

HAZARD IDENTIFICATION AND VULNERABILITY ANALYSIS (HIVA)

Walla Walla County, Washington

CHEMICAL WEAPONS

Hazard Overview

Chemical weapons are stored at the Umatilla Chemical Depot, near Umatilla, Oregon 21 direct line miles from the nearest point in Walla Walla County, which is the Washington State Line on Highway 730 in the extreme southwestern corner of the county. It is located about 52 miles from the City of Walla Walla, about 25 miles from Wallula, about 27 miles from Burbank and about 34 miles from Touchet.



Agent	Item	Quantity	Pounds
H-Blister	Ton Containers	2,635	4,679,040
GB-Nerve	155mm Projectiles	47,406	308,140
GB-Nerve	8-inch Projectiles	14,246	206,560
GB-Nerve	M55 Rockets	91,375	977,720
GB-Nerve	M56 Rocket Warheads	67	720
GB-Nerve	500-lb Bombs	27	2,920
GB-Nerve	750-lb Bombs	2,418	531,960
VX-Nerve	155mm Projectiles	32,313	193,880
VX-Nerve	8-inch Projectiles	3,752	54,400
VX-Nerve	Mines	11,685	122,700
VX-Nerve	M55 Rockets	14,513	145,140
VX-Nerve	M56 Rocket Warheads	6	60
VX-Nerve	Spray Tanks	156	211,540

Chemical agents stored at this facility include Mustard Agent (HD) and Nerve Agents Sarin (GB) and VX munitions. A total of 3,717 tons of chemical munitions are stored at this facility. About 12% of the nation's supply of chemical warfare

Walla Walla County HIVA - CHEMICAL WEAPONS

agents are stored in special bunkers at the Umatilla Chemical Depot. The Army also stores chemical weapons at seven other locations in the United States. There are munitions such as M55 rockets, mines, bombs, and one-ton containers of agents.

The Umatilla Chemical Depot was opened in 1941 to store U.S. Army munitions. In 1962, chemical weapons began to arrive and in 1969, shipments were halted. Chemical weapons have been stored at the facility since then.

A demilitarization project to destroy these chemical weapons is in progress. The Umatilla Chemical Agent Disposal facility has been completed and is expected to begin to destroy these weapons beginning in 2004, with completion by the end of 2009. This facility will use incineration as the disposal process.

Nerve agents are the most toxic of all the weaponized military agents. These agents can cause sudden loss of consciousness, seizures, apnea and death. GB or Sarin may be inhaled as a vapor or cause toxic effects by contact with the skin in the liquid form. VX is mainly a liquid skin hazard at normal ambient temperatures. These chemicals are easily absorbed through the skin, eyes or lungs. These nerve agents belong to a class of chemicals called organophosphates and have physiological effects similar to that of many insecticides commonly found in Walla Walla County such as Malathion, diazinon and chlorpyrifos. Nerve agents are stored in the liquid state. Sarin is liquid at normal temperatures, but will evaporate at about the same rate as water. VX has the consistency of motor oil and has a very low volatility, seldom presenting a vapor hazard. VX is much more toxic than Sarin when on the skin.

Nerve agents work by inhibiting the enzyme acetyl cholinesterase (AChE), which allows the neurotransmitter, acetylcholine (ACh), to accumulate which causes the muscles, organs and nerves to become over stimulated, resulting in a variety of harmful effects. Giving atropine will reverse most of the effects.

The blister agent Mustard or HD is a chemical that causes redness and blistering of the skin. Mustard is hazardous via vapor inhalation and liquid skin contact. Mustard causes injuries to the eyes, skin and some internal organs. More extensive injury can result in death because of respiratory failure from airway injury or sepsis because of respiratory failure or because of bone marrow damage, decrease in white blood cells, and an impaired immune system. There is no specific therapy.

History and Probability of Occurrence

There have been no incidences of a release of chemicals from Umatilla Chemical Depot that have endangered people or animals off the site.

The Army maintains an extensive program to regularly assess the condition of the chemical weapons stockpile to ensure continued safe storage. Trained, experienced workers regularly inspect and monitor the storage structures to detect any chemical agent leakage. Monitoring the storage igloos entails drawing air from inside the igloo through a vacuum tube and analyzing the

Walla Walla County HIVA - CHEMICAL WEAPONS

sample for the presence of chemical agent. Occasionally, some weapons are found to leak minute amounts of chemicals. When this occurs, the chemical is contained in an over-pack system.

Although the likelihood of an incident will increase during the incineration process, the probability of an incident is very small. Walla Walla County's distance from the depot further reduces the likelihood of an incident having an effect on residents in the county.

The probability of a chemical weapons incident endangering the lives and property of Walla Walla County residents within the next 25 years is LOW. The probability of contamination reaching Walla Walla County on people or vehicles that were close to the hazard during an event is more likely, but remains LOW.

Vulnerability

The chances of a chemical accident at the Umatilla Chemical Depot are very remote, but the consequences could be very serious for those in close proximity to the depot.

Should an incident occur, extensive planning to warn and protect the public has been taken under the U.S. Army's Chemical Stockpile Emergency Preparedness Program (CSEPP). Walla Walla County is outside the emergency planning zones established by CSEPP, so neither evacuation nor shelter-in-place is recommended for Walla Walla County. Should an evacuation of residents in close proximity to the depot be ordered, four evacuation routes are planned and none take residents toward Walla Walla County. Still, some people evacuating the area may travel from Umatilla on Highway 395 and on Highway 730 into Walla Walla County.

The vulnerability of Walla Walla County residents to a chemical weapons hazard is LOW. A limited area or segment of population, property, commerce, infrastructure or service is exposed to the effects of a hazard. In a worse case scenario there could be a disaster of minor to moderate proportions.

Risk Rating

The risk rating for Walla Walla County is rated as LOW. A LOW risk rating indicates there is little potential for a chemical weapons disaster during the next 25 years. The threat is such as to warrant little special effort to prepare for, respond to, recover from, or mitigate against this hazard. This hazard need not be specifically addressed in the county's emergency management training and exercise program except as generally dealt with during hazard awareness training.

Walla Walla County HIVA - CHEMICAL WEAPONS

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