

Army chemist provides expertise on unknown samples

U.S. Army

ABERDEEN PROVING GROUND, Md. (Oct. 3, 2012) -- U.S. Army scientists analyze unknown samples to determine whether hazardous chemical or biological warfare agents are present. Samples come from around the world.

Jennifer Exelby, a chemist, leads 10 chemical-agent handlers for the U.S. Army Research, Development and Engineering Command's Edgewood Chemical Biological Center, or ECBC.

"I never would have thought that I would be working with chemical warfare materials," said Exelby, who serves as the acting chief of the Chemical Operations Branch. "This is a world that I didn't even know existed until I got the job at ECBC."

"It's extremely rewarding, and I've learned so much in my years here at ECBC. A book couldn't teach you the things I've learned here."

Exelby earned a bachelor of science in chemistry at Salisbury State University in 2001 and began working as an Army civilian in 2002.

SCREENING CHEMICAL AGENTS

The scientists in ECBC's Chemical Transfer Facility screen samples for the Army and federal agencies such as the FBI. The CTF houses a biosafety-level 2 facility as well as several chemical fume hoods where the team handles munitions, liquid samples and solids, she said.

The scientists split the sample into chemical, biological and untouched samples. Chemists and biologists conduct their screening, and a sample is saved in case further analysis is needed in the future, Exelby said.

"Every day something new comes up. We'll get a phone call that an unknown item was found on [APG] or will be shipped in from the FBI or a different government agency that [requires] work done that day and results tomorrow. The FBI is one of our major customers, and we support them fully whenever they find a sample," she said.

The CTF team members undergo rigorous training to become certified as a chemical warfare material handler. When working with unknown samples, Exelby and her colleagues also work closely with Army safety, hazardous waste and environmental groups to ensure proper handling and disposal of agents.

PROVIDING CHEMICAL STANDARDS AS REFERENCE

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In addition to analysis of samples, Exelby's team provides chemical agents as references to laboratories around the nation. The CTF distills and synthesizes chemical agents to provide chemical-agent standards for use as reference materials in protective and defense research projects.

"Our mission changes daily. One day we'll be synthesizing a chemical agent; another day we'll be packaging agent to send to a customer so they can do their sampling and analysis," she said. "What we are providing our customers is something that says, 'this is HD [sulfur mustard agent] or GB [sarin],' so they can use that chemical to run on their instruments."

Despite the dangers associated with handling chemical agents, Exelby said it is a vital mission to ensure Soldier and civilian safety.

"It's incredibly scary to think what we actually work with every day," she said. "When you think about the service we're providing and how important it is, you realize that you need to get over that fear and make sure the job gets done."

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