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Respiratory protective devices — Performance requirements

Part 8: Special application chemical, biological, radiological and nuclear (CBRN) filtering and radiological-nuclear (RN) filtering RPD

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National foreword

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 94, *Personal safety — Personal protective equipment*, Subcommittee SC 15, *Respiratory protective devices*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The personal protection requirements of personnel who respond to emergencies are recognised as being different from those of the regular workforce. With respect to response to incidents involving release of chemical, biological or radiological materials, or after nuclear events (CBRN events), specific requirements have to be established. The hazardous exposures occurring in such incidents can result in severe consequences for an improperly protected responder.

Specifically, for the types of protection required:

a) Protection levels need to be high for those in the vicinity of an incident.

b) Materials used in construction of the equipment shall withstand permeation by highly aggressive chemicals.

c) The range of chemical protection offered by filtering systems needs to be very broad, as the opportunity for assessment of the nature of the hazard ahead of the time of use of the equipment may be limited.

d) The efficiency of particle filtration needs to be high to protect the equipment wearer against ingress of radioactive particulate matter or biological agents.

These requirements in the ISO system are summarized in this document covering the special application CBRN. This document is an adjunct to other parts of ISO 17420 and should be read together with them.

This document provides classification of equipment, performance requirements and specific test methods for respiratory protective devices (RPD) for use in CBRN response. Selection requirements are addressed in separate documents.

NOTE The performance requirements included in this document refer to laboratory testing using specified test agents under specified conditions which might not indicate the performance of the device in actual usage.

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Respiratory protective devices — Performance requirements —

Part 8: Special application chemical, biological, radiological and nuclear (CBRN) filtering and radiological-nuclear (RN) filtering RPD

1 Scope

This document specifies the requirements for respiratory protective devices for use by workers during response to incidents involving chemical, biological radiological or nuclear (CBRN) materials used with intent to cause harm or in cases of accidental release outside traditional hazardous materials response categories. For the purposes of this document, all incidents described here are named CBRN incidents.

This document is applicable to RPD for use by personnel in the following roles:

— First responders: including police, fire service, emergency medical, search and rescue, sampling and detection teams.

— Workers needed for specific roles during response (utility, transportation, service continuity).

— Medical personnel working with casualties of CBRN incidents.

— Responders to release incidents involving nuclear materials.

— Non-emergency but CBRN-related roles.

— Workers in need of protection during escape from a CBRN or radiological release incident.

— Workers in need of protection from nuclear materials.

The requirements for RPD use by the following groups are not addressed by this document:

— Military personnel outside of first responder roles.

— Children.

— Animals.

Requirements for the following are not covered by this document:

— Collective protection systems including ventilated casualty/body bags.

— Methods of and criteria for decontamination of RPD.

— Disposal of used equipment.

This document is focused on respiratory protection requirements, but it is recognised that CBRN RPD are always used as part of an ensemble with protective clothing. The total ensemble effectiveness is not covered by this document.

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