

PROJECT BACKGROUND

The Department of Homeland Security (DHS) Science and Technology Directorate's (S&T) Probabilistic Analysis of National Threats, Hazards, and Risks (PANTHR) strategic program supports the national chemical, biological, radiological, nuclear, and explosive (CBRNE) defense mission. PANTHR provides accurate, useful, and defensible knowledge and tools to stakeholders to enable risk-informed decision making for defense against weapons of mass destruction threats to the homeland. PANTHR enables decision makers to address CBRNE threats more effectively through three strategic capabilities: risk assessment, characterization, and knowledge management.

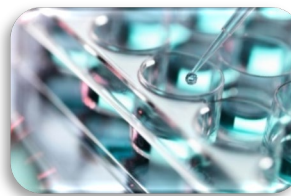
MISSION

PANTHR's Chemical Threat Characterization (CTC) project is one of several projects within the PANTHR strategic program. CTC develops and maintains scientifically robust capabilities across the chemical defense spectrum to inform national homeland defense, recovery, and preventive activities to mitigate the impact of a chemical attack on the homeland. CTC, through laboratory experiments and analysis, generates data that enhances our understanding of the chemical threats facing the nation. A better and more thorough understanding of these emerging and current threats increases preparedness, response and recovery efforts, and ultimately saves lives.

STRONGER CTC, GREATER CHEMICAL THREAT PREVENTION

Chemical threat characterization, by definition, is the collection and/or measurement of physical, chemical, and toxicological properties of chemicals that affect their dissemination and routes of exposure when used for the purpose of causing terror or deaths. CTC provides chemical hazard analysis and threat characterization to the homeland security enterprise (HSE) through data and knowledge products focused on improving pre-event planning, event-specific operational response, and strategic chemical defense preparedness decisions. DHS leverages that information to prevent, protect, prepare for, mitigate, respond to, and recover from chemical events.

CTC conducts fundamental studies and analyses to characterize the current and projected chemical threats facing the homeland and develop strategies to mitigate those threats.



To achieve that mission, CTC works in pursuit of three main strategic goals:

1. Maintain and continue to build a robust DHS S&T chemical threat characterization capability;
2. Support and strengthen DHS chemical defense capabilities, including supporting the DHS Strategic CBRNE Risk Assessment; and
3. Actively collaborate and harmonize the collective understanding of chemical threat materials, methods, and resources across the federal, state, local, tribal and territorial governments, and international partners.

ENHANCING PREPAREDNESS THROUGH COLLABORATION

CTC collaborates with federal, state, local, industry, and academic partners to generate and utilize fundamental chemical threat studies and analyses that enhance the collective knowledge of these chemical threats. This broad collaboration allows interagency partners and DHS components to leverage technical requests, tailored analyses, and more, to meet their mission needs and protect the American public from chemical threats. CTC's laboratory and literature data are input parameters for PANTHR's annual CBRNE Strategic Risk Assessments, which are circulated throughout the HSE to help focus partner's chemical defense activities on those that will have the most impact and reduction in risk.

IMPACT

CTC transitions knowledge products and capabilities required for effective preparedness and response to current and future chemical threats. This informs national homeland defense recovery activities to mitigate the impact of a chemical attack on the homeland and effectively focus homeland security investments.