AS 2106.2—2005
ISO 2719:2002

AS 2106.2—2005

Australian Standard™

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

Part 2: Determination of flash point—Pensky-Martens closed cup 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 2: Determination of flash point—Pensky-Martens closed cup 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 2106.2:1999, *Methods for the determination of the flash point of flammable liquids (closed cup)*, Part 2: *Pensky-Martens closed cup method*. It is identical with, and has been reproduced from ISO 2719:2002, *Determination of flash point—Pensky-Martens closed cup Method*.

The objective of this Standard is to provide a test method for the determination of closed cup flash point using the Pensky-Martens apparatus, aligned with international practices given in ISO 2719.

The main changes between this edition and that published in 1999 include the provision of further information on sampling and procedures for calibration 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 the following International Standard should be replaced by the Australian//New Zealand Standard.

Reference to International Standard		*Australian/New Zealand 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
3679	Determination of flash point—Rapid equilibrium closed cup method	2106.4	Part 4: Determination of flash point—Rapid equilibrium closed cup method
13736	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.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annex to which they apply. A 'normative' annex is an integral part of a Standard, whereas an 'informative' annex is only for information and guidance.

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INTRODUCTION

Flash point values may be used in shipping, storage, handling and safety regulations, as a classification property to define “flammable” and “combustible” materials. Precise definition of the classes is given in each particular regulation.

A flash point value may indicate the presence of highly volatile material(s) in a relatively non-volatile or non-flammable material and flash point testing may be a preliminary step to other investigations into the composition of unknown materials.

Flash point determinations should not be carried out on potentially unstable, decomposable, or explosive materials, unless it has been previously established that heating the specified quantity of such materials in contact with the metallic components of the flash point apparatus within the temperature range required for the method will not induce decomposition, explosion or other adverse effects.

The interpretation of flash point results obtained on material containing halogenated hydrocarbons should be considered with caution, as these mixtures can give anomalous results.

AUSTRALIAN STANDARD

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

Part 2:

Determination of flash point—Pensky-Martens closed cup 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 describes two procedures, A and B, using the Pensky-Martens closed cup tester, for determining the flash point of combustible liquids, liquids with suspended solids, liquids that tend to form a surface film under the test conditions and other liquids. It is applicable for liquids with a flash point above 40 °C.

NOTE 1 Although technically kerosines with a flash point above 40 °C may be tested using this International Standard, it is standard practice to test kerosines according to ISO 13736[8]. Similarly, unused lubricating oils are normally tested according to ISO 2592[5].

Procedure A is used for the determination of the flash point of paints and varnishes that do not form a surface film, unused lubricating oils and other petroleum products not covered by Procedure B.

Procedure B is used for the determination of the flash point of residual fuel oils, cutback bitumens, used lubricating oils, liquids that tend to form a surface film, liquids with suspensions of solids and highly viscous materials such as polymeric solutions and adhesives.

NOTE 2 For the comparison of the flash points of used and unused lubricating oils, such as in a lubricant monitoring scheme, used lubricating oils may be tested using Procedure A. However, the precision data for these materials is only valid for Procedure B.

This International Standard is not applicable to water-borne paints or liquids contaminated by traces of highly volatile materials.

NOTE 3 Water-borne paints may be tested using ISO 3679[6]. Liquids contaminated by traces of highly volatile materials may be tested using ISO 1523[4] or ISO 3679.

NOTE 4 Precision data is only valid for the flash point ranges given in clause 13.

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 3170:—[1)], *Petroleum liquids — Manual sampling*

1) To be published. (Revision of ISO 3170:1988)