

Nanoscale materials for warfare agent detection

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Carbon nanomaterials integrated in rugged and inexpensive sensing platforms for the in-field detection of

chemical warfare agents; Sensing volatile organic compounds by phthalocyanines with metal centers: exploring the mechanism with measurements and modelling Chemical sensors for VOC detection in indoor air: focus on formaldehyde Gas sensing using monolayer MoS₂ Progress of Sensors based on hollow metal sulfides nanoparticles Synthesis of 3D-ensembles of carbon nanotubes Challenges on the production and characterization of B-doped single-walled carbon nanotubes Graphene-based metal-free catalysis Graphene for Photodynamic Therapy Novel supported nanostructured sensors for chemical warfare agents (CWAs) detection

Résumé ou extrait : Présentation de l'éditeur : "This book presents a blueprint for researchers in the area of nanotechnology for chemical defense, especially with regard to future research on detection and protection. It addresses the synthesis of complex nanomaterials with potential applications in a broad range of sensing systems. Above all, it discusses novel experimental and theoretical tools for characterizing and modeling nanostructures and their integration in complex systems. The book also includes electronic structure calculations exploring the atomic and quantum mechanical mechanisms behind molecular binding and identification, so as to provide readers with an in-depth understanding of the capabilities and limitations of various nanomaterial approaches. Gathering contributions by scientists with diverse backgrounds, the book offers a wealth of insightful information for all scientists whose work involves material science and its applications in sensing."

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