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(PAJ)

Crude oil and petroleum products—Determination of sulfur content Part 1 : Wickbold combustion method

ICS 75.080

Reference number : JIS K 2541-1 : 2003 (E)

Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard from the Petroleum Association of Japan (PAJ), with a draft of Industrial Standard based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This Standard has been made based on **ISO 4260** : 1987 *Petroleum products and hydrocarbons—Determination of sulfur content—Wickbold combustion method* for the purposes of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an International Standard which is based on Japanese Industrial Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

JIS K 2541 consists the following 7 parts with the general title *Crude oil and petroleum products—Determination of sulfur content.*

Part 1 : Wickbold combustion method
Part 2 : Oxidative microcoulometry
Part 3 : Quartz-tube combustion method (Air method)
Part 4 : Energy-dispersive X-ray fluorescence method
Part 5 : General bomb method
Part 6 : Ultraviolet fluorescence method
Part 7 : Wavelength-dispersive X-ray fluorescence method

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

Contents

Crude oil and petroleum products— Determination of sulfur content Part 1 : Wickbold combustion method

Introduction This Japanese Industrial Standard has been prepared based on visual titration method in respect of the titration methods specified in the first edition of **ISO 4260** *Petroleum products and hydrocarbons—Determination of sulfur content—Wickbold combustion method*, published in 1987 with some modifications in technical contents.

Portions with sidelines or dotted underlines in this Standard are the items modified the original International Standard. The table of modification attached with their explanation is as shown in Annex (informative).

1 Scope This Standard specifies the method of quantitative determination of sulfur content in the range of 1 mass ppm to 10 000 mass ppm in gasoline, kerosene and light oil by using the Wickbold combustion method.

Remarks 1 This method may be applied to products having sulfur contents in the range 1 mass ppm to 10 000 mass ppm and is particularly suitable for the qualitative determination of distilled oil with sulfur contents of less than 300 mass ppm. The sample with sulfur contents of exceeding 300 mass ppm shall be determined by any one of the following.

1) method to dilute the sample with a solvent and burn the whole amount.

2) method to burn only the necessary amount without burning of the whole amount.

3) method to take an aliquot of absorption solution and titrate.

2 This test method shall not apply to the samples containing halogen not less than 100 mass ppm, calcium not less than 5 mass ppm, phosphorus not less than 2 mass ppm, lead not less than 2 mass ppm and other samples containing metal which might produce insoluble sulphate.

3 Concerning gasoline, kerosine and light oil, when doubts arise in the test results obtained by using Wickbold combustion method, the test shall be carried out by using the oxidative microcoulometry specified in **JIS K 2541-2**.

4 Although dangerous reagents, operation and test apparatus are sometimes used in this Standard, this Standard does not purport to address all the safely using method. Therefore, the user of this test method shall establish cautionary safety measures for safety and health prior to the test.

5 The International Standard corresponding to this Standard is as follows.