



# FACT SHEET

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**Deployment Health Support Directorate**

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## **Deseret Test Center**

### **Rapid Tan I, II, III**

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.

Deseret Test Center Test 68-13 (Rapid Tan I, II, III) was a joint U.S., U.K., and Canadian program designed to investigate the extent and duration of hazard following a Tabun, Soman or V nerve agent attack. Phases I and III trials involving agents Tabun, Sarin, Soman and VX spray in both open grassland and wooded terrain were conducted at the Chemical Defence Establishment, Porton Down, England. Both Tabun and Soman spray and munition (Soman-filled) trials (Phase II) were conducted at the Suffield Defence Research Establishment, Ralston, Canada.

The purpose of the Rapid Tan I, II, III tests was to obtain rate-of-vapor return data for agents Tabun and Soman when sprayed on different terrain types in a summer (temperate) environment. Sarin and VX trials were also conducted to strengthen confidence in the Tabun and Soman data by allowing comparisons of data from Sarin and VX munition tests conducted in the same environment.

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.

The weapons systems germane to this test were explosive munitions (Soman-filled), aircraft spray, rain-type munitions (using both Tabun and Soman), and massive bombs (Tabun- and Soman-filled).

DTC Test 68-13 trials were conducted during three time periods: July – August 1967; May – June 1968; and, August – September 1968.

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<b>Test Name</b>	Rapid Tan I, II, III (DTC Test 68-13)
<b>Testing Organization</b>	US Army Deseret Test Center
<b>Test Dates</b>	Jul – Aug 1967; May – Jun 1968; Aug – Sep 1968
<b>Test Location</b>	Chemical Defence Establishment, Porton Down, England (Phases I and III) Suffield Defence Research Establishment, Ralston, Canada (Phase II)
<b>Test Operations</b>	To determine rate of evaporation of Tabun, Sarin, Soman, and VX as a function of contamination density, drop size, and terrain cover under a variety of meteorological conditions in a temperate environment.
<b>Participating Services</b>	Deseret Test Center personnel
<b>Units and Ships Involved</b>	Not identified
<b>Dissemination Procedures</b>	Agent was disseminated using 155mm Howitzer shells (Soman-filled) and a crop sprayer to simulate agent dissemination from aircraft, rain type munitions, and massive bomb dissemination.
<b>Agents, Simulants, Tracers</b>	Sarin Nerve Agent Soman Nerve Agent Tabun Nerve Agent VX Nerve Agent
<b>Ancillary Testing</b>	Not identified
<b>Decontamination</b>	Not identified
<b>Potential Health Risks Associated with Agents, Simulants, Tracers</b>	<u>Sarin Nerve Agent</u> (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

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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.)

Soman Nerve Agent (GD)

Soman is a colorless liquid, which gives off an odor of rotting fruit when vaporizing. The vapor is colorless. Soman is a persistent agent that can easily remain in a particular area for a day or longer, depending on the atmospheric conditions. Acute health effects associated with exposure to soman include a runny nose, tightness in the chest, constriction of the pupils, difficulty in breathing, coma, and death. There is little information available regarding the long-term human health effects of exposure to soman.

(Source: <http://www.sbcom.army.mil/services/edu/soman.htm> Zajtchuk R (ed.), Textbook of Military Medicine (part 1, Medical Aspects of Chemical and Biological Warfare, 1997), Office of the Army Surgeon General, Washington DC, 1997.)

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Tabun Nerve Agent (GA)

Tabun is an amber, non-persistent liquid, which gives off little odor when vaporizing. The vapor is colorless. When exposed to tabun, the symptoms a victim will experience include a runny nose, tightness in the chest, constriction of the pupils, difficulty breathing, and nausea. Ultimately the victim will become comatose and will suffocate as a consequence of convulsive spasms. Tabun is mainly absorbed through the skin; however, vapors can also be hazardous. If a person does not receive an immediately lethal dose, death will occur after approximately 20 minutes. Those receiving a less than lethal dose who do not receive immediate medical care may suffer permanent neurological damage. There is little information available regarding the long-term human health effects of exposure to low doses of tabun.

(Source: <http://www.sbccom.army.mil/services/edu/tabun.htm> Zajtchuk R (ed.), Textbook of Military Medicine (part 1, Medical Aspects of Chemical and Biological Warfare, 1997), Office of the Army Surgeon General, Washington DC, 1997.

VX 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: constriction of pupils, headaches, runny nose, salivation, tightness in the chest, nausea, vomiting, anxiety, difficulty in thinking, muscle twitches, tremors, and weakness. With severe exposure, symptoms

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progress to convulsions and respiratory failure. There is little information available regarding the long-term human health effects of exposure to low doses of VX.

(Sources: Centers for Disease Control and Prevention <http://www.bt.cdc.gov/Agent/Nerve/VX/ctc0006.asp> [as of January 25, 2002] Zajtchuk R (ed.), Textbook of Military Medicine (part 1, Medical Aspects of Chemical and Biological Warfare, 1997), Office of the Army Surgeon General, Washington DC, 1997. SBCCOM Online, Edgewood Chemical Biological Center <http://in1.apgea.army.mil:80/RDA/msds/vx.htm> [as of April 2, 2002] World Health Organization, Department of Sustainable Development & Environmental Protection, [http://209.61.192.180/phe/factsheet\\_5.htm](http://209.61.192.180/phe/factsheet_5.htm) [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 [http://books.army.mil:80/cgi-bin/bookmgr/BOOKS/P40\\_8/CCONTENTS](http://books.army.mil:80/cgi-bin/bookmgr/BOOKS/P40_8/CCONTENTS) [as of February 5, 2002])

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