

TECHNOLOGY CAFÉ: SESSION B

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The Feedback Loop in Decon - The Missing/Broken Link

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A review of OSHA regulations along with applicable NFPA standards reveals extensive procedures related to decon. While the different types of decon present different elements and challenges, a post decon assessment is necessary. This important aspect, the feedback loop, is often overlooked and/or dismissed. Violent protests across the United States combined with an increase in acid attacks around the world continue to change the response world landscape. A 911 based haz mat team continues to play a vital role in successful outcomes when a chemical is involved. This specialty team typically has: more training, better equipment and a greater number of available resources than the first arriving responders. Their greatest deficiency, is simply the fact that they are likely not on the scene when emergency/mass decon takes place. While decon runoff is normally not contained during emergency/mass decon, the effectiveness NEEDS to be monitored. A first arriving paramedic crew needs information as they start treating an acid attack victim. A police officer splashed with an unknown chemical would benefit from knowing if the liquid was hydroCHLORIC or hydroFLUORIC acid. An operator of a military drone would benefit from knowing if their drone has flown through a nerve agent dispersion. In all of these “scenarios” the first arriving unit/crew/partner will not likely be the haz mat team equipped to the hills and trained just shy of a chemical engineer. The feedback loop associated with any action taken by these crews is a vital aspect and an existing by gap in most response type organizations. In Our Gear has developed a user friendly, reliable, cost effective tool that can be used by first arriving crews to categorize the chemical hazard and check the effectiveness of any emergency/mass decon efforts. This tool, ZMac card, is now fully patented with a utility and design patent. The user peels the protective film, exposes the chemical paper to the hazard and interpret the results printed on the card. The intellectual property associated with the ZMac card allows In Our Gear to write words around any chemical detection paper. The key messages are keyed to 911 based responders but can easily be tailored to military and private companies. There has been a missing link between cheap reliable chemical detection and action items. As an example, a first responder needs to know that a green color change on nerve agent paper is significantly different than pH paper turning green. Reference documents that list chemical physical properties at a set temperature do little for the first arriving first responder in a significantly warmer environment. Any chemical mixture that occurs during an accident and subsequent 911 request will present a significant challenge to any responder. Predicting the byproduct of a chemical reaction is a daunting task for the most seasoned haz mat technician. Variable environment conditions add to this difficulty. Our ZMac card was patented in 2019 and puts chemical classification in the hands of those that need it most - the first arriving response crews. Our multi function ZMac card, allows a feedback loop to be easily implemented in an emergency/mass decon situation when waiting for the haz mat response team is simply unacceptable.
