



FACT SHEET

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

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Deseret Test Center Project SHAD

DTC Test 69-31

Project Shipboard Hazard and Defense (SHAD) was part of the joint service chemical and biological warfare test program conducted during the 1960s. Project SHAD encompassed tests designed to identify US warships' vulnerabilities to attacks with chemical or biological warfare agents and to develop procedures to respond to such attacks while maintaining a war-fighting capability.

The primary purpose of DTC Test 69-31 was to evaluate the continued effectiveness of the Shipboard Toxicological Operational Protection System (STOPS) of the USS *Herbert J. Thomas* (DD-833). The ship was challenged by five chemical vapor attacks using methylacetoacetate, a simulant for Sarin nerve agent. An additional 11 attacks were conducted in which the USS *Herbert J. Thomas* was enveloped with the nonpathogenic biological aerosol, *Bacillus globigii* (BG).

A MARS generator mounted on the bow of the ship was used to disseminate methylacetoacetate; PCF "swift boats" were used to disseminate BG during simulated biological warfare agent attacks.

DTC Test 69-31 trials were conducted in the Pacific Ocean, off the coast of San Diego, California, during the period August 19 - September 4, 1968.

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 69-31
Testing Organization	US Army Deseret Test Center
Test Dates	August 19 – September 4, 1968
Test Location	Testing was conducted in the Pacific Ocean, off the coast of San Diego, California
Test Operations	To test the Shipboard Toxicological Operational Protective System (STOPS) using methylacetoacetate, a simulant for Sarin nerve agent (GB) and <i>Bacillus globigii</i> , a nonpathogenic biological aerosol.
Participating Services	US Navy, Deseret Test Center personnel
Units and Ships Involved	USS <i>Herbert J. Thomas</i> (DD-833)
Dissemination Procedures	MARS generator to disseminate MAAPCF “swift boats” for BG dissemination
Agents, Simulants, Tracers	<i>Bacillus globigii</i> (BG) Methylacetoacetate
Ancillary Testing	Not identified
Decontamination	Not identified
Potential Health Risks Associated with Agents, Simulants, Tracers	<i>Bacillus globigii</i> (BG) Now considered to be <i>Bacillus subtilis var. 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 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-

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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.)

Methylacetoacetate (MAA)

This compound was used as a simulant. While acute exposure has been associated with irritation of skin, eyes, respiratory tract, and digestive tract, there is little or no evidence of long-term or late-developing health effects and it is not known to cause cancer in animal testing.

(Sources: NLM TOXNET, Methyl acetoacetate 105-45-3, HSDB Human Health Effects and Animal Toxicity Studies, available at <http://toxnet.nlm.nih.gov>. <http://hazard.com/msds/tox/f/q4/q936.html> [as of January 28, 2002] and http://www.hbcollege/chem/lab/organic/gilbert3e/resources/studenttools/dl/e_mmsds.pdf)

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