JIS

JAPANESE INDUSTRIAL STANDARD

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# JIS K 2541-4 : 2003

(PAJ)

# Crude oil and petroleum products—Determination of sulfur content Part 4 : Energy-dispersive X-ray fluorescence method

**ICS** 75.080

**Reference number : JIS K 2541-4 : 2003 (E)**

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## 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/FDIS 8754** : 2003 *Petroleum products—Determination of sulfur content—Energy-dispersive X-ray fluorescence 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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Standards Board
Technical Committee on Chemical Products

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# Crude oil and petroleum products— Determination of sulfur content Part 4 : Energy-dispersive X-ray fluorescence method

**Introduction** This Japanese Industrial Standard has been prepared based on the first edition of **ISO/FDIS 8754** *Petroleum products—Determination of sulfur content—Energy-dispersive X-ray fluorescence method*, published in 2003, 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 0.03 mass % to 5 mass % contained in crude oil, naphtha, unleaded gasoline, intermediate distilled oil, residual oil lubricant base oil and petroleum products of base material.

Remarks 1 This method is also capable of measuring in the range between 0.01 mass % and 0.03 mass % by using test apparatus of high precision type excitation method or by carrying out the preparation of working curve appropriately.

2 When a doubt arises in the test results obtained according to this test method, light oil shall be tested according to the oxidative microcoulometry specified in **JIS K 2541-2**, and crude oil and heavy oil shall be tested according to the quartz-tube combustion method (air method) specified in **JIS K 2541-3**.

3 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 the cautionary safety measures for safety and health prior to the test.

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

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**.

ISO/FDIS 8754 : 2003 *Petroleum products—Determination of sulfur content—Energy-dispersive X-ray fluorescence method* (MOD)

Information 1 The additives of heavy metal such as alkyl lead interfere the measurement in this method. If exists, not less than several hundreds ppm of silicon, phosphorus, calcium, oxygen, potassium,

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