INTERNATIONAL STANDARD 6141

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Gas analysis — Calibration gas mixtures — Certificate of mixture preparation

Analyse des gaz — Mélanges de gaz pour étalonnage — Certificat de préparation du mélange

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6141 was developed by Technical Committee ISO/TC 158, *Analysis of gases*, and was circulated to the member bodies in November 1977.

It has been approved by the member bodies of the following countries :

Australia	Ireland	Spain
Czechoslovakia	Mexico	Turkey
Egypt, Arab Rep. of	Netherlands	United Kingdom
France	Poland	USA
Germany, F.R.	Romania	USSR
India	South Africa, Rep. of	Yugoslavia

The member body of the following country expressed disapproval of the document on technical grounds :

Belgium

Printed in Switzerland

Gas analysis — Calibration gas mixtures — Certificate of mixture preparation

1 SCOPE AND FIELD OF APPLICATION

This International Standard gives a list of all the criteria required to define a gas mixture supplied under pressure in a cylinder and to be used for calibration purposes. These criteria shall be declared by the producer of the gas mixture.

The producer of the gas mixture for calibration shall supply two copies of the list of these criteria :

a) in the form of a certificate delivered at the same time as the invoice for the corresponding gas cylinder;

b) in the form of a label attached to, or fixed on, the gas cylinder.

2 DEFINITION OF GAS MIXTURE FOR CALIBRATION

A gas mixture for calibration shall be defined by all the following criteria :

- the method of mixture preparation;
- the accuracy, in relative terms, with which it has been made (the value mentioned shall be deduced from an error computation taking account of all the error sources corresponding to the preparation method used);
- the concentrations, with the symbols used to express them;
- the parameters involved in the accuracy calculation;
- the original pressure of the mixture;
- the minimum utilization pressure;
- the minimum conservation temperature;
- the period of time the mixture can be conserved : date of preparation and limiting guarantee date;
- the possible presence of toxic components.

Furthermore, it is recommended that an indication be given as to whether the mixture may create flammable or explosive atmospheres in air.

3 EXAMPLE OF CERTIFICATE OF PREPARATION OF A GAS MIXTURE

The mixture chart below gives an example of the type of label which could be used; however, any other type of label can also be used provided that it contains all the criteria mentioned in clause 2.

CALIBRATION MIXTURE		CYLINDER No. : PRODUCER'S NAME :	
Method of preparation :		Concentration C expressed in terms of mass* volume* mole*	Relative accuracy $\left(\frac{\Delta C}{C}\right)$ Ref : ISO Standard
Components		C in % Special guarantees[1]	
For calibration			
Complement[2]			

— Filling pressure :
— Minimum utilization pressure :
— Minimum conservation temperature :
— Preparation date :

Toxic component : YES* NO*
Flammable mixture : YES* NO*

Limiting guarantee date :

* Cross out what does not apply.

1) This column should be completed only upon request. In this column should be given the concentration of impurities which are present in the different components of the mixture and which might be troublesome to the user.

2) Where the mixture consists of two components in about equal proportion, for example, 49 % and 51 %, these two components will appear under the title "for calibration" and there will be no indication under "complement".