

Australian Standard™

Coal and coke—Analysis and testing

**Part 23: Higher rank coal and coke—
Carbonate carbon**

This Australian Standard was prepared by Committee MN-001, Coal and Coke. It was approved on behalf of the Council of Standards Australia on 14 June 2002 and published on 4 July 2002.

The following are represented on Committee MN-001:

Australasian Institute of Mining and Metallurgy
Australian Coal Association
Australian Coal Preparation Society
Australian Institute of Energy
Bureau of Steel Manufacturers of Australia
Coalfield Geology Council of New South Wales
CSIRO, Division of Energy Technology
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Australian Standard™

Coal and coke—Analysis and testing

**Part 23: Higher rank coal and coke—
Carbonate carbon**

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PREFACE

This Standard was prepared by the Standards Australia Subcommittee on Coal Evaluation under the supervision of the Committee MN-001, Coal and Coke, as a revision of AS 1038.23—1994, *Coal and coke—Analysis and testing, Part 23: Higher rank coal—Carbonate carbon*.

The carbonate carbon content of the mineral carbonates of a coal is required to correct the determined percentage of total carbon and volatile matter when calculating organic carbon and organic volatile matter respectively. Carbonate carbon may be required also as a correction in the determination of mineral matter in coal.

This Standard specifies only the gravimetric method for the determination of carbonate carbon.

This is little basic difference from the 1984 edition. An alteration has been made to the verification procedure. Furthermore, due to the unavailability of copper phosphate granules, an alternative reagent (copper sulfate on pumice) is included.

The objective of this Standard is to provide those responsible for testing coal with a standardized method for measuring carbonate carbon, so that disputes can be minimized.

CONTENTS

| | <i>Page</i> |
|------------------------------|-------------|
| 1 SCOPE..... | 4 |
| 2 REFERENCED DOCUMENTS | 4 |
| 3 DEFINITIONS | 4 |
| 4 PRINCIPLE | 4 |
| 5 SAFETY | 4 |
| 6 REAGENTS..... | 4 |
| 7 APPARATUS | 5 |
| 8 SAMPLE..... | 6 |
| 9 PROCEDURE..... | 6 |
| 10 CALCULATION | 7 |
| 11 REPORTING OF RESULT..... | 7 |
| 12 PRECISION | 7 |
| 13 TEST REPORT | 7 |

STANDARDS AUSTRALIA

Australian Standard
Coal and coke—Analysis and testing**Part 23: Higher rank coal and coke—Carbonate carbon****1 SCOPE**

This Standard sets out a method for the determination of carbonate carbon, from mineral carbonates, in higher rank coal and coke by gravimetry.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard.

AS

| | |
|---------|---|
| 1038 | Coal and coke—Analysis and testing |
| 1038.16 | Part 16: Assessment and reporting of results |
| 2243 | Safety in laboratories (series) |
| 2418 | Coal and coke—Glossary of terms |
| 2508 | Safe storage and handling information cards |
| 2706 | Numerical values—Rounding and interpretation of limiting values |
| 4264 | Coal and coke—Sampling |
| 4264.1 | Part 1: Higher rank coal—Sampling procedures |

3 DEFINITIONS

For the purpose of this Standard the definitions given in AS 2418 apply.

4 PRINCIPLE

The coal is treated with hydrochloric acid and the carbon dioxide evolved from the decomposition of the carbonates is absorbed and weighed.

NOTE: The result obtained will include any carbon dioxide that has been absorbed by the coal.

5 SAFETY

For information on laboratory safety, reference should be made to the relevant parts of AS 2243 and AS 2508.

6 REAGENTS**6.1 General**

Unless otherwise specified, all reagents shall be of analytical reagent grade, and only distilled or deionized water, free from carbon dioxide, shall be used.

6.2 Hydrochloric acid (300 mL/L)

Add 300 mL of hydrochloric acid (p_{20} 1.16 g/mL to 1.18 g/mL) to 700 mL of water.