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

GB/T 10628-2008

Replacing GB/T 10628-1989

**Gas analysis -- Comparison methods for determining and
checking the composition of calibration gas mixtures**

气体分析 校准混合气组成的测定和校验 比较法

(English Translation)

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Foreword

This standard is identical with ISO 6143:2001 (E).

This standard replaces GB/T 10628-1989 "Determination gas calibration gas mixtures consisting of Comparative Law." this standard GB/T 10628-1989 technical content has been extensively revised, the main changes are as follows.

Name --- revised standards as "gas analyzer calibration gas mixtures consisting of Measurement and Inspection Comparative Law";

Scope --- standard calibration gas mixtures consisting of increased inspection and alignment (Chapter 1 of this standard).

--- Increasing the terms and definitions, symbols and abbreviations terminology (Chapter 2 and 3 of this standard).

--- Apply analysis functions and analysis system response is limited to the type of straight line segments and type of modification is applicable to a linear function, two Multiple order polynomial function type, cubic polynomial, power function and exponential functions and the like. The number of calibration points by a single point, two points and more Point (at least 3.00) Amendment analysis calibration function type is determined by. a linear function of at least three points, quadratic, exponential, Function of at least 5.00, 7.00 at least a cubic polynomial (this standard is 5.1; GB/T 10628-1989 of 3.1,3.2,3.3).

--- Analysis function parameters calculated from two parameters, interpolation method for solving regression (GB/T 10628-1989 of 3.1,3.2,3.3) modify more Parameters (up to 4 parameters), two weighted regression, nonlinear iterative method (this standard A.2). It increases the variance parameters, Calculation of covariance (this standard A.3).

Uncertainty --- the content by the relative deviation synthesis (GB/T 10628-1989 of 3.1, 3.2), modified to pass by Uncertainty Calculation (5.3 of this standard). Abnormal increases uncertainty Supplement (5.4.1 of this standard).

--- Modify the composition of calibration gas mixtures measurement program (this standard is 5.3; GB/T 10628-1989 Chapter 3).

- Increased gas standard correlation and covariance of (this standard 5.3,5.4.2, A.4).
- Increasing the confirmation process analysis functions (this standard 5.2, A.5).
- Increased inspection and a plurality of gas standard comparison program calibration gas mixtures consisting of (6.1, 6.2 of this standard).
- Increased content requires the test report (Chapter 7 of this standard).
- Increasing the uncertainty of gas standard specification for representing and conversion (this standard A.1).
- Modify the contents of the application instance (this standard appendix B; GB/T 10628-1989 Appendix A).
- Increase the informative appendix (this standard Appendix C) and references.

Appendix A of this standard is a normative appendix, Appendix B and Appendix C are informative appendices.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee gases.

This standard was drafted. Southwest Chemical Industry Design and Research Institute.

1 Scope

This standard specifies.

- By comparison with the reference gas mixing method, the determination of the composition of calibration gas mixtures;
- From the known uncertainty of comparison with the reference mixture composition calculate calibration uncertainty gas mixture composition;
- By comparison with the reference gas mixing method, determination of the composition of calibration gas mixtures;
- Plurality of calibration gas mixtures consisting of comparison, for example, to compare different methods for preparing the mixture, or close to the relevant components of the mixture Consistency checking between.

Note: The unknown sample in principle, the methods described herein, and (widely) used can be expected as the calibration gas mixture (ie, intended as a calibration gas mixtures Applications Mixed gas) analysis. However, this application requires appropriate attention and consider other components of uncertainty, for example, the relevant reference calibration gas and Analysis Differences between the sample affect the parent.

2 Terms and Definitions

This standard uses the following terms and their definitions.

Designated by each mixture component (analyte) the type, content and supplemental gas (base) given the mixed gas properties.

NOTE: In this standard, predetermined analyte content expressed mole fraction. The mole fraction of mixed gas has the advantage of completely independent of pressure and temperature, the to be recommended. However, for specific measurement system, with the other constituent unit of measurement (such as concentration) may be more appropriate, but their Applications need to fully focus on the pressure and temperature dependence.

Response is determined by the measuring instrument specified mixed gas component (analyte) HPLC method.

Under specified conditions, to determine the measurement system or measuring instrument indication or marking material measure or a reference value corresponding to the standard value of the substance A set of operational relationship between.

Instrument response function and the analysis of the relationship between the content.

Note 1: Based on the result of selection and independent variables, you can use the calibration function or a function of two different methods of analysis indicates the response function.

Note 2: The response function is conceptual, can not be accurately determined, but approximately determined by calibration.

2.4.1

Instrument response function to be represented by the amount of analyte.

2.4.2

Analyte content of the instrument response function represents.

GB/T 10628-2008/ISO 6143:2001