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Formaldehyde solution (Reagent)

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In the event of any doubts arising as to the contents,
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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 Japan Reagent Association (JRA)/Japanese Standards Association (JSA) 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 8872**:1994 is replaced with this Standard.

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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.

Formaldehyde solution (Reagent)

Introduction

This Japanese Industrial Standard has been prepared based on the first edition of **ISO 6353-3** published in 1987 with some modifications of the technical contents due to the technical improvement of the part of specifications in the corresponding International Standard.

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

WARNING: Persons who use this Standard should make an effort so as to be familiar with the laboratory practice. This Standard does not describe all of the safety problems, if any, associated with the use of this Standard. Therefore, the appropriate measures shall be taken in consideration of the safety and health by referring to MSDS (Material Safety Data Sheet) and the like.

1 Scope

This Standard specifies the formaldehyde solution to be used as a reagent.

NOTE : The International Standard corresponding to this Standard is as follows.

ISO 6353-3:1987 *Reagents for chemical analysis—Part 3: Specifications—Second series* (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**.

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 0061 *Test methods for density and relative density of chemical products*

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

JIS K 0114 *General rules for gas chromatographic analysis*

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

JIS K 8101 *Ethanol (99.5) (Reagent)*

JIS K 8891 *Methanol (Reagent)*

3 General matters

General matters of testing and inspection methods shall be in accordance with **JIS K 8001**.

4 Classification

The classification shall be the guaranteed reagent.

5 Properties

5.1 Characteristics

Formaldehyde solution is colourless or almost colourless transparent liquid having pungent smell. After being stored for a long time, it may give white turbidity when it is cold due to the generation of paraformaldehyde. It easily dissolves in water and ethanol. Generally, it contains 5.0 % to 10.0 % (mass fraction) of methanol as stabilizer.

NOTE : When it gives turbidity or faint precipitation, use its supernatant liquid or filtrate after filtration.

5.2 Qualitative test method

The qualitative test method shall be as follows.

- a) Add 10 ml of water to 1 ml of sample, also add 1 ml of sulfuric acid (1+10) and 0.5 ml of fuchsine sulphurous acid solution and leave as it is, the solution shows purplish red colour.
- b) Dissolve 0.1 g of salicylic acid in 5 ml of sulfuric acid and add 0.2 ml of sample, the solution gives red colour. This colour becomes dark by heating.

6 Quality

When tested and inspected according to clause 7, the quality shall conform to table 1.

Table 1 Quality

Item		Specified value
Concentration (HCHO)	mass fraction %	36.0 to 38.0
Appearance	Hazen unit	10 or under
Density (20 °C)	g/ml	1.085 to 1.100
Ignition residue (sulfate)	mass fraction %	0.002 or under
Acid (as HCOOH)	mass fraction %	0.04 or under
Chloride (Cl)	mass fraction ppm	2 or under
Sulfate (SO ₄)	mass fraction %	0.002 or under
Copper (Cu)	mass fraction ppm	2 or under
Lead (Pb)	mass fraction ppm	2 or under
Iron (Fe)	mass fraction ppm	2 or under
Methanol (stabilizer)	mass fraction %	5.0 to 10.0

7 Testing and inspection methods

7.1 Conditions of testing and inspection methods and results thereof

The environment of testing and inspection methods shall be in accordance with 3.7 (1) of JIS K 8001. The humidity shall be controlled if needed. The testing and