



ISO/TC 28 Petroleum products and lubricants

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ISO/TC 28 N 2157

2002-04-03

To: P-members
O-members
L-members

Copy to: M. Sherratt, ISO 3679 PL
J. Phipps, ISO/TC 28-TC 35 JWG Convenor
A. Williams, ISO/CS

Dear Member,

**Voting results, comments received and resolution of comments on ISO/CD 3679
Determination of flash point — Rapid equilibrium closed cup method
[circulated as 28 N 2072]**

Voting on ISO/CD 3679 closed on 2000-06-03. As a negative vote was submitted (France) the results were reviewed by the ISO/TC 28 Advisory Group (28/AG N 226). At the AG meeting held on 19-20 June 2000, the following resolution was adopted (28/AG N 230):

ISO/TC 28/AG Resolution 4

The ISO/TC 28/AG recommends that ISO/CD 3679 *Determination of flash point – Rapid equilibrium closed cup method*, and ISO/CD 3680 *Flash/no flash test – Rapid equilibrium closed cup method*, are progressed to DIS ballot once the accepted comments from the CD ballots have been incorporated.

A proposed DIS text was prepared, but the project was put on hold whilst a round robin was carried out to determine the applicability and precision when testing fatty acid methyl esters (FAME). The proposed ISO/DIS 3679 text was used as the test procedure by participants in the round robin. Once the round robin had been completed and the precision evaluated, the proposed DIS text was updated to incorporate the precision values for FAME.

Please find attached the voting results, the comments received and resolution of the comments prepared by the Project Facilitator, Tim Berryman (UK). An updated text has been prepared and forwarded to ISO/CS for distribution as a DIS.

Yours sincerely

Paula Watkins

Paula Watkins
Secretary to ISO/TC 28

Ballot results on: ISO/CD 3679, Determination of flash point — Rapid equilibrium closed cup method (28 N 2072)

Date circulated: 2000-03-03

Closing date: 2000-06-03

P-member	Agree	Agree with comments	Do not agree	Abstain	Did not reply
Austria	X				
Belgium	X				
Canada	X				
China	X				
Egypt					X
France			X		
Germany		X			
India					X
Israel	X				
Italy	X				
Japan		X			
Republic of Korea	X				
Netherlands		X			
Norway					X
Poland	X				
Romania	X				
Singapore				X	
Slovakia	X				
South Africa					X
Spain	X				
Sweden	X				
Switzerland	X				
Thailand					X
Trinidad & Tobago	X				
Turkey		X			
UK		X			
USA	X				
TOTAL	15	5	1	1	5

O-member	Agree	Agree with comments	Do not agree	Abstain
Iran	X			
Saudi Arabia	X			
Tanzania	X			

Date	2000-09-07	ISO/CD 3679
Secretariat	API/ANSI	ISO/TC 28

Member Body	COMMENTS Comments shall be reproduced as received either by re-typing them, or directly by pasting them on this form	OBSERVATION OF THE SECRETARIAT on each comment submitted
FRANCE	<p><u>Reasons for disapproval</u></p> <p>For petroleum products, the four following methods, Abel, Pensky-Martens, TAG and Cleveland, cover all the current needs for measuring flash points.</p>	<p>Not accepted — Widely quoted in specifications and regulations, and likely to be preferred method for FAME.</p>
GERMANY	<p>1) Clauses 6.4/6.5</p> <p>This parts should not be optional. Depending on the product tested, heating and/or cooling devices may be needed.</p> <p>Also, draught protection should not be optional.</p> <p>2) Clause 9.1.1</p> <p>For Subsampling, the container should also be between 85 to 95% by suitable selection of container size. Otherwise, the above requirement (8.2) would be obsolete and couls as well be replaced by 50%. Furthermore, the present wording can lead to unwanted discussions on the validity of the test result of the subsample.</p> <p>3) Clause 10.2</p> <p>Since the method can be applied down to -30°C, the syringe shall be cooled down to a temperature of 10°C below the expected flash point to ensure that no light products are lost.</p>	<p>Not accepted — Heating and/or cooling (see UK comment on clause 6) only required for certain samples. If no draughts – no shield required.</p> <p>Accepted in principle — Clause re-worded.</p> <p>Accepted.</p>
JAPAN	<p>1) It is wished that 1,4-dimethyl benzene (p-xylene: nominal flash point 27°C) be added to Table C. (In Japan the compound is widely available.)</p>	<p>Accepted.</p>

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NETHERLANDS	<p>We approve to the standards, we have however a general comment concerning the flash point standards.</p> <p>At present there are at least five different flash point standards. We think this number should be reduced.</p> <p>We realize this will have consequences for existing specifications, however the present standards lead to different results, which means results are not interchangeable. This is not an acceptable situation.</p> <p>We therefore like the working group to discuss the possibility to combine and reduce the number of methods.</p>	<p>Not accepted — See response to comment from France.</p>
TURKEY	<p>1) Page 1 Clause 2: Normative references Wording of this paragraph is different them the paragraph in ISO/DIS 1516. We think that this is the old one. The new wording of this paragraph should be like as paragraph in ISO/DIS 1516.</p> <p>2) Annex B. Note 20: Suitable thermometers are indicated as the IP91C, IP98C. It would be helpful if the suitable ISO thermometers are also indicated.</p>	<p>Accepted.</p> <p>Noted — Unfortunately, equivalent ISO thermometers not specified.</p>
UK	<p>5.1 General/ Notes in the text are only – remove number of note 6.5 Editorial numbered if there is more – remove number of note 7.2 than one in a clause. – renumber as 1 & 2, amend text accordingly 7.3 Where numbering is – renumber as 1 & 2 7.4.1 required, it starts at "1". – renumber as 1 & 2 7.4.2 – remove number of note 9.1.1 – remove number of note and amend text acc. 9.1.4 – remove number of note 10.2.2 – remove number of note 10.2.4 – remove number of note 11.2 – remove note number 13.3 – remove note number</p>	<p>Accepted.</p>

