

## NEXT GENERATION CB HAZARD PREDICTION AND CONSEQUENCE ASSESSMENT WITH MULTI-ECHELON DECISION SUPPORT APPLICATIONS

### Radarr: Unlocking Historical Data For Rapid Threat Assessment

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The Rapid Data Retrieval for Read-Across of Emerging Threats (RADARR) project aims to harness DEVCOM Chemical and Biological Center's (CBC) extensive historical dataset on chemical warfare agents to inform rapid threat assessments. A critical first step is Project SMILES, which recently completed a digitization effort of all historical EA compound structures from 17 notebooks of hand-drawn structures dating back to the 1920's. This effort has created a database linking EA numbers to Simplified Molecular Input Line Entry System (SMILES) strings, enabling rapid searching of historical data for EA compounds similar to new and emerging chemical threats. Future RADARR efforts will focus on linking the PROJECT SMILES data with historical reports, creation of cheminformatic tools for searching and analyzing the dataset and extracting relevant information to feed machine learning projects and improved read-across tools, such as CLEARR. By unlocking CBC's historical data, RADARR will facilitate rapid assessment of emerging threats and support more informed decision-making.

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