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

GB/T 1429-2009

**Carbon materials -- Determination of the ash content
(English Translation)**

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1 Scope

This Standard specifies the terms and definitions, instruments and equipment, specimen collection and preparation, test procedures, result calculation, precision and test report for the determination of the ash content in carbon materials.

This Standard applies to the determination of the ash content in carbon materials.

2 Normative References

The clauses in the following documents become clauses of this Standard through the reference by this Standard. For the references with a specified date, all subsequent amendments (excluding errata) or revisions are not applicable to this Standard. However, parties to agreements based on this Standard are encouraged to study whether the latest versions of these documents can be used. For undated references, the latest versions are applicable to this

Standard.

GB/T 1427 Sample Method of Carbon Material

GB/T 8170 Rules of Rounding off for Numerical Values & Expression and Judgment of Limiting Values

3 Terms and Definitions

The following terms and definitions apply to this Standard.

3.1

ash content

The percentage of the residue of air dried moisture of carbon materials ignited to a constant mass at $850\text{ }^{\circ}\text{C} \pm 20\text{ }^{\circ}\text{C}$ in the original specimen mass.

3.2

air dried moisture

A specimen is considered as air dried moisture if its mass does not change by more than 0.1% after continuous drying for 1 h at a temperature not exceeding $50\text{ }^{\circ}\text{C}$.

4 Instruments and Equipment

4.1

Analytical balance. with a division value of 0.1 mg.

4.2

Porcelain ark. the dimensions shall be not less than 60 mm x 25 mm x 16 mm.

4.3

Glass desiccator. contain color-changing silica gel.

5 Specimen Collection and Preparation

5.1

The sampling of carbon materials shall be conducted in accordance with the provisions of GB/T 1427.

5.2

Prepare the specimen collected in 5.1 into a specimen with a particle size no greater than 20 mm and a mass no less than 0.5 kg.

5.3

Quarter the specimen specified in 5.2, take 50 g ~ 60 g of the specimen, and finely crush it. Pass the entire amount through a standard sieve with a mesh size of 0.15 mm.

5.4

Air-dry the specimen specified in 5.3. The air-drying method is as follows. place the specimen on a plate, spread it into a thin, even layer, and dry it at a temperature not exceeding

50 °C, until it reaches an air-dried state.

6 Test Procedures

6.1

In a porcelain ark that has been weighed to a constant mass in advance, weigh-take 3 g of specimen to the nearest 0.1 mg. Evenly spread the specimen and place it on the front edge of a high-temperature furnace at $850\text{ }^{\circ}\text{C} \pm 10\text{ }^{\circ}\text{C}$ for pre-heating. Then, gradually move the porcelain ark into the constant-temperature zone. Burn it for 3 h, take out the porcelain ark, place it on an asbestos board, and let it cool in air for 5 min ~ 10 min. Then, place it in a desiccator, cool to room temperature and weigh it.

6.2

Constant-weight check. burn for at least 30 min each time, until the error between two weighings is less than 0.001 g. During calculation, take the minimum value.

NOTE: if the ash content of the specimen is greater than 1%, weigh-take 1 g of specimen.

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