

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

SN/T 2087-2008

**Determination of chlorine in coal-High performance liquid
chromatography**

煤中氯含量的测定 高效液相色谱法

(English Translation)

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Foreword

The Standard Appendix A, Appendix B is an informative annex.

This standard is proposed and managed by the National Certification and Accreditation Administration Committee.

This standard was drafted. People's Republic of China Guangdong CIQ.

Drafters of this standard. Miss Wang, Chen Wei, Yang Jun, Yang Weiguo, Sun Liangjuan.

This standard is the first release of the entry-exit inspection and quarantine industry standards.

Coal chlorine content by HPLC

1 Scope

This standard specifies the determination of the chlorine content in coal by high performance liquid chromatography.

This standard applies to the determination of lignite, bituminous coal and anthracite chlorine content.

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 474 coal sample preparation GB/T 475 commercial coal sampling method

3 Method summary

Coal combustion by the oxygen bomb exploded, the chlorine contained in the coal absorbed into the alkaline reagent into Cl^- , absorbed by the sample was dried with UV detection HPLC measuring device, external standard.

4 Reagents and materials

Unless otherwise specified, all reagents were of analytical grade, fresh water for the secondary double distilled water (conductivity of less than $5.5 \times 10^{-6} \text{S/m}$).

4.1

ammonium carbonate.

4.2

ammonium carbonate solution (0.01mol/L). Weigh ammonium carbonate 0.9608g, dissolved in water and made up to 1000mL.

4.3

acetonitrile. HPLC fractions.

4.4

sodium hydroxide.

4.5

Sodium hydroxide solution (10mol/L). Weigh sodium hydroxide 40g, dissolved in water and made up to 100mL, through 0.45 μm membrane spare.

4.6

Sodium hydroxide solution (1mol/L). Weigh sodium 4g, dissolved in water and made up to 100mL, through 0.45 μm membrane spare.

4.7

two calcium chloride.

4.8

Oxygen (99.5 percent purity). no combustible components.

4.9

ion chromatography mobile phase additives (Agilent company).

4.10

Sodium chloride. pure class distinctions, at 500 °C ~ 600 °C burning 1h, after cooling stored in airtight container in the back.

4.11

sodium chloride standard stock solution. accurately weighed sodium chloride (4.10) 0.1649g, dissolved in a little water, and then transferred to 100mL volumetric flask and diluted to the mark, shake. Chloride ion concentration of the solution was 1.00mg/mL.

4.12

sodium chloride standard solution. Pipette 10mL 1.00mg/mL standard stock solution (4.11) to a 100mL volumetric flask, to volume, shake, chloride ion concentration of the solution was 0.100mg/mL.

Preparation of the mobile phase of 4.13. Pipette 810mL of double distilled water twice stamped vacuum 15min, add 50mL mobile phase additives (4.9), Vacuum 5min, added 140mL acetonitrile (4.3), while being vacuumed (4.5) adjusted to pH 7.0 with sodium hydroxide solution, and then hydrogen Sodium hydroxide solution (4.6) adjusted to pH 8.6 ± 0.1 , continuing the vacuuming 15min.

5 Apparatus

5.1

High performance liquid chromatograph. equipped with a UV detector.