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STANDARD

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(ISO Guide 31 : 2000)

Reference materials — Contents of certificates and labels

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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 in accordance with the Industrial Standardization Law. Consequently **JIS Q 0031:1997** is replaced with **JIS Q 0031:2002**.

This revision has been made based on **ISO Guide 31:2000** *Reference materials — Contents of certificates and labels* for the purposes of making easy to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of International Standard which is based on Japanese Industrial Standard.

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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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Reference materials — Contents of certificates and labels

Introduction This Japanese Industrial Standard has been prepared based on the second edition of **ISO Guide 31 : 2000** *Reference materials—Contents of certificates and labels* published in 2000 without modifying the technical contents.

Portions underlined with dots in this Standard are the matters not stated in the original International Standard.

The certificate which accompanies a certified reference material (**CRM**) should contain all the information which is essential to its use. Without the certificate, the material, however costly its production, is valueless. It follows, therefore, that producers of CRMs should pay very careful attention to the preparation of certificates. The **ISO** Committee on Reference Materials (**ISO/REMCO**) published the first edition of **ISO Guide 31** in 1981. During the past sixteen years there has been considerable growth in the number and variety of reference materials produced, and in their use. The increasing demand for reliability in the results obtained by analytical and metrological techniques, which has arisen especially from growing concern about pollution of the environment, has led to the demand for a widening range of CRMs of increasingly high quality for use in validation of measurement methods and as calibrants.

The definition of a CRM in **JIS Q 0030** (see clause 2) requires all certified property values to be accompanied by an uncertainty at stated level of confidence and for traceability to “an accurate realization of the unit in which the property value is expressed” to be demonstrated. These additional requirements must therefore be met in the certificate.

The Guide to the expression of uncertainty in measurement, published by **ISO** (see Bibliography), summarizes more recent international consideration of the subject of uncertainty in measurement and will require some modification of the definition of a CRM quoted above. Uncertainty should now be expressed as combined (type A + type B) standard uncertainty or as expanded uncertainty (with a coverage factor to be applied to the combined standard uncertainty). The concept of probability or level of confidence is now no longer central.

The first edition of this Standard discussed the difference between the information provided on the label, the certificate, and the certification report, and stressed the brief synoptic nature of the certificate. The past sixteen years, however, have seen a general decline in the issuing of certification reports and an increase in the information provided in certificates. This decline in the publication of certification reports is not necessarily to be condemned, provided all the information appropriate to a full certification report can always be obtained on application to the producers of the CRM. Production of certification reports is expensive and it is clearly unnecessary for one to be supplied to the same user every time a fresh sample from the same batch of material is purchased. At the same time, the information required from a certificate is usually more than the certified property value. Details concerning the way in which the container should be opened, the minimum sample size that should be taken for a measurement, the stability of the material, the way in which it should be stored, and, in the case of CRMs where the certified value is