

[NIOSH Home](#) > [Safety and Health Topics](#) > [Skin Exposures and Effects](#) > [Int. Conference on Occupational & Environmental Exposures of Skin to Chemicals](#) > [Abstracts](#)



Proceedings of the International Conference on Occupational & Environmental Exposures of Skin to Chemicals: Science & Policy

Hilton Crystal City September 8-11, 2002

Comparison of Three Methods for Determining Removal of Stratum Corneum Using Adhesive Tape Strips

Site Contents

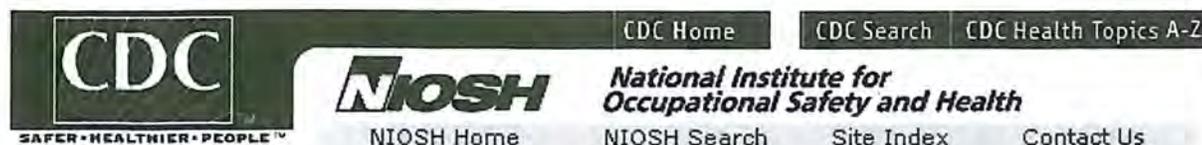
- [Main Page](#)
- [General Information](#)
- [Conference Agenda](#)
- [Posters](#)
- [Attendees](#)
- [Authors](#)
- [Course Information](#)
- [Vendor Exhibits](#)
- [Products](#)
- [Workshop Discussion Paper \(Version of 20 August 2002\)](#)
- [Disclaimer](#)

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Adhesive tape stripping (ATS) has been used to remove layers of the outermost stratum corneum from skin. These tapes can be used to measure the physical condition of the skin or for quantifying exogenous or endogenous compounds present within the skin. There is also the need for a non-destructive approach to measure the mass of stratum corneum adhering to the tape so that samples taken for chemical analysis can be normalized per the amount of stratum corneum present. Although used for years, there is still not a uniform approach for performing ATS sampling and several potentially influential variables have not been carefully evaluated. Our goal here is to evaluate a new instrumental procedure that might provide us the means of performing both of the above measurements of ATS on samples collected from workers in various occupations. We report our analysis of ATS samples using three types of analysis: (1) protein as a measure of keratin mass, (2) desquamation index (CuDerm, Inc, Dallas TX), and (3) an instrumental light reflective device for direct measurement of adhering skin (Visioscan VC 98, Courage & Khazaka, Köln, Germany). Only the last method has the ability to both assess skin condition and possibly mass of stratum corneum on the ATS samples. Measurement analysis using the above approaches was performed on 90 skin samples and 10 blank samples.

[Return](#)



[NIOSH Home](#) > [Safety and Health Topics](#) > [Skin Exposures and Effects](#) > Int. Conference on Occupational & Environmental Exposures of Skin to Chemicals



The Centers For Disease Control And Prevention
The National Institute For Occupational Safety And Health
Present the Proceedings for

The International Conference on Occupational & Environmental Exposures of Skin to Chemicals: Science & Policy

September 8, 2002 - September 11, 2002

Site Contents

- [Main Page](#)
- [General Information](#)
- [Conference Agenda](#)
- [Posters](#)
- [Attendees](#)
- [Authors](#)
- [Course Information](#)
- [Vendor Exhibits](#)
- [Products](#)
- [Workshop Discussion Paper \(Version of 20 August 2002\)](#)
- [Disclaimer](#)

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[CDC Home](#)

[CDC Search](#)

[CDC Health Topics A-Z](#)



**National Institute for
Occupational Safety and Health**

[NIOSH Home](#)

[NIOSH Search](#)

[Site Index](#)

[Contact Us](#)

[NIOSH Home](#) > [Safety and Health Topics](#) > [Skin Exposures and Effects](#) > [Int. Conference on Occupational & Environmental Exposures of Skin to Chemicals](#) > [General Information](#)



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Site Contents

- [Main Page](#)
- [General Information](#)
- [Conference Agenda](#)
- [Posters](#)
- [Attendees](#)
- [Authors](#)
- [Course Information](#)
- [Vendor Exhibits](#)
- [Products](#)
- [Workshop Discussion Paper \(Version of 20 August 2002\)](#)
- [Disclaimer](#)

The National Institute for Occupational Safety and Health (NIOSH) co-sponsored this inaugural conference to bring together dermatologists, occupational hygienists, laboratory researchers, policy makers and other to focus on the science, knowledge gaps and policy opportunities related occupational and environmental exposures of the skin to chemicals.

The site was the Hilton Crystal City at Ronald Reagan National Airport hotel. The main conference was followed by a one-day workshop focusin on specific research and public health opportunities for decreasing the burden of skin exposures to chemicals in both workplaces and the gener. environment.

Approximately 135 individuals attended. A second conference is expecte in 2004.

[Return](#)