



U.S. ARMY
RDECOM

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U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND

Edgewood Chemical Biological Center

Overview

- ECBC possesses a robust human and physical research and development infrastructure to address the nation's chemical, biological, radiological, nuclear and explosives threats. This includes emerging threats, toxic industrial compounds and naturally occurring biological threats such as Ebola and bird flu.
- ECBC has more than \$1.8 billion in facilities and equipment spread among 200 buildings and more than 1.2 million square feet of laboratories and test chambers.
- Products, scientific advances, and critical advice are provided to support the total military acquisition life cycle from basic and applied research through demilitarization. ECBC can safely design, build, test and support projects from original conception to a final product, completely in-house.
- Core competencies: chemistry and biological sciences, CBRNE analysis and testing, CB agent handling and surety, science and technology for emerging threats, CBRNE materiel acquisition, CBRNE munitions and field operations.
- Major Partners: Joint Program Executive Office Chemical and Biological Defense, Chemical Materials Activity, PEO Assembled Chemical Weapons Alternatives, Defense Threat Reduction Agency, Medical Research Institute of Chemical Defense, 20th CBRNE Command, Army CBRN School.
- People:
 - 1,198 civilians
 - 674 scientists and engineers
 - 95 doctorates, 179 master's degrees, 396 bachelor's degrees
 - 1 military
 - 331 contractors



2014 Successes

- In six months, ECBC scientists and engineers miniaturized an existing neutralization technology that had been proven to be able to neutralize mustard agent and nerve agent precursors using hot water and sodium hydroxide. They converted a complex covering 18 acres to the 700-foot by 100-foot space available in the hold of a ship. ECBC field operators used the FDHS to destroy the Syrian declared chemical weapons stockpile at sea in 42 days, which was 20 days ahead of schedule.
- ECBC completed construction on the final phase of its 90,000-square-foot Advanced Chemistry Laboratory that is designed for working with the world's most toxic compounds. The ACL is designed to conform to rapidly changing requirements of scientific advancement.
- ECBC began operations in the Energetics Chemistry Laboratory, which allows the center to better pursue advanced pyrotechnics and explosives research. ECBC breakthroughs in 2014 included the less toxic HX Smoke mixture and the infrared-blocking Bispectral Smoke Grenade.
- ECBC developed the Chemical Reconnaissance and Explosives Screening Set to enable warfighters and first responders to detect bulk solids or traces of homemade explosives in less than a minute. The kit integrates the sampling, reaction processes and analysis functions into a single device that is easy to use and fits in a pocket.
- ECBC combined several technologies to develop a rugged smartphone-based CB threat detector light enough to carry in a large pocket. A Soldier can use the Volatile Organic Compound Kit, known as VOckit, to analyze any suspected liquid or powdered substance.