



# ***FACT SHEET***

Special Assistant to the Under Secretary of  
Defense (Personnel and Readiness) for Gulf War Illnesses,  
Medical Readiness and Military Deployments

For more information,  
(703) 578-8500

---

Version 05-23-2002

## **Project Shipboard Hazard and Defense (SHAD)**

### **Fearless Johnny**

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 purposes of the Fearless Johnny test were to evaluate the magnitude of interior and exterior contamination from an aerial-delivered chemical weapon system using a simulant for VX nerve agent; demonstrate the effectiveness of the shipboard water washdown system for decontamination and as a protective measure against an aerial spray of VX nerve agent; and, evaluate the operational impact of gross VX nerve agent contamination on a US Navy ship.

VX nerve agent and the VX nerve agent simulant, diethylphthlate, mixed with 0.1 percent of the fluorescent dye DF-504, were used during Fearless Johnny testing.

The USS *George Eastman* (YAG-39) was the test subject vessel for all trials of the test program. The USS *Granville S. Hall* (YAG-40) was assigned to Fearless Johnny as an escort and laboratory support vessel. Two light tugs provided a capability to transfer test samples between the USS *George Eastman* and the support vessels.

The Fearless Johnny trials were conducted at sea, southwest of Honolulu, Hawaii, during August and September 1965. Disseminating aircraft were stationed at an auxiliary airfield on the Island of Kauai.

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>	Fearless Johnny (Test 65-17)
<b>Testing Organization</b>	US Army Deseret Test Center
<b>Test Dates</b>	August and September 1965
<b>Test Location</b>	Testing was conducted at sea southwest of Honolulu, Hawaii.
<b>Test Operations</b>	The test subject vessel, the USS <i>George Eastman</i> (YAG 39), was challenged by VX nerve agent or its simulant, diethylphthlate, to evaluate the magnitude of exterior and interior contamination levels under three material readiness conditions, demonstrate the effectiveness of the shipboard water washdown system, and evaluate the operational impact of gross VX nerve agent contamination on a US Navy ship.
<b>Participating Services</b>	US Navy, plus Deseret Test Center personnel
<b>Units and Ships Involved</b>	USS <i>George Eastman</i> (YAG-39) USS <i>Granville S. Hall</i> (YAG-40) Two light tugs (not further identified). VC-1 (previously designated VU-1, Utility Squadron One) the Blue Ais (Blue Warriors) Squadron provided a Navy A4-B as a disseminator aircraft. Patrol Squadron Six (PATRON SIX), Fleet Air Wing Two, provided two P2V <i>Neptune</i> aircraft as airborne command posts and to provide surveillance in the operating area.
<b>Dissemination Procedures</b>	Aerial-delivered aerosolized agent and agent simulant.
<b>Agents, Simulants, Tracers</b>	VX nerve agent Diethylphthlate mixed with 0.1 percent of fluorescent dye DF-504.
<b>Ancillary Testing</b>	Not identified
<b>Decontamination</b>	Water washdown system

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.

<p><b>Potential Health Risks Associated with Agents, Simulants, Tracers</b></p>	<p><u>VX Nerve Agent</u> –  Lethal Nerve Agent (Synonyms: Phosphonothioic acid, VX): VX nerve agent is extremely lethal. It is an oily liquid that is clear, odorless, and tasteless. Death usually occurs within 10-15 minutes after absorption of a fatal dosage. VX nerve agent is one of the most toxic substances ever synthesized. Symptoms of overexposure may occur within minutes or hours, depending upon the dose. They include: miosis (constriction of pupils) and visual effects, headaches and pressure sensation, runny nose and nasal congestion, salivation, tightness in the chest, nausea, vomiting, giddiness, anxiety, difficulty in thinking, difficulty sleeping, nightmares, muscle twitches, tremors, weakness, abdominal cramps, diarrhea, involuntary urination and defecation. With severe exposure symptoms progress to convulsions and respiratory failure. The permissible airborne exposure concentration for VX nerve agent in any 8-hour work shift can be found in Department of the Army Pamphlet 40-8. To date, however, the Occupational Safety and Health Administration has not promulgated a permissible exposure concentration for VX nerve agent.  (Sources: Centers for Disease Control and Prevention <a href="http://www.bt.cdc.gov/Agent/Nerve/VX/ctc0006.asp">http://www.bt.cdc.gov/Agent/Nerve/VX/ctc0006.asp</a> [as of January 25, 2002]. <i>SBCCOM Online</i>, Edgewood Chemical Biological Center <a href="http://in1.apgea.army.mil:80/RDA/msds/vx.htm">http://in1.apgea.army.mil:80/RDA/msds/vx.htm</a> [as of April 2, 2002]. World Health Organization, Department of Sustainable Development &amp; Environmental Protection, <a href="http://209.61.192.180/phe/factsheet_5.htm">http://209.61.192.180/phe/factsheet_5.htm</a> [as of April 2, 2002]. Department of the Army Pamphlet 40-8: Occupational Health Guidelines for the Evaluation and Control of Occupational Exposure to Nerve Agents GA, GB, GD, and VX, <a href="http://books.army.mil:80/cgi-bin/bookmgr/BOOKS/P40_8/CONTENTENTS">http://books.army.mil:80/cgi-bin/bookmgr/BOOKS/P40_8/CONTENTENTS</a> [as of February 5, 2002]).</p> <p><u>Diethylphthlate</u> (Synonyms: diethyl ester 2, Benzenedicarboxylic acid).  Short-term exposure to diethylphthlate vapors can irritate the nose and throat. If splashed in the eyes, diethylphthlate can cause considerable eye pain but no, or slight, reversible damage. The Environmental Protection Agency places this substance in category D - not classifiable as a human carcinogen.</p>
---	---

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.

	<p>Diethylphthlate is only very slowly absorbed through the skin; however, ingestion in high concentrations can cause gastrointestinal irritation, or hypotension. Diethylphthlate has been used routinely as an insect repellent since World War II. It is also used in cosmetics and aspirin.</p> <p>(Sources: New Jersey Department of Health and Senior Services, <a href="http://www.state.nj.us/health/eoh/rtkweb/0707.pdf">http://www.state.nj.us/health/eoh/rtkweb/0707.pdf</a> [as of January 25, 2002]. National Institute for Occupational Safety and Health [NIOSH] <i>International Chemical Safety Cards</i> <a href="http://www.cdc.gov/niosh/ipcsneng/neng0258.html">http://www.cdc.gov/niosh/ipcsneng/neng0258.html</a> [as of January 25, 2002]. Agency for Toxic Substances and Disease Registry, National Toxicology Program, <a href="http://ntp-server.niehs.nih.gov/htdocs/Chem_H&amp;S/NTP_Chem8/Radian84-66-2.html">http://ntp-server.niehs.nih.gov/htdocs/Chem_H&amp;S/NTP_Chem8/Radian84-66-2.html</a> [as of January 25, 2002].</p>
--	---