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(JCIA/JSA)

**Test methods for colour of chemical
products—Part 1: Estimation of colour
in Hazen units (platinum-cobalt colour
scale)**

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In the event of any doubts arising as to the contents,
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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 Chemical Industry Association (JCIA)/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 0071-1** : 1998 is replaced with this Standard.

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JIS K 0071 series consists of the following 4 parts under the general title “*Testing methods for colour of chemical products*”:

JIS K 0071-1 *Part 1: Estimation of colour in Hazen units (platinum-cobalt colour scale)*

JIS K 0071-2 *Part 2: Gardner colour scale*

JIS K 0071-3 *Part 3: Saybolt colour*

JIS K 0071-4 *Part 4: ASTM colour*

Test methods for colour of chemical products—Part 1: Estimation of colour in Hazen units (platinum-cobalt colour scale)

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 2211:1973**, Edition 1, and **ISO 6271:2015**, Edition 3, with some modifications of the technical contents.

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

1 Scope

This Standard specifies a method for estimating the colour of chemical products which are liquid at ordinary temperature, or of those which, when heated, become molten state. It is applicable to clear liquid having a colour characteristic similar to those of the platinum-cobalt colour standard solution.

NOTE 1 The International Standards corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 2211:1973 *Liquid chemical products—Measurement of colour in Hazen units (platinum-cobalt scale)*

ISO 6271:2015 *Clear liquids—Estimation of colour by the platinum-cobalt colour scale* (overall evaluation: MOD)

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

NOTE 2 Chemical products refer to overall materials generated by chemical reaction. When other methods than those in this Standard are specified in the standards of each product or of product series, those standards apply.

WARNING There are some chemical products having such characteristic as volatility, explosibility, radioactive. When applying the test methods specified in this Standard, the user is responsible to establish appropriate safety, health and environmental practices, with referring to safety data sheet (SDS) etc.

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 0115 *General rules for molecular absorptiometric analysis*
JIS K 0211 *Technical terms for analytical chemistry (General part)*
JIS K 0557 *Water used for industrial water and wastewater analysis*
JIS K 8129 *Cobalt (II) chloride hexahydrate (Reagent)*
JIS K 8163 *Potassium hexachloroplatinate (Reagent)*
JIS K 8180 *Hydrochloric acid (Reagent)*
JIS P 3801 *Filter paper (for chemical analysis)*
JIS R 3503 *Glass apparatus for chemical analysis*
JIS R 3505 *Volumetric glassware*
JIS Z 8105 *Glossary of colour terms*
JIS Z 8722 *Methods of colour measurement—Reflecting and transmitting objects*
JIS Z 8781-1 *Colorimetry—Part 1: CIE standard colorimetric observers*
JIS Z 8781-2 *Colorimetry—Part 2: CIE standard colorimetric illuminants*
JIS Z 8781-3 *Colorimetry—Part 3: CIE tristimulus values*

3 Terms and definitions

For the purposes of this Standards, the terms and definitions given in **JIS K 0211**, **JIS Z 8105**, **JIS Z 8781-1** to **JIS Z 8781-3**, and the following apply.

3.1 Hazen unit

unit that the colour of a solution containing 1 mg of platinum in the form of chloroplatinic acid and 2 mg of cobalt (II) chloride hexahydrate per litre is taken as 1

NOTE : Hazen unit is also called platinum-cobalt colour scale or APHA colour.

4 Principle

The colours of liquid chemical products and of chemical products which were heated to a molten state are measured using a colour-measuring instrument, and Hazen units are obtained by a working curve prepared from the platinum-cobalt colour standard solution (see clause 7). Or, the colours of liquid chemical products and of chemical products which were heated to a molten state are compared with the colour of platinum-cobalt colour standard solution, and the corresponding colour number of the solution is taken as Hazen units (see clause 8).

5 Sampling and pre-treatment of measurement sample

Take a representative measurement sample of the chemical product to be tested. If the sample shows any visual haziness or air bubbles, remove them e.g. by filtration, centrifugation, heating, ultrasonic treatment or any other suitable means. Some sample can change the colour due to pre-treatments.

In addition, for individual chemical products or their product group, when the sampling method of the measurement sample is specified, take the sample in accordance with the specified method.