Definition: chemical warfare from Philip's Encyclopedia

Use of chemical weapons such as poison and nerve gases, defoliants and herbicides. Poison gas and mustard gas was used in World War 1. Chemical weapons were not used in World War 2, but the Germans developed a nerve gas. A defoliant, Agent Orange, was employed by the US in the Vietnam War. Although the use of chemical and biological weapons is prohibited by the Geneva Convention (1925), their production, possession and exchange are not. In 1990, the USA and Soviet Union agreed to reduce their stockpiles of chemical weapons by 80%. See also biological warfare

Summary Article: chemical warfare from The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide

Use of gaseous, liquid, or solid substances intended to have a toxic effect on humans, animals, or plants. Together with biological warfare, its use was banned by the Geneva Protocol in 1925, and the United Nations, in 1989, also voted for a ban. In 1993 over 120 nations, including the USA and Russian Federation, signed a treaty outlawing the manufacture, stockpiling, and use of chemical weapons.

Types of chemical weapons

**Irritant gases** may cause permanent injury or death. Examples include chlorine, phosgene (Cl₂CO), and mustard gas (C₄H₈Cl₂S), used in World War I (1914–18) and allegedly by Soviet forces in Afghanistan, by Vietnamese forces in Laos, and by Iraq against Iran during their 1980–88 war.

**Tear gases**, such as CS gas used in riot control, affect the lungs and eyes, causing temporary blindness.

**Nerve gases** are organophosphorus compounds similar to insecticides, which are taken into the body through the skin and lungs and break down the action of the nervous system. Developed by the Germans for World War II, they were not used.

**Incapacitants** are drugs designed to put an enemy temporarily out of action by, for example, impairing vision or inducing hallucinations. They have so far not been used.

**Toxins** are poisons to eat, drink, or inject; for example, ricin (derived from the castor-oil plant) and the botulism toxin. Ricin has been used in individual cases, and other toxins were allegedly used by Soviet forces in Afghanistan and by Vietnamese forces in Cambodia.

**Herbicides** are defoliants used to destroy vegetation sheltering troops and the crops of hostile populations. They were used in Vietnam by the USA and in Malaya (now Malaysia) by the UK. Agent Orange became notorious because it caused cancer and birth abnormalities among Vietnam War veterans and US factory staff.

**Binary weapons** are two chemical components that become toxic in combination, after the shell containing them is fired.

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**World War I** Gas was first used as a substitute for explosives in artillery shells in World War I: its first application in the field was by the Germans at Bolimov in February 1915. The attempt was unsuccessful. Chlorine released from storage cylinders to drift over enemy trenches was subsequently used with considerable success at Ypres, Belgium, in April 1915. As defensive measures such as gas masks evolved, so different agents were introduced to circumvent these defences, and different methods of delivery developed. Over 3,000 chemical agents were investigated for possible use during the war but of these only about 30 were found suitable for actual use in the field. Despite its fearsome reputation, gas caused more injuries than deaths and was mainly effective in incapacitating rather than killing troops and in its psychological effect.

**Convention on Chemical Weapons** In 1989 the 149-nation UN Conference on Disarmament unanimously voted to outlaw chemical weapons, and produced the Convention on Chemical Weapons (CCW) signed 1993. The treaty was unique in establishing verification procedures (to be administered by a new body, the Organization for the Prohibition of Chemical Weapons, in The Hague, the Netherlands) and in allowing for sanctions against nations not party to the treaty. In November 1996 Hungary became the 65th country to ratify the UN agreement, which meant that after 28 years of negotiations, a sufficient number of countries had now ratified and the convention came into force on 28 April 1997.

The ban binds signatories to destroy production facilities and prevents them from developing, manufacturing, acquiring, or stockpiling chemical weapons or from transferring them to anyone to engage in any other activity prohibited by the convention. The ban includes the use of riot-control gases in warfare.

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Chemical Warfare Agents

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Gulf War gas alert

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