



# 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

### DTC Test 68-53

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 (DTC) 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 primary test objective of DTC Test 68-53 was to establish safety distances downwind of CS2 drop zones. A secondary objective required the determination of agent deposition patterns, percent of agent recovery, and airborne agent particle size in defining direct assault effects such as those related to rescue missions.

Five types of CS2 munitions, including the BLU-52A/B, Mk77, Mk20, and XM925 bombs and the XM28 dispenser system, were tested in flat, open terrain. The BLU-52A/B bombs were delivered by A-4/Skyhawk aircraft. The Mk77 and Mk20 bombs were deployed in pairs from A-4/Skyhawk aircraft. The XM925 drum was tested statically and in dynamic drops from a CH47 helicopter. Bag submunitions were released from an XM28 dispenser carried by a UH-1B helicopter.

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.

While the United States does not classify CS2 as a chemical warfare agent, Deseret Test Center managed DTC Test 68-53 as a matter of convenience. Testing CS2 was not part of a chemical-biological warfare agent assessment.

DTC Test 68-53 was conducted during the period April to December 1969 at Dugway Proving Ground, Utah.

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<b>Test Name</b>	DTC Test 68-53
<b>Testing Organization</b>	US Army Deseret Test Center
<b>Test Dates</b>	April – December 1969
<b>Test Location</b>	Dugway Proving Ground, Utah
<b>Test Operations</b>	DTC Test 68-53 established safety distances downwind of CS2 riot control agent drop zones. The test also determined agent deposition patterns, percent of agent recovery, and airborne agent particle size in defining direct assault effects such as those related to rescue missions.
<b>Participating Services</b>	Deseret Test Center personnel
<b>Units and Ships Involved</b>	Not identified
<b>Dissemination Procedures</b>	Five types of CS2 munitions, including the BLU-52A/B, Mk77, Mk20, and XM925 bombs and the XM28 dispenser system, were tested in flat, open terrain. The BLU-52A/B bombs were delivered by A-4/Skyhawk aircraft. The Mk77 and Mk20 bombs were deployed in pairs from A-4/Skyhawk aircraft. The XM925 drum was tested statically and in dynamic drops from a CH47 helicopter. Bag submunitions were released from an XM28 dispenser carried by a UH-1B helicopter.
<b>Agents, Simulants, Tracers</b>	Ortho-chlorobenzylidene malontrile (CS2)
<b>Ancillary Testing</b>	Not identified
<b>Decontamination</b>	Not identified
<b>Potential Health Risks Associated with Agents, Simulants, Tracers</b>	<u>CS2 Riot-Control Agent</u> CS2 is one of several chemicals commonly called "Tear Gas." CS2 is a white, crystalline powder and is dispersed into the air as either an aerosol or powder. The chemical name for CS2 is ortho-chlorobenzylidene

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malononitrile. It is chemically identical to CS but differs in its physical characteristics. This chemical is an incapacitating/riot-control agent that acts as a contact irritant on the exposed body surfaces (eyes and skin), and on the respiratory tract. Exposure to CS<sub>2</sub> causes burning, irritation, tearing and pain in the eyes. Airway symptoms include burning, sneezing, coughing, shortness of breath and increased secretions, such as runny nose and increased salivation. High concentrations of CS<sub>2</sub> can cause blistering of the skin. With commonly used concentrations, these effects are short-term and the potential for long-term health consequences is low.

(Sources: Riot-Control Agents (chap. 6), in US Army Medical Research Institute of Chemical Defense, Medical Management of Chemical Casualties Handbook, 3rd edition, 1998; Sidell FR, Riot Control Agents (chap. 12), in 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, p. 310-6.

<http://www.metrokc.gov/health/hazard/riotcontrol.htm#cs> [as of September 26, 2002]Cornell University,

<http://msds.pdc.cornell.edu/msds/siri/files/chl/chlfz.html> [as of August 26, 2002]).

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