Simulants

—CRDEC's simulant program

by Joanne N. Coale,
George R. Famini, and
Phillip A. Coon

The cost and risk associated with the extensive use of chemical or biological warfare agents for developing and testing military equipment has led to an aggressive application of simulants. Simulants are chemicals or chemical substances that mimic one or more properties of chemical or biological agents. Different simulants are often used, depending on the application, because it is not possible to select a compound as a simulant where all properties are exactly the same as the agent.

The simulant program was created to consolidate simulant information and data, develop a systematic approach to selecting simulants, and to establish the US Army Chemical Research, Development and Engineering Center (CRDEC) as a focal point for simulant technology.

A major goal of the program was to collect and collate data in a systematic and retrievable form so that subsequent workers can benefit from previous research. By including the rationale for simulant selection, subsequent users should be able to continue the line of reasoning or change for their specific application.

The availability of this information should minimize the perfunctory adoption of a simulant for the wrong purpose. For documentation on CRDEC's simulant program, refer to CRDEC-SP-88012, Simulant Program, by William E. White, February 1988.

As a way of identifying simulant needs and assisting engineers and scientists to identify those needs, the simulant program sponsors an annual workshop dealing solely with simulant-related issues. Having just completed its fourth year, the International Simulant workshop is held the first week of March; the fifth workshop will be held 5-7 March 1991.

The proceedings from previous years are documented in CRDEC-SP-002, Proceedings of the Second International Simulant Workshop, December 1988, and CRDEC-SP-011, Proceedings of the Third International Simulant Workshop, November 1989.

If you desire additional information on our simulants program or the workshop, please direct your inquiries to commander, US Army Chemical Research, Development and Engineering Center, ATTN: SMCCR-RSP-C (Mr. George R. Famini), Aberdeen Proving Ground, Maryland 21010 or by electronic mail to grfamini@crdec1.apgea.army.mil. Mr. Famini can also be reached by telephone at DSN (AV) 584-2670 or commercial (301) 671-2670.

CRDEC's Simulant Data Center serves as a repository for simulant information that can be easily retrieved through computer searches. Because it is a part of the Data Management Office system, the data base is accessible via CRDEC's Workplace Automation System, to those with authorized user ID and password.

The data base contains numerical data on chemical and physical properties and textual information on the use and application of simulants. All of the compounds frequently used as simulants are included as well as others that were previously considered. Today there are 750 compounds in the data base, and we expect this number to continue to increase as new information becomes available.

Detailed information on the Simulant Data Center is available in the Data Base Users Guide for the Chemical Agent Simulant Data Center, CRDEC-SP-88032. This guide contains discussions of all the data items, procedures for conducting searches, and qualifying information. Further information can be obtained from the Simulant Data Center Manager by directing your inquiries to Commander, US Army Chemical Research, Development and Engineering Center, ATTN: SMCCR-RSP-C (Mr. Phillip A. Coon), Aberdeen Proving Ground, Maryland 21010-5423 or by electronic mail to pacoon@crdec3.apgea.army.mil. Mr. Coon can also be reached by telephone at DSN (AV) 584-3248 or commercial (301) 671-3248.

Joanna N. Coale is a technical publications writer-editor at CRDEC. Ms. Coale has an AA in general studies from Harford Community College.

Mr. George R. Famini, a research chemist at CRDEC, has a BS degree from Towson State, an MS degree from the University of Delaware, and a PhD from Lehigh University. Dr. Famini has documented over 60 presentations and publications. He is currently the coordinator for the simulants program.

Mr. Phillip A. Coon is a biologist at CRDEC. He has a BS degree from the University of Maine. He has been involved with the Chemical Agent Simulant Data Center since 1980.