


[CDC Home](#)
[CDC Search](#)
[CDC Health Topics A-Z](#)
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[Search NIOSH](#) | [NIOSH Home](#) | [NIOSH Topics](#) | [Site Index](#) | [Databases and Information Resources](#) | [NIOSH Products](#) |

[NIOSH Home](#) > [Safety and Health Topics](#) > [Skin Exposures and Effects](#) > [Occupational & Environmental Exposures of Skin to Chemicals- 2005](#) > Abstracts

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## Occupational and Environmental Exposures of Skin to Chemicals - 2005

Abstract for Poster 54

### Assessment of Personal Protective Equipment Needs of First Responders during a Structural Collapse Event

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- [Main Page](#)
- [General Information](#)
- [Co-sponsors](#)
- [List of Planners](#)
- [Concise Schedule](#)
- [Important Dates](#)
- [Preliminary Program](#)
- [Workshops](#)
- [Short Courses](#)
- [Talks and Posters](#)
- [Vendor Exhibits and Seminars](#)
- [Author Index](#)
- [Related Events](#)
- [Conference Registration and Local Information](#)
- [Call for Abstracts](#)

Following the terrorist event of 9/11/2001 that resulted in the collapse of the twin towers of the World Trade Center (WTC), NIOSH has developed guidelines which are aimed at assisting first responders in the selection of personal protective equipment (PPE) based on on-site needs during a major structural collapse. These guidelines help in identifying the shortcomings that occurred in the first responders' use of PPE during the WTC events; moreover, these guidelines provide the needed guidance on the selection, use, and maintenance of PPE.

NIOSH considered the following questions in the preliminary assessment of the needs of first responders in the event of a major structural collapse: 1) What groups of emergency personnel were involved in the first response at the WTC and what major tasks did each group face? 2) What specific out-of-the-ordinary problems did each group of first responders encounter at the WTC? 3) What are the PPE including respirators and Personal Protective Clothing (PPC) needs that are required to enable first responders to meet the responsibilities of responding to a major structural-collapse event? 4) What are the recommended changes that would facilitate renovation of the current Incident Command System (ICS)? Would these changes allow first responders to be more prepared to handle catastrophic events of the magnitude of the WTC? 5) What steps should be taken to increase the ability of first responders to identify the type and source of hazards including dermal hazards in the *presence* or *absence* of on-site monitoring? 6) How can the ICS establish operational zones for specific groups and make suggestions on proper PPE for each zone? 7) What are the adverse health effects that first responders face at the structural-collapse site from chemical, biological, radiological and nuclear risks? 8) How can first responders determine the proper PPC needed in each zone of the structural collapse according to the hazards that are present at the site and the specific concentration of hazards in each zone? 9) How can the on-site logistics of handling, distributing, and using PPC equipment in an emergency situation be improved? 10) What type of decontamination methods should be established on site?

This assessment has led to the development of the guidelines for selection of PPE including PPC for first responders who arrive on site at a structural collapse due to a terrorist event.




[CDC Home](#)
[CDC Search](#)
[CDC Health Topics A-Z](#)
**NIOSH** *National Institute for Occupational Safety and Health*
[Search NIOSH](#) | [NIOSH Home](#) | [NIOSH Topics](#) | [Site Index](#) | [Databases and Information Resources](#) | [NIOSH Products](#) |

[NIOSH Home](#) > [Safety and Health Topics](#) > [Skin Exposures and Effects](#) > [Occupational & Environmental Exposures of Skin to Chemicals- 2005](#) > [Home](#)


## Occupational and Environmental Exposures of Skin to Chemicals - 2005

### Site Contents

- [Main Page](#)
- [General Information](#)
- [Co-sponsors](#)
- [List of Planners](#)
- [Concise Schedule](#)
- [Important Dates](#)
- [Preliminary Program](#)
- [Workshops](#)
- [Short Courses](#)
- [Talks and Posters](#)
- [Vendor Exhibits and Seminars](#)
- [Author Index](#)
- [Related Events](#)
- [Conference Registration and Local Information](#)
- [Call for Abstracts](#)

The National Institute for Occupational Safety and Health (NIOSH) and the Karolinska Institutet in cooperation with the Stockholm County Council are taking the lead in organizing this conference. NIOSH is maintaining this website.

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Menu items on the left provide more information about OEESC-2005.

This conference follows the success of the first [International Conference on Occupational and Environmental Exposures of Skin to Chemicals: Science and Policy](#), which was held near Washington, DC, in September, 2002.

[Return](#)


[CDC Home](#)
[CDC Search](#)
[CDC Health Topics A-Z](#)
**NIOSH** *National Institute for Occupational Safety and Health*
[Search NIOSH](#) | [NIOSH Home](#) | [NIOSH Topics](#) | [Site Index](#) | [Databases and Information Resources](#) | [NIOSH Products](#) |

[NIOSH Home](#) > [Safety and Health Topics](#) > [Skin Exposures and Effects](#) > [Occupational & Environmental Exposures of Skin to Chemicals- 2005](#) > [Co-sponsors](#)

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2 0 0 5

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The organizers of OEESC-2005 appreciate those organizations that supported the goals of this conference through financial or in-kind contributions. Contributions were used to pay the full or partial travel and conference registration costs of invited speakers and guests and to reduce the registration fees of attendees by paying part of the costs associated with such expenses as meeting room rental, poster display board rental, abstract book, breaks, reception and conference dinner.

The conference account is managed by Karolinska Institutet.

- [Main Page](#)
- [General Information](#)
- **[Co-sponsors](#)**
- [List of Planners](#)
- [Concise - Schedule](#)
- [Important Dates](#)
- [Preliminary Program](#)
- [Workshops](#)
- [Short Courses](#)
- [Talks and Posters](#)
- [Vendor Exhibits and Seminars](#)
- [Author Index](#)
- [Related Events](#)
- [Conference Registration and Local Information](#)
- [Call for Abstracts](#)