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UK [continued]	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ technical/ editorial)	Comment (with rationale)	Proposed change	
	Introduction	Para 5	Editorial		Remove spaces before "1)"	Accepted.
	2		Technical	ISO 1512 has been replaced by ISO 15528 Paints, varnishes and raw materials for paints and varnishes – Sampling.	Replace ISO 1512 by ISO 15528	Accepted.
	3	Title	Editorial	There is only one definition.	Change the heading to: Definition	Accepted.
	3.1	Title	Editorial	The requirement to state "(closed cup)" after flash point is superfluous. This is a closed cup method.	Delete the bracket and its content.	Accepted.
	6.4	Sentence 2	Editorial	Sentence not flowing.	Change to: "If oven used, it shall be..."	Accepted in principle — Sentence reworded.
	6.2.1 and 6.2.2		Technical	Some equipment uses syringes which do not have needles, the reference to the needle should be optional.	Insert after "equipped", ", if required".	Accepted.
	6		Technical	The temperature range is –30 to 300°C, and 9.1.1 requires the sample, if necessary, to be cooled, therefore the apparatus should also include an optional cooling bath or freezer.	Insert a new 6.5 "6.5 Cooling bath or freezer (optional) Capable of cooling the sample to 10°C below the expected flash point, and controlling the temperature of the sample to +/-5°C. If used, the freezer shall be of explosion protected design." Renumber current 6.5	Accepted in principle — Aligned with 6.4.

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UK [continued]	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ technical/ editorial)	Comment (with rationale)	Proposed change	
	7.3		Technical	Appendix D allows the use of an aluminium foil insert to ease cleaning of the apparatus, but the only reference is in this appendix. If a note is added here, this will draw attention to the procedure.	Add "NOTE 3 For samples that are very difficult to remove, an aluminium cup insert can be used (see Appendix D)".	Accepted in principle — Added to new 6.7.
	7.4.1	Line 2	Editorial	Spurious space in formula	Amend to $R/\sqrt{2}$	Accepted.
	8.2	Sentence 1	Technical	Needing at least 50 ml of sample is unnecessarily restrictive for this method.	Change to: "Place sufficient volume of sample for test in a tightly sealed..."	Accepted.
	8.2	Line 3 & 4	Editorial	The sentence is not necessary. This information is already covered in the first sentence by the following words: "...in a tightly sealed container of material appropriate to the liquid being sampled,..."	Delete the whole last sentence and add the word "made" in the first sentence of this paragraph in line 1, between "container" and "of material".	Accepted in principle — Clause re-worded.
	9.1.1	Line 3 Sentence 3	Editorial	Sentence not clear and the word "minimum" could be misleading.	Delete "The sample shall receive only the minimum mixing treatment required" and insert "Gently mix the sample..."	Accepted.
	10.2.7	Line 3 Sentence 2 Also Line 4 Sentence 3 Also Line 5 Sentence 4	Editorial	The whole paragraph requires clarification by inserting more information.	At the end of second sentence, also instead of the word "above" in the third sentence, also instead of the word "above" in the fourth sentence insert in each case "using 1°C intervals".	Accepted.

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UK [continued]	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ technical/ editorial)	Comment (with rationale)	Proposed change	
	12		Editorial	It is apparent from 10.2.7 that the flash point should be recorded to the nearest 0,5°C, when testing at 0,5°C intervals. However, it is unclear where it is specified that the flash point is rounded to nearest 1°C.	We suggest either modifying 10.2.7 so that it specifies that the flash point temperature is rounded to the nearest 1°C when testing at 1°C intervals, or, an alteration to the first sentence in clause 12 so that it ends "...rounded to the nearest 0,5°C or 1°C, depending upon the test interval applied."	Accepted.
	12		Editorial	The requirements to report "the test interval" and "the ambient barometric pressure" should be incorporated in clause 14, rather than in clause 12.	Move "the test interval" and "the ambient barometric pressure" to clause 14.	Not accepted — These are part of the test result, to be included on the "Report".
	12	Line 2	Technical	For consistency the interval for be specified as 1,0 as in the next paragraph.	Amend "nearest 1°C" to "nearest 1,0°C".	Accepted.
	13.2	Table 1	Technical	Table 1 is from data for petroleum and related products and this should be specified.	Amend table heading to include "(for petroleum and related products)".	Accepted in principle — Data for paints etc. added.
	Appendix A	Figure 1 a	Editorial	The diagram shows the nozzle not the flame.	Amend "Test flame" to "Nozzle of test flame".	Accepted.
	Appendix A	A.1.2	Editorial	Wording unnecessarily cumbersome.	Revise "any gas available and found suitable" to "any suitable flammable gas".	Accepted.

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<p>ISO/TC 28- TC 35 JWG</p>	<p>These two methods, ISO 3679 and 3680, have been identified as the most probably means of assessing the flammable characteristics of fatty acid methyl esters (FAME) to be used alone or as a component in petroleum products. A precision evaluation of FAME is under development. The DIS texts should be modified to include reference to the testing of FAME.</p>	<p>Accepted.</p>