AS 2106.5—2005
ISO 1516:2002

AS 2106.5—2005

Australian Standard™

Methods for the determination of the flash point of flammable liquids (closed cup)

Part 5: Determination of flash/no flash—Closed cup equilibrium method

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee CH-009, Safe Handling of Chemicals. It was approved on behalf of the Council of Standards Australia on 5 April 2005. This Standard was published on 26 April 2005.

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Australian Standard™

Methods for the determination of the flash point of flammable liquids (closed cup)

Part 5: Determination of flash/no flash—Closed cup equilibrium method

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PREFACE

This Standard was prepared by Joint Australian/New Zealand Standards Committee CH-009, Safe Handling of Chemicals, to supersede AS/NZS 2106.5:1999, *Methods for the determination of the flash point of flammable liquids* (*closed cup*), Part 5: *Flash/no flash test—Closed cup equilibrium method*. It is identical with, and has been reproduced from ISO 1516:2002, *Determination of flash/no flash—Closed cup equilibrium method*.

The objective of this Standard is to provide a method for determining whether the product being tested has a closed cup flash point at, below, or above a selected temperature, using the Abel apparatus.

The main changes between this edition and that published in 1999 are the inclusion of information on sampling and procedures for the calibration (verification) of apparatus.

As this publication has been reproduced from an International Standard, the following modifications apply:

(a) Its number does not appear on each page of text and its identity is shown on the cover and title page.

(b) In the source text 'this International Standard' should read 'this Australian Standard.'

(c) Substitute a full point for a comma when referring to a decimal marker.

References to International Standards should be replaced by Australian Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS/NZS	
1513	Paints and varnishes—Examination and preparation of samples for testing	1580	Paints and related materials—Methods of test
		1580.103.1	Method 103.1: Examination and preparation of samples for testing
		AS	
1523	Determination of flash point—Closed cup equilibrium method	2106	Methods for the determination of the flash point of flammable liquids (closed cup)
		2106.6	Part 6: Determination of flash point—Closed cup equilibrium method
2719	Determination of flash point—Pensky-Martens closed cup method	2106.2	Part 2: Determination of flash point—Pensky-Martens closed cup method
3679	Determination of flash point—Rapid equilibrium closed cup method	2106.4	Part 4: Determination of flash point—Rapid equilibrium closed cup method
3680	Determination of flash/no flash—Rapid equilibrium closed cup method	2106.3	Part 3: Determination of flash/no flash—Rapid equilibrium closed cup method
3736	Petroleum products and other liquids—Determination of flash point—Abel closed cup method	2106.1	Part 1: Determination of flash point—Abel closed cup method

Other International Standards referenced in the source document have not been adopted as Australian Standards.

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INTRODUCTION

This International Standard describes one of two closed cup equilibrium methods for carrying out a flash/no flash test for paints, varnishes, petroleum and related products, and it should be read in conjunction with the second equilibrium method, ISO 3680 ([2] in the bibliography), when selecting a method.

The determination of the flash point using the same equipment is described in ISO 1523.

This test method does not determine the flash point of the product under test, but merely its behaviour at the selected equilibrium temperature as may be required to comply with laws or regulations relating to the storage, transport and use of flammable products. For this purpose, it is unnecessary to determine the exact flash point, but it is necessary to determine whether or not flashing occurs at a given temperature. By the procedure specified, differences between test apparatus of various standard designs are minimized by ensuring that the test is carried out only when the product under test and the air/vapour mixture above it in the test vessel are considered to be in temperature equilibrium.

AUSTRALIAN STANDARD

Methods for the determination of the flash point of flammable liquids (closed cup)

Part 5:

Determination of flash/no flash—Closed cup equilibrium method

WARNING — The use of this International Standard may involve hazardous materials, operations and equipment. This International Standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this International Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard specifies a method to determine if paints, varnishes, paint binders, solvents, petroleum or related products, when maintained at a selected equilibrium temperature and under the conditions of the test, give off sufficient flammable vapour to cause ignition on application of an external source of flame applied in a standard manner.

This International Standard is not applicable to water-borne paints which may, however, be tested using ISO 3680 ([2] in the bibliography).

The method is suitable for use over the temperature range −30 °C to 110 °C, depending on the use of different apparatus listed in Table 1.

The interpretation of results obtained from solvent mixtures containing halogenated hydrocarbons should be considered with caution, as these mixtures can give anomalous results.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 1513:1992, *Paints and varnishes — Examination and preparation of samples for testing*

ISO 1523:2002, *Determination of flash point — Closed cup equilibrium method*

ISO 2719:—[1], *Determination of flash point — Pensky-Martens closed cup method*

ISO 3170:1988, *Petroleum liquids — Manual sampling*

ISO 3171:1988, *Petroleum liquids — Automatic pipeline sampling*

ISO 13736:1997, *Petroleum products and other liquids — Determination of flash point — Abel closed cup method*

ISO 15528:2000, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

1) To be published. (Revision of ISO 2719:1988)