



SLOVENSKI STANDARD
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Izpostavljenost na delovnem mestu - Merjenje virusov v zraku na delovnem mestu

Workplace exposure - Measurement of viruses in workplace air

Exposition am Arbeitsplatz - Messung von Viren in der Luft am Arbeitsplatz

Exposition sur les lieux de travail - Mesure des virus dans l'air des lieux de travail

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ICS:

13.040.30 Kakovost zraka na delovnem Workplace atmospheres
mestu

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EUROPEAN STANDARD
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prEN 18373

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ICS 13.040.30

English Version

**Workplace exposure - Measurement of viruses in
workplace air**

Exposition sur les lieux de travail - Mesure des virus
dans l'air des lieux de travail

Exposition am Arbeitsplatz - Messung von Viren in der
Luft am Arbeitsplatz

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European foreword

This document (prEN 18373:2026) has been prepared by Technical Committee CEN/TC 137 "Assessment of workplace exposure to chemical and biological agents", the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

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Introduction

Viruses are classified as submicronic biological agents made up of nucleic acids associated with a protein envelope. They only replicate inside the living cells of organisms and some can cause infectious diseases in humans. Among the microorganisms spread by bioaerosols, viruses represent a very important potential health hazard for workers, because they can be found in a wide variety of reservoirs and have a potential for transmission by different routes in occupational environments. Their stability under environmental conditions, as well as their infectious dose may also be favourable for spread of virus diseases among worker populations.

The increasing occurrence of virus epidemics and the recent COVID-19 pandemic have rekindled the need to advance our knowledge of disease transmission mechanisms. As a result, it has also become necessary to have reliable and well-characterized methods for measuring and studying viruses. Recent research has proposed sampling and analytical methods for certain viruses or groups of viruses, but there is not yet a consensus on these, nor are there any internationally standardized methods. Such standardized methods would harmonize measurement practices across the world and facilitate an appropriate response in the event of a new virus pandemic.

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1 Scope

This document specifies general requirements for detection of human pathogenic viruses in bioaerosols in workplace atmospheres ([Annex A](#) and [Annex B](#)), including sampling strategy, sample transportation and processing and methods of laboratory analysis.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 481:1993, *Workplace atmospheres - Size fraction definitions for measurement of airborne particles*

EN 13098:2019, *Workplace exposure - Measurement of airborne microorganisms and microbial compounds - General requirements*

EN 14583:2021, *Workplace exposure - Volumetric bioaerosol samplers - General requirements and evaluation of performance*

3 Terms and definitions

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

3.1

bioaerosol

airborne particles or volatile compounds with biological origin

3.2

exposure by inhalation

situation in which a chemical or biological agent is present in the air which is inhaled by a person

4 Symbols and abbreviations

RT-PCR	Reverse Transcriptase-polymerase Chain Reaction
RSV	respiratory syncytial virus
RS	respirovirus
SARS-CoV-1,-2	severe acute respiratory syndrome coronavirus type 1, - type 2
MERS-CoV	Middle East respiratory syndrome-related coronavirus
HCoV-HKU1	Human coronavirus HKU1
HCoV-OC43	Human coronavirus OC43
HCoV-NL63	Human coronavirus NL63
HCoV-229E	Human coronavirus 229E
HA	hemagglutinin
NA	neuraminidase
AAV	adeno associated virus