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(PAJ)

**Crude petroleum and
petroleum products—
Determination of sulfur content
Part 6: Ultraviolet fluorescence
method**

ICS 75.080

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Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

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

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Contents

	Page
Introduction.....	1
1 Scope.....	1
2 Normative references	2
3 Principle of test	3
4 Reagents	3
5 Apparatus	4
6 Sampling	6
7 Apparatus preparation	6
8 Apparatus calibration and verification	7
9 Test procedure	11
10 Calculation and test result	12
11 Expression of results.....	14
12 Precision	14
13 Test report	15
Annex JA (informative) Test methods specified in JIS K 2541 series	16
Annex JB (informative) Comparison table between JIS and corresponding International Standard	17

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Petroleum Association of Japan (PAJ) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently, **JIS K 2541-6:2003** is replaced with this Standard.

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JIS K 2541 series consists of the following 7 parts under the general title “*Crude petroleum 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

Crude petroleum and petroleum products— Determination of sulfur content Part 6: Ultraviolet fluorescence method

Introduction

This Japanese Industrial Standard has been prepared based on the second edition of **ISO 20846** published in 2011 with some modifications of the technical contents made to reflect the domestic situations and needs.

The portions given sidelines or dotted underlines are the matters in which the contents of the corresponding International Standard have been modified. A list of modifications with the explanations is given in Annex JB.

1 Scope

This Standard specifies an ultraviolet fluorescence test method for the determination of the sulfur content of motor gasoline, kerosene and light oil having sulfur contents in the range of 0.000 1 % to 0.050 0 % mass fraction. The method is applicable to motor gasolines, including those containing up to 3.7 % mass fraction oxygen (e.g. those blended with ethanol up to about 10 % volume fraction), and to light oils, including those containing up to 10 % mass fraction fatty acid methyl ester (FAME).

Other petroleum products and samples with the sulfur content exceeding 0.050 0 % mass fraction and samples with the content of oxygen-containing compounds exceeding the specified range can be analysed according to this test method, however, no precision data for these analyses have been established for this Standard.

NOTE 1 Halogens interfere with precise determination of sulfur content at concentrations above approximately 0.350 0 % mass fraction.

NOTE 2 The sulfate species in ethanol have a conversion factor close to that of organic sulfur to sulfur dioxide.

NOTE 3 For example, 2-ethyl hexyl nitrate (EHN) added as cetane improver to light oil shows an enhancing effect on sulfur content up to 0.000 17 % mass fraction, when 0.200 0 % mass fraction EHN is added to light oil containing 0.001 0 % mass fraction sulfur.

NOTE 4 The test methods specified in respective parts of **JIS K 2541** series are shown in Annex JA.

NOTE 5 The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 20846:2011 *Petroleum products—Determination of sulfur content of automotive fuels—Ultraviolet fluorescence method* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.