

ICS 75.060
CCS E 24



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

GB/T 11060.7-2011

**Natural gas -- Determination of sulfur compounds -- Part 7:
Determination of total sulfur content by Lingerer combustion
method**

(English Translation)

Issued on: December 30, 2011

Implemented on: June 1, 2012

Issued by: Standardization Administration of China

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 PRINCIPLE OF THE METHOD
- 4 Reagents and materials
- 5 Device

Foreword

GB/T 11060 "Determination of sulfur compounds in natural gas" is divided into 12 sections.

- Part 1. Determination of hydrogen sulfide content by iodometry;
- Part 2. Determination of hydrogen sulfide content with methylene blue method;
- Part 3. Determination of lead acetate reaction rate of hydrogen sulfide content of the double optical path method;
- Part 4. Determination of total sulfur content by oxidation Microcoulometry;
- Part 5. hydrogen Solutions - rate meter colorimetric determination of total sulfur content;
- Part 6. Determination of hydrogen sulfide, mercaptan sulfur and sulfur-type carbon monoxide content by potentiometric method;
- Part 7. Determination of total sulfur content by Linge Nai combustion;
- Part 8. spectrophotometric determination of total sulfur content by UV fluorescence;
- Part 9. Determination of mercaptan sulfur content - iodometric method;
- Part 10. gas chromatography;
- Part 11. Determination of hydrogen sulfide content of the coloring length detector tube;
- Part 12. Determination of hydrogen sulfide content by laser absorption spectroscopy.

This section GB/T 11060 Part 7.

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

The partial modification of the use of ISO 6326-5. 1989 "Natural gas - Determination of sulfur compounds - Part 5. Linge Nai combustion" (English Chinese Version).

This part made the following technical amendments, and ISO 6326-5. 1989 main technical

differences are.

Name --- The section from "Natural gas - Determination of sulfur compounds - Part 5. Linge Nai combustion method" to "sulfur gas Determination of compound - Part 7. Linge Nai combustion Determination of total sulfur content ";

--- Delete Chapter 1 Scope. "Note. In all parts of ISO 6326, showing 1m³ of gas is at (0 °C and normal conditions 101.325kPa) ";

--- Chapter 2 normative references, and some apply to international standard formulation modified to apply to our standard formulation, ISO standards are replaced by the contents of the corresponding national standards, the remaining chapters corresponding to the content is modified accordingly, an increase of "GB/T 13609 Gas sampling Guidelines" normative references;

--- Increased Chapter 6 sampling and subsequent chapters numbered extended;

--- Original standard Thorin full name to. 1- (o ARSACETYL azobenzene)
-3,6-dimethyl-2-phenol sulfonic acid;

--- In order to be consistent with our current "gas standard reference conditions" and other relevant standards, the ISO 6326-5:2003 in Section 6.3 Equation (1) in the gas sample volume measurement standard reference conditions "0 °C and 101.325kPa" to "20 °C and 101.325kPa";

Chapter 8 --- The precision has been modified;

--- Information Appendix A and delete references.

This part of the National Gas Standardization Technical Committee (SAC/TC244) and focal points.

This section drafted by. China Southwest Oil and Gas Field Branch Gas Research Institute of Petroleum.

1 Scope

This section specifies the test method for the determination of total sulfur content of the natural gas used Linge Nai combustion method.

This section applies to the determination of total sulfur content of natural gas measurement range 0.5mg/m³ ~ 1000mg/m³. Total sulfur-containing absorption solution Higher than 0.1mg, choose visual indicator titration; absorbing liquid total sulfur content below 0.1mg, choose turbidity titration.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 12805 Laboratory glassware burette (GB/T 12805-1991, eqv ISO 385. 1984) GB/T 12806 Laboratory glassware single marking flask (GB/T 12808-1991, eqv ISO 1042. 1983) GB/T 12808 standard laboratory glassware single line pipette (GB/T 12806-1991, eqv ISO 648. 1977) GB/T 13609 Gas sampling guidelines (GB/T 13609-1999, eqv ISO 10715:1997) HG/T 3115-1998 performance borosilicate glass 3.3 (HG/T 3115-1998, idt ISO 3585:1991)

3 PRINCIPLE OF THE METHOD

A volume of the sample gas with air at atmospheric pressure in a glass burned in the combustor. Oxides generated by absorption of the hydrogen peroxide solution and converted to sulfuric acid. According to the test gas sample in low sulfur content, select the measurement indicator visually titration or turbidimetric titration.

4 Reagents and materials

Use only analytical reagent and distilled water or equivalent purity water analysis.

4.1

Hydrogen peroxide, 10% (by mass) aqueous solution. no sulfur as a sulfur oxide absorbing liquid.

4.2

Activated Carbon. combustion air for the adsorption of sulfur impurities.

4.3

absorbed hydrogen hydroxide, 30% (by mass) aqueous solution. for purifying the combustion air.

5 Device

Apparatus is shown in Figure 1.