



## ***FACT SHEET***

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

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

#### **Purple Sage**

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 Purple Sage test was to evaluate the effectiveness of the experimental Shipboard Toxicological Operational Protection System (STOPS) against environmental attack with a gaseous chemical warfare agent under operational situations. An additional objective was to evaluate the effect that the wearing of protective masks (MK5 or M17) for a four-hour period had on the operational efficiency of a ship's crew.

The chemical warfare test agent was methylacetoacetate, a sarin nerve agent simulant. The STOPS-equipped destroyer, USS *Herbert J. Thomas* (DD-833), was enveloped by a test agent cloud generated by release of methylacetoacetate through a turbine disseminator located on the bow of the ship.

Purple Sage tests were conducted in an operational area of the Pacific Ocean, off San Diego, California, during the period January 5 through February 3, 1966.

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.

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| <b>Test Name</b>  | Purple Sage (Test 66-5)  |
| <b>Testing Organization</b>   | US Army Deseret Test Center  |
| <b>Test Dates</b>   | January 5 - February 3, 1966   |
| <b>Test Location</b>  | Testing was conducted in the Pacific Ocean, off San Diego, California.   |
| <b>Test Operations</b>  | To test the Shipboard Toxicological Operational Protective System (STOPS), a test agent was released through a turbine disseminator located on the bow of the ship.  |
| <b>Participating Services</b>   | Navy, plus Deseret personnel   |
| <b>Units and Ships Involved</b>   | USS <i>Herbert J. Thomas</i> (DD-833)  |
| <b>Dissemination Procedures</b>   | Test agent was released through a turbine disseminator.  |
| <b>Agents, Simulants, Tracers</b>   | Methylacetoacetate   |
| <b>Ancillary Testing</b>  | MK5 and M17 protective masks   |
| <b>Decontamination</b>  | Not identified   |
| <b>Potential Health Risks, Associated with Agents, Simulants, Tracers</b> | <u>Methylacetoacetate</u> (Synonyms: methyl acetoacetate, acetoacetic acid, methyl ester)<br>Potential health effects consist of low to moderate eye, skin, and respiratory tract irritation and possible gastrointestinal irritation with nausea, vomiting, and diarrhea. EPA does not consider methylacetoacetate to be a hazardous material. It is not a known carcinogen. (Sources: <a href="http://hazard.com/msds/tox/f/q4/q936.html">http://hazard.com/msds/tox/f/q4/q936.html</a> [as of January 28, 2002] and <a href="http://www.hbcollege/chem/lab/organic/gilbert3e/resources/studenttools/dl/e_mmsds.pdf">http://www.hbcollege/chem/lab/organic/gilbert3e/resources/studenttools/dl/e_mmsds.pdf</a> ) |

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