

LOCALIZING CHEMICAL AND BIOLOGICAL THREAT DETECTION

Colorimetric Sensors For Rapid Reliable Threat Identification

Sara Paalhar MRIGlobal Evan Durnal MRIGlobal

Colorimetric testing is a key tool for real time detection or indication of the presence of a target chemical. These tools are key to the safety of first responders and military personnel. The evaluation of colorimetric detection products for toxic chemicals is approached by taking into considering multiple factors, such as target chemical application method to the product, resonance time, and variation of color changes. MRIGlobal performs a variety of colorimetric detection studies for toxic chemicals, that include chemical agents and substances of abuse. Application of the target chemical can be liquid exposure or vapor exposure. Quality controls are imperative to ensure testing results are accurate. Negative controls such as environmental matrices or water (humidified air if a vapor exposure is tested) are used to ensure false positives do not trigger a response to the colorimetric detection product. Positive controls such as a certified standard must be used when applicable. Determining the target chemical purity should be considered, laboratory grade vs "street grade" target chemicals each have their appropriate uses.