

## **CONCURRENT SESSION 5 – CHEMICAL AGENT DECONTAMINATION RESEARCH**

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### **The Decontamination of Chemical Warfare Agents from Skin Using Zirconium Hydroxide**

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In the event of a chemical warfare agent (CWA) release, there is a likelihood of CWA deposition on exposed skin of an unprotected population, whether it is during a military or civilian scenario. Zirconium hydroxide has been identified as a reactive “dry” skin decontamination technology that can be used to mitigate skin contamination without the use of water. In collaboration with the University of Hertfordshire Research Centre for Topical Drug Delivery and Toxicology, a unique diffusion cell test capability was used to assess the decontamination effectiveness of the technology on contaminated skin. The CWA’s HD, GD, and VX and simulants methyl salicylate, diethyl malonate, and phorate were applied to excised porcine skin and decontaminated with zirconium hydroxide or a water shower after a 5 minute contaminant-skin interaction period. The resulting data indicate that the performance of the zirconium hydroxide is similar to that of the water shower. Other results will also be presented to showcase the reactivity of zirconium hydroxide with liquid HD, GD, and VX, as well as a study of the skin absorption potential of zirconium hydroxide.

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