

English Version

Protective clothing - Guidelines for selection, use, care and maintenance of chemical protective clothing

Vêtements de protection - Recommandations pour la sélection, l'utilisation et l'entretien des vêtements de protection chimique

Schutzkleidung - Leitfaden für Auswahl, Gebrauch, Pflege und Bereithaltung von Chemikalienschutzkleidung

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Foreword

This document (CEN/TR 15419:2006) has been prepared by Technical Committee CEN/TC 162 “Protective clothing including hand and arm protection and lifejackets”, the secretariat of which is held by DIN.

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Introduction

Although the general SUCAM document developed within CEN/TC 162 provides a lot of useful information, it was felt that a specific SUCAM document for chemical protective clothing (CPC) was necessary, in view of the very specific problems linked with the use of CPC (very large variety of risks, disinfection, etc.)

Workplace hazards should be reduced to the lowest level reasonably achievable. This can be done by eliminating the risk, by taking engineering measures such as encapsulation of the risk, by system control and/or by providing safe work place practices, which can include the use of CPC.

This means that the role of CPC in controlling the residual risk should be established in the correct context. The performance requirements for CPC should be characterized in terms of the nature, quantity and physical form of the hazardous chemical and the likelihood of contamination.

PPE should be evaluated as a whole, not only by its performance related to protection. Other factors such as usability and maintenance should also be taken into account to match the equipment and the intended use. Selection and use are more people-related, whereas care and maintenance are more product-related.

The risk related to the use of chemicals varies widely with the nature of the hazard and the conditions and duration of exposure to the chemicals. Therefore risk and exposure assessment should be done very carefully in order to avoid overprotection and to ensure full acceptance of the protective clothing, which is often used in extremely dangerous work environments.

1 Scope

This technical report is primarily intended for users, specifiers and others with responsibility for the procurement and provision of chemical protective clothing. It is also intended to be used by manufacturers in their dialogue with the users of PPE.

This technical report is intended to clarify the inter-relationship of the set of standards, developed by CEN/TC 162 WG 3, and to explain the main ideas behind these standards. This set of standards has been developed in support of the European legislation on PPE and is currently used as a major technical tool for the assessment and certification of CPC before it is put on the European market.

These guidelines are intended to assist users and specifiers in selecting the correct type of CPC for the task to be performed, and to help them ensure it is used according to the manufacturer's instructions to provide adequate protection during its entire lifetime. Lifetime and effectiveness of protective clothing depend largely on care and maintenance. When cleaning, disinfection and end-of-life disposal are considered the environmental impact should also be taken into account.

This technical report does not address chemical nuisance factors without potential impact on a person's health and safety, e.g. smell.

2 Terms, definitions and abbreviations

2.1 Terms and definitions

A general glossary document (EN ISO/TR 11610) has been drafted by CEN/TC 162. Most terms, definitions and abbreviations pertaining to PPE can be found in that document.

For the purposes of this Technical Report the following additional terms and definitions are used.

2.1.1

air-impermeable materials

materials through which gases cannot pass except by a diffusion process on a molecular level

2.1.2

air-permeable materials

materials with pores or apertures that allow the transmission of gases

2.1.3

breakthrough time

time elapsed between the initial application of a chemical to the outer surface of a material and its subsequent presence on the other (inner) side of the material, measured by the test method described in the relevant standard

2.1.4

care

actions to keep PPE in good working order, including procedures of cleaning, drying, decontamination and storage

2.1.5

chemical hazard

potential of a chemical to cause harm or damage to a person's health or to the human body

2.1.6

chemical protective clothing (CPC)

combination of garments worn to provide protection to the skin against exposure to or contact with chemicals

2.1.7

exposure

mass flow of chemical against and through the protective garment. Exposure to chemicals depends on the type and duration of work and the dermal effects of chemicals

2.1.8

limited use CPC

CPC for limited duration of use, i.e. to be worn until hygienic cleaning becomes necessary or chemical contamination has occurred and disposal is required. This includes protective clothing for single use and for limited re-use according to the information supplied by the manufacturer

2.1.9

maintenance

actions to preserve CPC from loss of protective performance. Maintenance includes procedures for inspection, repair and eventually removal from service

2.1.10

re-usable CPC

CPC made from materials that allow repeated cleaning after exposure to chemicals such that it remains suitable for subsequent use

2.1.11

risk

probability of a specific undesired event occurring so that a hazard is realised

2.1.12

risk assessment

quantification of the risk relating to one or several hazards (including the process of determining these)

2.1.13

selection

process of determining the type of protective equipment (garments, gloves, etc.) necessary to provide the required protection

2.2 Abbreviations

For the purposes of this Technical Report the following abbreviations are used:

2.2.1

CPC

chemical protective clothing

2.2.2

PPE

personal protective equipment

2.2.3

SUCAM

selection, use, care and maintenance

3 Selection

3.1 General

Selection is a step by step procedure starting with risk assessment for a given work situation.