



FACT SHEET

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

For more information
(703) 578 - 8500
(800) 497 - 6261

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Deseret Test Center

Pine Ridge

Shortly after President Kennedy's inauguration in 1961, the Secretary of Defense, Robert McNamara, directed that a total review of the U.S. military be undertaken. The study consisted of 150 separate projects. The chemical and biological warfare review was known as Project 112. As part of the Project 112 review, the Joint Chiefs of Staff convened a working committee that recommended a research, testing, and development program for chemical and biological weapons. To oversee this program, the Deseret Test Center was established at Fort Douglas, Utah, in 1962. Both land-based and ship-based tests were conducted during the period 1962 – 1973. The Deseret Test Center closed in 1973.

The purposes of Pine Ridge were to ascertain the percentage of BLU-19/B23 and BLU-20/B23 bomblets that function and to determine their dissemination points in or below a jungle canopy; to determine area-time-dosage and diffusion characteristics of agent BZ and Sarin nerve agent when disseminated from single bomblets; and, to estimate the effective area coverage that could be expected if agent BZ and Sarin nerve agent were disseminated from single or multiple SUU-13/A dispenser loads. A secondary objective was to determine any peculiar handling, storage, or safety requirements associated with BLU-19/B23 or BLU-20/B23 bomblets.

BZ is a code name for an ester of benzoic acid. The chemical affects the human mind causing those contaminated to be unable to perform an assignment or have a reduced will to resist for a short period of time. Sarin is a volatile and lethal nerve agent.

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.

Sarin filled BLU-19/B23 and BZ filled BLU-20/B23 bomblets were detonated in test areas in the upper Waiakea Forest Reserve and in the O'laa Forest Preserve, southwest of Hilo, on the island of Hawaii in May and June 1966.

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Test Name	Pine Ridge (DTC Test 65-16)
Testing Organization	US Army Deseret Test Center
Test Dates	May – June 1966
Test Location	Island of Hawaii
Test Operations	To evaluate the effectiveness of the BLU-19/B23 Sarin-filled bomblet and the BLU20/B23 agent BZ-filled bomblet in a tropical rain forest.
Participating Services	US Air Force, US Navy, US Army, Deseret Test Center personnel
Units and Ships Involved	Not identified
Dissemination Procedures	Bomblets were projected with an airgun to determine burst height and static detonations were used for area-time-dosage determinations.
Agents, Simulants, Tracers	Ester of benzilic acid (BZ) Sarin Nerve Agent
Ancillary Testing	Not identified
Decontamination	Not identified
Potential Health Risks Associated with Agents, Simulants, Tracers	<p><u>Ester of benzilic acid (Agent BZ)</u> This chemical is an incapacitating agent designed to cause stupor, confusion, and hallucinations when inhaled or absorbed through the skin. It is a white powder and may irritate the eyes, skin, and digestive and respiratory tracts, if inhaled or ingested. While some effects may last several days or weeks, long-term or late-developing health effects have not been documented and seem unlikely.</p> <p>(Source: Incapacitating Agents (chap. 5), in US Army Medical Research Institute of Chemical Defense, Medical Management of Chemical</p>

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Casualties Handbook, 3rd edition, 1998; Ketchum JS, Sidell FR Incapacitating Agents (chap. 11), in ed. Zajtchuk R., Textbook of Military Medicine (part 1), Medical Aspects of Chemical and Biological Warfare, 1997), Office of the Army Surgeon General, Washington DC, 1997.

http://www.fas.org/nuke/guide/russia/cbw/jptac008_194001.html [as of September 25, 2002].)

Sarin Nerve Agent (GB)

Sarin gas is a volatile and lethal nerve agent. It can enter the body by inhalation, ingestion, through the eyes, and to a lesser extent through the skin. After exposure to a sufficient dose, human symptoms may occur within minutes and include runny nose, watery eyes, difficulty breathing, dimness of vision, confusion, drowsiness, coma, and death. Very little information is available regarding long-term health effects following exposures to low levels that do not cause acute symptoms. No information is available regarding potential carcinogenicity. An Institute of Medicine committee concluded that there was insufficient evidence for or against an association between low-level sarin exposure and long-term health effects.

(Sources: <http://www.bt.cdc.gov/Agent/Nerve/Sarin/Sarin.asp> [as of February 13, 2002] Institute of Medicine (National Academies), Gulf War and Health (vol.1): Depleted Uranium, Pyridostigmine Bromide, Sarin, Vaccines. National Academy Press, Washington DC, 2000.)

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