



Technical Bulletin 05-2

International Federation of Inspection Agencies Petroleum and Petrochemical Committee

Warning on the Use of Pensky-Martens Closed Cup Flash Point Technique on Liquids that May Contain Traces of High Volatility Material

Please be advised that the flash point methods that use the Pensky-Martens Closed Cup technique, IP 34 (ENISO 2719) and ASTM D93, are not recommended for use when determining the flash point of liquids that may contain traces of highly volatile material. The wording in the Scope of IP 34 is as follows:

'This International Standard is not applicable to water borne paints or liquids contaminated by traces of highly volatile material'

Use of the Pensky-Martens methods for determining the flash point of liquids containing traces of volatile material can lead to erratic results, due to inconsistent loss of light ends, and could result in an overstatement of the flash point value with implications for safety.

This issue has been brought to our attention following erratic results that have been obtained on fuel oils where unrefined crude oil has been used as a blending component. Crude oil and any product containing unrefined crude should be considered as likely to contain traces of highly volatile materials and not suitable for application of the Pensky-Martens method. Fuel oils resulting from solvent extraction (e.g. the ROSE process in the USA) or other secondary refining processes can also contain trace volatiles, particularly when they have not been stored for a sufficient period to allow these to evolve.

In such cases the Energy Institute recommends the use of an equilibrium method IP 523, IP 524, ISO 3679, ISO 3680, ASTM D3278, ASTM D3828.

A CEN Technical Report which is a guide to flashpoint methods is complete and will be issued shortly. This will reinforce this point.

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IFIA Headquarters

President: R. Nelson - Director General: R. Brockway
Secretary: N. Walser

Registered Office, 22-23 Great Tower Street, London EC3R 5AQ
Tel: Internat'l +44 207 283 1001/0222 - National 0207 283 1001/0222
Fax: International +44 207 626 4416 - National 0207 626 4416
The International Federation of Inspection Agencies Limited is registered in
England Reg. No. 1641984
Registered VAT No. GB 626 4250 53

IFIA Americas Committee

Chairman: G. Lees - Executive Director: M. Bush
Secretary: C. Updike

3942 North Upland Street, Arlington, VA 22207
Tel: (703) 533-9539
Fax: (703) 533-1612
E-mail: lfianac@aol.com
Visit our web site at "<http://www.ifa-ac.org>"