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# FACT SHEET

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## Project Shipboard Hazard and Defense (SHAD)

### Eager Belle, Phase I

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 the Eager Belle, Phase I test was to evaluate the effectiveness of selected protective devices in preventing penetration of a naval ship by a biological aerosol. An additional objective was to compare the efficiency of the M-17 and the Mark V protective masks against a biological aerosol. The USS *George Eastman* (YAG-39) was exposed to a biological tracer disseminated from a point source installed on a tugboat.

The biological tracer was *Bacillus subtilis* var. *niger* (often referred to as *Bacillus globigii* [BG]). For each trial, BG was aerosolized from an E-2 biological disseminator mounted on the stern of a tugboat. The BG was disseminated over a 10-minute period, during which 16 to 18 liters of agent were aerosolized. The USS *George Eastman* (YAG-39) maintained a distance of approximately 500 yards astern the tugboat. Fog oil was disseminated from an M3A3 pulse-jet mechanical smoke generator, prior to and concurrently with the BG, to provide a visible tracer to assist the captain of YAG-39 in remaining within the aerosol cloud.

Eager Belle, Phase I tests were conducted in an area of the Pacific Ocean west of Oahu, Hawaii within 40 miles of latitude 21 30 N, 158 40 W during the months of January and March 1963.

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 Special Assistant to the Under Secretary of Defense (Personnel and Readiness) for Gulf War Illnesses, Medical Readiness and Military Deployments 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 the Special Assistant extracted from classified DoD records, and will provide it to individual veterans as necessary, but the VA cannot verify its accuracy.

<b>Test Name</b>	Eager Belle, Phase I (Test 63-1)
<b>Testing Organization</b>	US Army Deseret Test Center
<b>Test Dates</b>	January, March 1963
<b>Test Location</b>	Testing was conducted in the Pacific Ocean, west of Oahu, Hawaii.
<b>Test Operations</b>	To evaluate the effectiveness of selected protective devices in preventing penetration of a naval ship by a biological aerosol.
<b>Participating Services</b>	Navy, plus Deseret personnel
<b>Units and Ships Involved</b>	USS <i>George Eastman</i> (YAG-39)
<b>Dissemination Procedures</b>	Biological tracer released from an E-2 biological disseminator.
<b>Agents, Simulants, Tracers</b>	<i>Bacillus subtilis</i> var. <i>niger</i> ( <i>Bacillus globigii</i> [BG]).
<b>Ancillary Testing</b>	Mk V and M17 protective masks
<b>Decontamination</b>	Not identified
<b>Potential Health Risks Associated with Agents, Simulants, Tracers</b>	<u><i>Bacillus subtilis</i> var. <i>niger</i> (<i>Bacillus globigii</i> [BG])</u> The American Type Culture Center characterizes <i>Bacillus subtilis</i> var. <i>niger</i> as a BioSafety Level-1 (BSL-1) bacterium. The Centers for Disease Control and Prevention define BSL-1 as suitable for work involving well-characterized agents not known to consistently cause disease in healthy adult humans. (Sources: American Type Culture Collection data sheet, <a href="http://phage.atcc.org">http://phage.atcc.org</a> [as of January 11, 2002] and <i>Biosafety in Microbiological and Biomedical Laboratories</i> , U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention and National Institutes of Health, 4 <sup>th</sup> ed., p. 17, April 1999, U.S. Government Printing Office, Washington)

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