

ICS 71.040.99

CCS N53



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 16594-2008

Replacing GB/T 16594-1996

**General rules for measurement of length in micron scale by
SEM**

微米级长度的扫描电镜测量方法通则

Issued on: September 18, 2008

Implemented on: May 1, 2009

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and definitions, symbols, abbreviations
- 3.1 Terms and Definitions

Foreword

This standard replaces GB/T 16594-1996 "SEM measurement micron length." This standard and GB/T 16594-1996 compared to the main changes are as follows:

- The "measuring method" to "measurement Law";
- The "Error Analysis" to "Uncertainty Assessment";
- Increased uncertainty generated by the sample deformation evaluation;
- Use experimental methods aimed at obtaining image measurement uncertainty values;
- Increase "Adjusting the measured length direction" Appendix. Appendix A of this standard is a normative appendix, Appendix B ~ Appendix D is an informative annex. This standard by the National Standardization Technical Committee microbeam analysis made. This standard by the National Standardization Technical Committee microbeam analysis. Drafting of this standard. Shanghai ingot Energy Technology Co., Ltd., Shanghai Polytechnic University, Shanghai Institute of Measurement and Testing Technology, with Tongji University, China Shipbuilding Industry Corporation No. 725 Institute. The main drafters of this standard. Xun Zhang Biao, Lu Desheng, Deng Baoqing, Ding Zhen Min, Liu Yue, Gao Hua, according to Xu. This standard replaces the standards previously issued as follows:

- GB/T 16594-1996. SEM measurement micron length General

1 Scope

GB/T 16594-2008 is the Chinese national standard on general rules for measurement of length in micron scale by sem, in the field of chemical technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 18 September 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 May 2009.

Classification: ICS 71.040.99, CCS N53. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the measuring SEM micron length of general principles. For measuring (0.5 ~ 10) μm in length.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply this standard, however, encourage the parties to reach an agreement on this standard is Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

JJF1001-1998 common measurement terms and definitions JJG550-1988 scanning electron microscope national verification procedures

JJF1059-1999 Evaluation and Expression of Uncertainty in Measurement BIPM/IEC IFCC/ISO IUPAC/IUPAP/OIML-1993 Guide to the Expression of Uncertainty in Measurement (Guide to the Expression of Uncertainty in Measurement)

3.1 Terms and Definitions

JJF1001-1998 determined and the following terms and definitions apply to this standard.

3.1.1 Value is sufficiently stable, precisely calibrated to obtain the measured value and its uncertainty, issued by the approval authority exists objectively length.

3.1.2 Obtain its objective existence length measured by value and uncertainty of measurement.

3.1.3 Measured the length of the carrier substance.

3.1.4 SEM magnification display itself.

3.1.5 When measuring the enlarged image, aiming uncertainty of the measured length of the marker is present.

3.1.6 Since the deformation of the material, resulting in the measured length value changes, bringing uncertainty component of measurement results.

3.1.7 Given the magnitude of reference material.