



FACT SHEET

Office of the
Assistant Secretary of Defense (Health Affairs)
Deployment Health Support Directorate

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Deseret Test Center

DTC Test 70-73

Shortly after President Kennedy's inauguration in 1961, the Secretary of Defense, Robert McNamara, directed that a total review of the U.S. military be undertaken. The study consisted of 150 separate projects. The chemical and biological warfare review was known as Project 112. As part of the Project 112 review, the Joint Chiefs of Staff convened a working committee that recommended a research, testing, and development program for chemical and biological weapons. To oversee this program, the Deseret Test Center (DTC) was established at Fort Douglas, Utah, in 1962. Both land-based and ship-based tests were conducted during the period 1962 – 1973. The Deseret Test Center closed in 1973.

The purpose of DTC Test 70-73 was to examine potential secondary aerosol hazards to friendly troops following a biological agent attack. A secondary aerosol is defined as bacterial, toxic, or viral particles resuspended in the air after once settling from a primary aerosol attack or after the biological agent has been intentionally deposited on surfaces.

The types of biological attack simulated in this study were (a) a liquid filled bomblet point source, (b) an aerial liquid spray line source, and (c) a surface deposition with dry biological spores. *Bacillus globigii* (BG) was used in these trials. Liquid BG was dispersed by an explosive test fixture or by a vehicle mounted generator. The dry form of BG was manually deposited with a gravity test fixture at an area designated for road deposit trials. Zinc cadmium sulfide (FP) was disseminated with the BG.

DTC Test 70-73 was conducted between July and December 1970 at Dugway Proving Ground, Utah.

The Department of Defense (DoD) is providing this information, at the request of the Department of Veterans Affairs (VA), to assist the VA in providing healthcare services to qualified veterans and to assist veterans in establishing service connection for disability claims. The Deployment Health Support Directorate (DHSD) collected this information from multiple sources and requested that the military services declassify it to allow its public distribution. The VA accepts this information provided on location, dates, units and/or ships, and substances involved in this exercise, which DHSD extracted from classified DoD records, and will provide it to individual veterans as necessary, but the VA cannot verify its accuracy.

Test Name	DTC Test 70-73
Testing Organization	US Army Deseret Test Center
Test Dates	July – December 1970
Test Location	Dugway Proving Ground, Utah
Test Operations	DTC Test 70-73 examined potential secondary aerosol hazards to friendly troops following a biological agent attack. The types of biological attack simulated in this study were (a) a liquid filled bomblet point source, (b) an aerial liquid spray line source, and (c) a surface deposition with dry biological spores.
Participating Services	Deseret Test Center personnel
Units and Ships Involved	Not identified
Dissemination Procedures	Liquid BG was dispersed by an explosive test fixture or by a vehicle mounted generator. Dry BG was manually deposited with a gravity test fixture at an area designated for road deposit trials. Zinc cadmium sulfide (FP) was disseminated with the BG.
Agents, Simulants, Tracers	<i>Bacillus globigii</i> (BG) Zinc cadmium sulfide (FP)
Ancillary Testing	Not identified
Decontamination	Not identified
Potential Health Risks Associated with Agents, Simulants, Tracers	<u><i>Bacillus globigii</i></u> (BG) Now considered to be <i>Bacillus subtilis</i> var. <i>niger</i> , a close relative of <i>Bacillus subtilis</i> , this bacterial species was used as a simulant and considered harmless to healthy individuals. <i>Bacillus subtilis</i> and similar <i>Bacillus</i> species are common in the environment, and are uncommon causes of disease. They have been associated with acute infections of

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the ear, meninges (brain lining), urinary tract, lung, heart valve, bloodstream, and other body sites, but always or nearly always in individuals whose health has already been compromised. Long-term or late-developing health effects would be very unlikely (except perhaps as a complication of the acute infection).

(Sources: Tuazon CU, Other Bacillus Species (chap. 197), in Principles and Practice of Infectious Diseases, 5th edition (vol. 2), ed., Mandell GL, Bennett JE, Dolin R, Churchill Livingstone, Philadelphia, 2000, p. 2220-6; US Environmental Protection Agency, Bacillus subtilis Final Risk Assessment, February 1997, available at <http://www.epa.gov> as of October 4, 2002.)

Zinc cadmium sulfide (ZCdS)

This compound was aerosolized as a tracer material for the dispersion of biological warfare agents because it had similar properties. There has been little scientific study on the toxicity of this compound when inhaled. A National Research Council (NRC) committee focused on the cadmium component as potentially most toxic. While higher concentrations and more prolonged exposures to cadmium are associated with the development of lung cancer, the concentrations and durations of exposure in the Army's tests were substantially lower. The NRC committee concluded that the risk of adverse health effects to populations in the area was low.

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	<p>(Sources: National Research Council (National Academies), Toxicologic Assessment of the Army's Zinc Cadmium Sulfide Dispersion Tests, and Toxicologic Assessment of the Army's Zinc Cadmium Sulfide Dispersion Tests: Answers to Commonly Asked Questions, National Academy Press, Washington DC, 1997, both available at http://www.nap.edu as of October 1, 2002.)</p>
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