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Antiterrorism Purposes

**Analysis of Chemical Agents and Toxic Industrial Chemicals
using a Mobile Ion Trap Mass Spectrometer**

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The Block II Chemical Biological Mass Spectrometer (CBMS II) has been developed to provide a chemical and biological agent detection capability for military reconnaissance vehicles such as the Joint Services Lightweight Nuclear Biological Chemical Reconnaissance System and the Stryker Reconnaissance Vehicle. The chemical agent detection and identification capabilities of the instrument have been optimized for the analysis of persistent chemical contamination on the ground and has incorporated the use of the U.S. Army double wheel sampling system so that sampling can be performed while the vehicle is moving. One of the primary missions of these vehicles is to detect areas of chemical contamination and mark the boundaries of the contamination. The system has been tested with conventional chemical agents and is currently being optimized to detect and identify a range of toxic industrial chemicals that can pose a significant threat to military and civilian personnel. The system can also analyze chemical vapor and biological aerosol samples. The integrated 3-in-1 CBMS II design provides a sensitive and selective chem / bio detector for a large range of homeland defense and anti-terrorism applications including fixed sites (buildings, tunnels, industrial plants and airports) and mobile contamination characterization that may assist in sample selection for more detailed analytical analysis.

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