Hydrofluoric acid is toxic and corrosive, the operation should wear gloves to prevent skin contact

4.4 ammonia solution (15).

4.5 ammonium nitrate solution (2g/L). Weigh 2g of ammonium nitrate dissolved in 1000mL warm water with ammonia solution (4.4) methyl red solution (4.6) as indicator adjusted pH~7.

4.6 sulfuric acid solution (11). Warning. Risk of improper dilution prone should beaker of

sulfuric acid was slowly added to an aqueous solution of the same volume And stir constantly with a glass rod.

4.7 methyl red solution (2g/L). Weigh 0.2g of methyl red dissolved in 60mL of anhydrous ethanol, diluted with water to 100mL.

5 Instruments and devices

5.1 Analytical balance, three, a sense of the amount of 0.1mg.

5.2 furnaces, sizes larger than 1000 °C.

5.3 disc electric power of 2000W ~ 3000W, hob diameter of 230mm.

5.4 regulator, pressure range of 0 ~ 250V.