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Arbetsplatsluft – Mätssystem för korttidsmätningar med detektorrör – Krav och provningsmetoder (ISO 17621:2015)

Workplace atmospheres – Short term detector tube measurement systems – Requirements and test methods (ISO 17621:2015)

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Denna standard ersätter SS-EN 1231, utgåva 1.

The European Standard EN ISO 17621:2015 has the status of a Swedish Standard. This document contains the official English version of EN ISO 17621:2015.

This standard supersedes the Swedish Standard SS-EN 1231, edition 1.

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EUROPEAN STANDARD

EN ISO 17621

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2015

ICS 13.040.30

Supersedes EN 1231:1996

English Version

**Workplace atmospheres - Short term detector tube
measurement systems - Requirements and test methods
(ISO 17621:2015)**

Air des lieux de travail - Systèmes de mesurage par
tube détecteur à court terme - Exigences et méthodes
d'essai (ISO 17621:2015)

Arbeitsplatzatmosphäre - Kurzzeitprüfröhrchen-
Messeinrichtungen - Anforderungen und Prüfverfahren
(ISO 17621:2015)

This European Standard was approved by CEN on 7 May 2015.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN ISO 17621:2015) has been prepared by Technical Committee ISO/TC 146 "Air quality" in collaboration with Technical Committee CEN/TC 137 "Assessment of workplace exposure to chemical and biological agents" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

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Endorsement notice

The text of ISO 17621:2015 has been approved by CEN as EN ISO 17621:2015 without any modification.

Introduction

Many short-term detector tube measurement systems consist of a (length-of-stain) detector tube connected to an associated detector tube pump. When workplace air containing a particular chemical agent is drawn through the detector tube, a colour change takes place corresponding to the concentration.

Such short-term detector tube measurement systems have many applications. This International Standard refers to detector tubes used for workplace air monitoring. These detector tubes can be used for measurement tasks such as follows:

- determination of the presence or absence of an analyte;
- finding the approximate range of concentration;
- determination of the efficiency of control measurements;
- determination of emission sources and emission changes in time;
- determination of compliance with ceiling or short-term limit values, as long as the device covers the reference time period and the precision requirements for the measurement.

To cover the possible range of concentration that can be encountered in the workplace, a combination of two or more measurements using detector tubes with restricted but complementary and overlapping measuring ranges can also be used.

This International Standard will enable the manufacturers, test houses, certification bodies, and the users to adopt a consistent approach to the assessment of performance of short-term detector tube measurement systems.

Workplace atmospheres — Short term detector tube measurement systems — Requirements and test methods

1 Scope

This International Standard specifies requirements and test methods under prescribed laboratory conditions for length-of-stain detector tubes and their associated pump (detector tube measurement system) used for short-term measurements of the concentration of specified chemical agents in workplace air.

This International Standard is not applicable to measurements made to demonstrate compliance with long-term limit values to personal exposure with a reference period of more than 15 min.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6141, *Gas analysis – Requirements for certificates for calibration gases and gas mixtures*

ISO 6142, *Gas analysis — Preparation of calibration gas mixtures — Gravimetric method*

ISO 6143, *Gas analysis — Comparison methods for determining and checking the composition of calibration gas mixtures*

ISO 6144, *Gas analysis — Preparation of calibration gas mixtures — Static volumetric method*

ISO 6145-1, *Gas analysis — Preparation of calibration gas mixtures using dynamic volumetric methods — Part 1: Methods of calibration*

ISO 6145-4, *Gas analysis — Preparation of calibration gas mixtures using dynamic volumetric methods — Part 4: Continuous syringe injection method*

ISO 6145-6, *Gas analysis — Preparation of calibration gas mixtures using dynamic volumetric methods — Part 6: Critical orifices*

ISO 6145-10, *Gas analysis — Preparation of calibration gas mixtures using dynamic volumetric methods — Part 10: Permeation method*

ISO 9169, *Air quality — Definition and determination of performance characteristics of an automatic measuring system*

IEC 60079-0, *Explosive atmospheres – Part 0: Equipment – General requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.