



FACT SHEET

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Desert Test Center Project SHAD

Errand Boy

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 Desert Test Center (DTC) studied the relative efficiency of shipboard collective protection and ventilation systems against a biological agent-simulant in Eager Belle (DTC Test 63-1). Errand Boy was originally designed as an extension of the Eager Belle and Autumn Gold (DTC Test 63-2) tests to obtain similar data on ships exposed to a toxic environment. DTC selected *Pasteurella tularensis* and *Venezuelan equine encephlomyelitis* as representative agents to be used in Errand Boy.

The original objectives of Errand Boy were to determine the degree biological agent aerosols penetrate a ship's interior and the extent of any associated surface contamination hazard under various combinations of shipboard collective protection and ventilation systems; and to evaluate the effectiveness of various decontamination procedures for decontaminating exterior surfaces.

The penetration phase of the test was not conducted. Consequently, the biological agents *Pasteurella tularensis* and *Venezuelan equine encephlomyelitis* were not used; however, decontamination procedures were conducted.

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.

Before each decontamination trial, sample patches impregnated with known numbers of *Bacillus globigii* microorganisms were set out in the ship's zone being tested. Their purpose was to check the effectiveness of the decontamination. Personnel who performed decontamination functions wore impermeable (rubber) clothing. The zone was closed to all other personnel. Teams disseminated betapropiolactone when decontaminating each zone; a standard dissemination time of 80 minutes was employed in all zones.

Seven trials were scheduled for the decontamination phase from September 6 through 13, 1963. An additional trial was conducted on September 17, bringing the total of trials to eight for this test phase which was conducted aboard the USS *George Eastman* (YAG-39), while moored at Buoy X-9 in East Loch, Pearl Harbor, Oahu, Hawaii.

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Test Name	Errand Boy (DTC 64-1)
Testing Organization	US Army Deseret Test Center
Test Dates	September 6 – 17, 1963
Test Location	Buoy X-9 in East Loch, Pearl Harbor, Oahu, Hawaii
Test Operations	To evaluate the effectiveness of various decontamination procedures for decontaminating exterior surfaces.
Participating Services	US Army, US Navy, US Air Force, Deseret Test Center personnel
Units and Ships Involved	USS <i>George Eastman</i> (YAG-39)
Dissemination Procedures	Control sample patches impregnated with known numbers of <i>Bacillus globigii</i> microorganisms were set out in the ship's zone being decontaminated.
Agents, Simulants, Tracers	<i>Bacillus globigii</i>
Ancillary Testing	Not identified
Decontamination	Teams disseminated betapropiolactone when decontaminating each zone; a standard dissemination time of 80 minutes was employed in all zones.
Potential Health Risks Associated with Agents, Simulants, Tracers	<i>Bacillus globigii</i> 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

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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.)

Betapropriolactone

Modern uses for betapropriolactone include vaccines, enzymes, tissue grafts, and surgical instruments; to sterilize blood plasma, water, milk, and nutrient broth; and as a vapor-phase disinfectant in enclosed spaces. Its sporicidal action kills vegetative bacteria, pathogenic fungi, and viruses. The primary routes of potential human exposure to betapropriolactone are inhalation, ingestion, and dermal contact. There is evidence betapropriolactone is a carcinogen; however, the results of animal testing in mice, rats, hamsters, and guinea pigs are questionable due to a lack of controls in the study. An International Agency for Research on Cancer (IARC) working group reported no data are available to evaluate the carcinogenicity of betapropriolactone in humans.(Source: Department of Health and Human Services, National Institutes of Health website: http://ntp-server.niehs.nih.gov/htdocs/8_RoC/RAC/betapropriolactone.html).

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