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

中华人民共和国国家标准

GB/T 3058-2008

Replacing GB/T 3058-1996

Determination of Arsenic in Coal

煤中砷的测定方法

**(ISO 11723: 2004, Solid mineral
fuels--Determination of arsenic and
selenium--Eschka's mixture and hydride
generation method, MOD)**

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China

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Foreword

This standard adopts ISO 11723: 2004(E) “Solid Mineral Fuels - -Determination of Arsenic and Selenium - -Eschka’s Mixture and Hydride Generation Method” for revision.

Main technical differences between this standard and ISO 11723:2004 are as follows:

- -Deleting the contents of ISO 11723-2004 on selenium determination;
- -Increasing “arsenic-molybdenum blue photometric method”;
- -Revising sample quality and blank solution preparation method in “Eschka’s Mixture and Hydride Generation Method”.

Relevant technical differences between this standard and ISO 11723:2004 have been incorporated in the text and indicated in margin blank beside the clauses that they involve by vertical single line. For ease of comparison, a general table of comparison between clauses of this standard and clauses of ISO 11723:2004 is listed in annex A; Annex B provides a general table on technical differences and the reasons for reference.

This standard replaces GB/T 3058 -1996 “Determination of Arsenic in Coal”.

Compared with GB/T 3058 -1996, main changes of this standard are as follows:

- -Increasing the chapter of “Normative references” (chapter 2 of this version);
- -Defining using single-scale pipette to draw 3 mL of iodine solution, 1 mL of sodium bicarbonate solution and 6 mL of water (2.4.1.3 in 1996 version, 3.4.1.3 in this version);
- -Replace $\mu\text{g/g}$ with % to express the mass fraction of arsenic in coal;
- -Revising determination results calculation formula (2.5 and 3.5 in 1996 version; 3.5 and 4.5 in this version);
- -Revising precision representation method (2.6 in 1996 version, 3.6 in this version);
- -Increasing the chapter of “Test report” (chapter 5 in this version).

Annex A and annex B of this standard are both informative.

This standard is proposed by CHINA NATIONAL COAL ASSOCIATION.

This standard is under the jurisdiction of National Coal Standardization Technical Committee of China.

Drafting unit of this standard: China Coal Research Institute CCRI Coal Analysis Laboratory, Hebei Research Institute of Coal Field Geology.

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Previous versions that this standard replaces are issued as follows:

- -GB 3058 -1982,GB/T 3058 -1996.

Determination of Arsenic in Coal

1 Scope

This standard specifies reagents and materials, instruments and equipments, test procedures, calculation results and precision of the method for determination of arsenic in coal by arsenic-molybdenum blue photometric method and hydride generation-atomic absorption method.

This standard applies to lignite, bituminous coal and anthracite.

2 Normative references

The articles contained in the following documents have become this document when they are quoted herein. For the dated documents so quoted, all subsequent modifications (including all corrections) or revisions made thereafter do not apply to this standard. However, the parties that reach an agreement according to this standard are encouraged to study whether the latest versions of these documents may be used. For the undated documents so quoted, the latest versions (including all modification sheets) apply to this document.

GB/T 483 General rules for analytical and testing methods of coal (GB/T 483 2007, ISO 1213 -2: 1992, Solid mineral fuels--Vocabulary--Part 2: Terms relating to sampling, testing and analysis, NEQ)

GB/T 6682 Water for analytical laboratory use - Specification and test methods (GB/T 6682 -2008, ISO 3696: 1987, Water for analytical use -Specification and test methods, MOD)

3 Arsenic-molybdenum blue photometric method (arbitration act)

3.1 Method summary

Mix coal sample with Eschka reagent and ignite; dissolve the flaming material with hydrochloric acid; add reducing agent to revert pentavalent arsenic to trivalent; add zinc granule and release hydrogen to form arsenic hydride and release; it is absorbed by iodine solution and oxidized to arsenic acid; add ammonium molybdate-hydrazine sulfate solution to form arsenic-molybdenum blue, and then measure with a spectrophotometer.

3.2 Reagents and materials



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