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# Foreword

This is a technical paper prepared by the standards committee after deliberation of the standard in accordance with the rules of the standards conference based on the articles of the Japan Automotive Standards Organization.

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Attention is dorawn to possibility that some of the elements of this document may be the subject of patent rights.

Japan Automotive Standards Organization shall not be hold responsible for identifying any or all suchpatentright.

This technical paper is one of the following technical papers related to test methods for diesel fuel containing fatty acid methyl ester in the range of not exceeding 5% in mass fraction.

**TP 16001** Automotive fuel — Measurement of fatty acid methyl ester and triglyceride contents in diesel fuel — High performance liquid chromatograph method

**TP 16002** Automotive fuel — Measurement of formic acid, acetic acid and propionic acid contents in diesel fuel — Water extraction ion chromatograph method

**TP 16003** Automotive fuel —Measurement of methanol content in diesel fuel — Method using gas chromatograph with oxygen detector

**TP 16004** Automotive fuel —Measurement of methanol content in diesel fuel — Method using gas chromatograph with head space flame ionization detector

**TP 16005** Automotive fuel —Measurement of methanol content in diesel fuel — Water extraction — Method using gas chromatograph with flame ionization detector

**TP 16006** Automotive fuel — Measurement of acid value increase in diesel fuel

**TP 16007** Automotive fuel —Measurement of oxidation stability of diesel fuel — Rapid small scale oxidation test method



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# Technical Paper

## Automotive fuel —Measurement of oxidation stability of diesel fuel — Rapid small scale oxidation test method

**Description**

This technical paper is prepared based on the public notice of the Ministry of Economy, Trade and Industry Article 72, “Test method for measurement of oxidation stability of diesel fuel specified by the Minister of Economy, Trade and Industry”, for “Act on the Quality Control of Gasoline and Other Fuels”, without reviewing the technical contents.

**WARNING** The use of this standard may involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

### 1 Scope

This test method specifies a method for the determination of the induction period of diesel fuels and its blends with fatty acid methyl ester (hereinafter referred to as FAME) up to 5% in mass fraction under accelerated oxidation conditions.

### 2 Normative reference

The standards cited at the appropriate places in this technical paper are as follows. For these reference standards, their latest version (including the supplements) shall be applied.

**JIS K 1101** Oxygen

**JIS K 2251** Crude petroleum and petroleum products – Sampling

**JIS K 8101** Ethanol(99.5)

**JIS Z 8402-6** Accuracy (trueness and precision) of measurement methods and results – Part 6: Use in Practice of accuracy values

### 3 Terms and definitions

For the purpose of this technical paper, the following terms and definitions herein shall be applied.

**3.1 FAME (Fatty acid methyl esters)** Fatty acid methyl esters blended for diesel fuels. They are produced from vegetable oils, animal fats and other fatty oils through methyl-esterification and purification processes .

**3.2 Break point** The pressure in the test apparatus which is 10% below the maximum pressure of the actual test run.

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