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**INDUSTRY STANDARD OF THE
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**Evaluation of Uncertainty in Chemical Analysis Measurement
(English Translation)**

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and degrees of freedom ν (12)

Chemical analysis of measurement uncertainty this technical specification follows the "Guidance on Expression of Uncertainty in Measurement" (GUM) and "Evaluation of Uncertainty in Chemical Analysis Evaluation Guide

"(EURACHEM/CITAC Guide Quantifying Uncertainty in Analysis Measurement), combined with the characteristics of chemical analysis and measurement, from the scientific, normative, practical point of view Development, establishment of evaluation model, standardization of chemical analysis of measurement uncertainty and representation.

1 Scope of applications this specification applies to all the chemical analysis of accuracy requirements and from basic research to routine analysis of each field. E.g.

- a) Establish national stoichiometry, standards and international comparisons;
- b) Development of standard substances;
- c) Preparation and evaluation of chemical measurement methods, proficiency testing;
- d) verification/calibration of chemical analysis instruments, type evaluation;
- e) chemical measurement research, development and product arbitration test;
- f) scientific research, production quality control, quality assurance.

2 References

JJF 1059-1999 "Measurement Uncertainty Evaluation and Expression" JJF 1001-1998

"Common measurement terms and definitions" JJF 1071-2000 "National Metrology Calibration Code Writing Rules"

EURACHEM/CITAC Guide Quantifying Uncertainty in Analytical Measurement ("Guide to Evaluation of Uncertainty in Chemical Analysis") ISO

5725 Accuracy of measurement methods and results when using this specification, care should be taken to use the currently valid version of the above referenced document.

3 basic terms and definitions 3.1 [Measurement] uncertainty [of a measurement]

Characterize the dispersion that gives a reasonable measure of value, and the parameters associated with the measurement.

Note:

1 This parameter can be such as the standard deviation (or multiples thereof), or the half-width of the confidence interval.

2 Measurement uncertainty consists of multiple components. Some of these components can be estimated using the statistical distribution of measurement column results and used in practice Test standard deviation characterization. Other components are estimated on the assumption of probability distribution based on experience or other information, and standard deviation Characterization.

3 The measurement results should be understood as the best estimate of the value being measured and all the components of the uncertainty contribute to the dispersibility including those components introduced by the system effects, such as corrections and reference measurement standards.

3.2 standard uncertainty $u(x_i)$ standard uncertainty