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Acetic acid (Reagent)

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Foreword

This Japanese Industrial Standard has been 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 Japan Reagent Association (JRA)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS K 8355**: 2006), which has been technically revised.

However, **JIS K 8355**: 2006 may be applied in the **JIS** mark certification based on the relevant provisions of Article 30, paragraph (1), etc. of the Industrial Standardization Act until 21 August 2021.

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Acetic acid (Reagent)

CH₃COOH FW : 60.05

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 6353-2** : 1983, Edition 1, with some modifications of the technical contents.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies the requirements for acetic acid intended for use as a reagent.

WARNING 1 Acetic acid is a harmful substance. Inhalation of its vapour and adherence to mucous membrane and skin should be avoided. This is flammable and should be kept away from fire.

WARNING 2 Persons carrying out tests based on this Standard should be familiar with normal laboratory practice. This Standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this Standard to establish appropriate safety and health practices, by reference to SDS (safety data sheets), etc.

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

ISO 6353-2 : 1983 *Reagents for chemical analysis — Part 2 : Specifications — First series R 1 Acetic acid* (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**.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS K 0050 *General rules for chemical analysis*

JIS K 0065 *Test method for freezing point of chemical products*

JIS K 0067 *Test methods for loss and residue of chemical products*

JIS K 0068 *Test methods for water content of chemical products*

JIS K 0113 *General rules for methods of potentiometric, amperometric, coulometric, and Karl Fischer titrations*

JIS K 0114 *General rules for gas chromatography*

JIS K 0117 *General rules for infrared spectrophotometric analysis*

JIS K 0121 *General rules for atomic absorption spectrometry*

JIS K 8001 *General rules for test methods of reagents*

JIS K 8005 *Reference materials for volumetric analysis*

JIS K 8042 *Aniline (Reagent)*

JIS K 8051 *3-Methyl-1-butanol (Reagent)*

JIS K 8102 *Ethanol (95) (Reagent)*

JIS K 8155 *Barium chloride dihydrate (Reagent)*

JIS K 8180 *Hydrochloric acid (Reagent)*

JIS K 8223 *Perchloric acid (Reagent)*

JIS K 8517 *Potassium dichromate (Reagent)*

JIS K 8541 *Nitric acid (Reagent)*

JIS K 8550 *Silver nitrate (Reagent)*

JIS K 8576 *Sodium hydroxide (Reagent)*

JIS K 8625 *Sodium carbonate (Reagent)*

JIS K 8637 *Sodium thiosulfate pentahydrate (Reagent)*

JIS K 8659 *Starch, soluble (Reagent)*

JIS K 8799 *Phenolphthalein (Reagent)*

JIS K 8886 *Acetic anhydride (Reagent)*

JIS K 8913 *Potassium iodide (Reagent)*

JIS K 8951 *Sulfuric acid (Reagent)*

JIS R 3503 *Glass apparatus for chemical analysis*

3 Classification

Acetic acid specified in this Standard is classified into guaranteed reagent and reagent for non-aqueous titration.

4 Properties

4.1 Characteristics

Acetic acid is colourless and transparent liquid having pungent smell, and some-

times freezes when being in a cold climate. It easily dissolves in water, ethanol (99.5) and diethyl ether. Its density is about 1.05 g/ml.

4.2 Qualitative test method

The qualitative test method shall be as follows.

- a) Take 5 ml of the sample in a 50 ml beaker, and add 5 ml of ethanol (99.5) and 1 ml of sulfuric acid. When it is boiled, smell of ethyl acetate is generated.
- b) When the infrared absorption spectrum of the sample is measured by the method specified in **JIS K 0117**, the main absorption peaks are observed at the vicinity of the wave numbers $1\,712\text{ cm}^{-1}$, $1\,411\text{ cm}^{-1}$, $1\,362\text{ cm}^{-1}$, $1\,294\text{ cm}^{-1}$, 935 cm^{-1} , 629 cm^{-1} and 481 cm^{-1} . In this case, the preparation of sample shall be in accordance with **5.4 a)** of **JIS K 0117**. An example of the infrared absorption spectrum given by the apparatus equipped with a window plate of potassium bromide is shown in Figure 1.

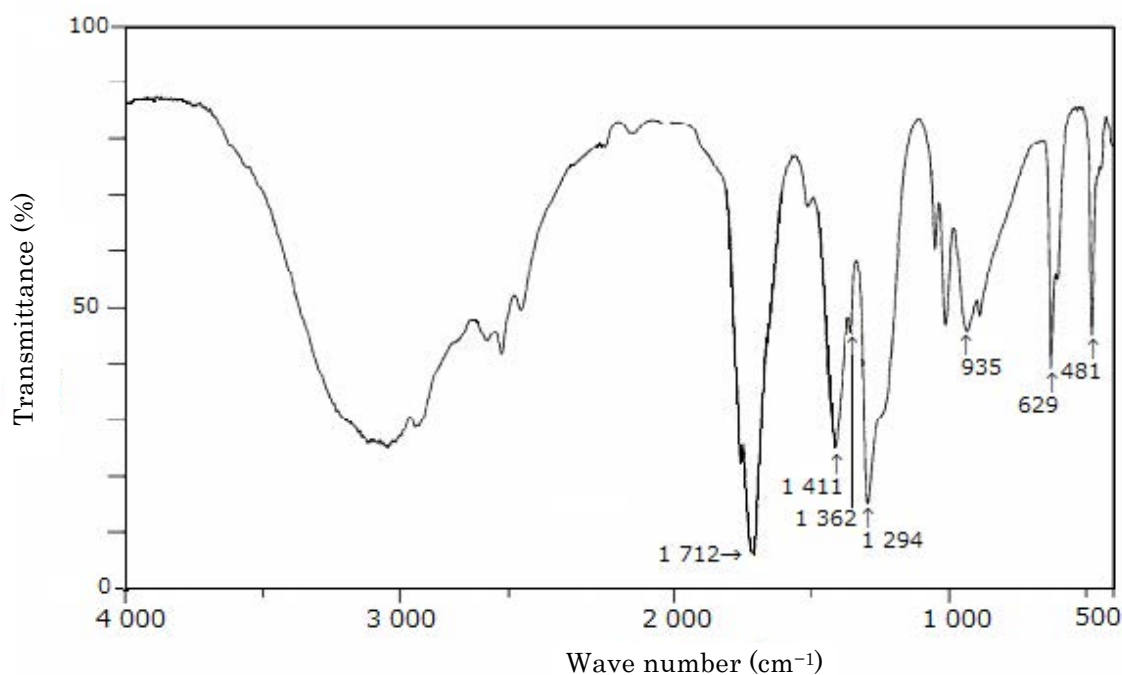


Figure 1 Example of infrared absorption spectrum

5 Quality

When the sample is tested in accordance with Clause 6, the results shall conform to the requirements given in Table 1.