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General rules for infrared spectrophotometric analysis

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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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 Analytical Instruments Manufacturers' Association (JAIMA)/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 0117**:2000 is replaced with this Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

General rules for infrared spectrophotometric analysis

1 Scope

This Japanese Industrial Standard specifies the general rules applicable to the qualitative analysis and quantitative analysis of inorganic and organic substances using infrared spectrophotometer [1].

Note [1] In a broad definition, the term "infrared rays" means electromagnetic waves having wavelength between visible ray and microwaves. In this Standard, however, it is treated as rays in the wavenumber range of 4 000 cm^{-1} to 400 cm^{-1} (wavelengths 2.5 μm to 25 μm).

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 0211 *Technical terms for analytical chemistry (General part)*

JIS K 0212 *Technical terms for analytical chemistry (optical part)*

JIS K 0215 *Technical terms for analytical chemistry (Analytical instrument part)*

3 Terms and definitions

For the purposes of this Standard, the terms and definitions given in **JIS K 0211**, **JIS K 0212** and **JIS K 0215**, and the following apply.

3.1 interferogram

diagram expressing the signals sent from Michelson interferometer, obtained by plotting the optical path difference of light on abscissa and the light intensity on ordinate

3.2 apodization

mathematical operation to overlap the adequate function on interferogram, in order to reduce the spectrum distortion caused by the finite scanning distance of interferometer

3.3 absorbance

numerical value [2] expressed by the common logarithm of the ratio between the intensity (I_0) of the incident light directed at a sample and the intensity (I) of the light transmitted through it

Note [2] Absorbance (Abs) is expressed as follows.

Absorbance (Abs) = $-\log_{10}(I/I_0)$