

Federation of American Scientists Working Group on Biological & Chemical Weapons

Position Paper The Threat of Chemical Incapacitating Agents

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The development, possession and use of chemical weapons that can cause death, temporary incapacitation or permanent harm are prohibited by the Chemical Weapons Convention (CWC) of 1993. Prior to the CWC, President Nixon renounced the first use of incapacitating chemical weapons in 1969. However, biotechnology has now provided readily available methods for the rapid identification of incapacitating chemicals of various kinds (see [Biotechnology and Biochemical Weapons](#), M. Wheelis, *Nonproliferation Review* Spring 2002). This development has sparked a keen interest in military and police circles in these so-called “non-lethal” incapacitating chemical agents because of their potential for use when combatants or criminals are intermixed with civilians, as in urban warfare, hostage rescue, counter-terrorism, and the like. Chemicals that cause loss of consciousness have been the primary focus; other types include those that cause nausea, convulsions, severe pain, sensory derangements, mental confusion, etc.

Chemical incapacitants are not the same as riot control agents such as tear gas, which are permissible under the CWC for law enforcement purposes but prohibited as a method of warfare. Riot control agents are defined as chemicals that can produce in humans rapid sensory irritation or disabling physical effects which disappear within a short time. Chemical incapacitants can have more pervasive effects. The text of the CWC does not explicitly prohibit the use of chemical incapacitants for law enforcement, but any chemical used for that purpose must be of a type and quantity consistent with the purpose. Furthermore, the general provisions of the Convention, its expressed purpose and its negotiating history, all indicate that incapacitants are not permissible. Their development and use would undermine the universal ban on chemical weapons.

In spite of their superficial attractiveness, chemical incapacitants have a number of negative aspects:

--Prevention of fatalities is essentially impossible when chemical incapacitants are used in emergency situations (see “[Chemical Incapacitating Agents Are Not Non-Lethal](#),” FAS, Jan. 03). For example, Russian use of an incapacitant to rescue hostages in a Moscow theater in October, 2002 resulted in the death of 120 (16%) of the hostages and many injuries.

--The utility of chemical incapacitants for hostage rescue and the like will be short-lived. The Moscow hostage-takers could have defended themselves with gas masks. A leading proponent of “non-lethal” weapons, Col. John Alexander, has pointed out that terrorists long ago discovered the “dead-man switch:” any device—such as a hand-held grenade with the pin out—that will activate when the muscles relax. He says there is no known incapacitating chemical that leaves the muscles rigid.

--Once developed, chemical incapacitants will be relatively easy for terrorists to acquire and use to protect themselves and to increase their lethal reach.

--Development of chemical incapacitants by one country will encourage others to follow suit. As a result, incapacitants would become an available temptation to the military in many countries for illegal use in armed conflict. This would counter the fundamental purpose of the CWC, to prevent countries from entering hostilities with stockpiles of chemical weapons whose use in armed conflict is prohibited. Experience has shown that prohibitions weaken under the stress of military conflict.

--incapacitants in the hands of the military have routinely been used as adjuncts, not alternatives, to lethal force. The US used tear gas in Vietnam to drive enemy troops into the open. South Africa used them to facilitate assassinations. During the Moscow hostage rescue, Russian troops shot the Chechen hostage-takers while they were comatose. All these instances violated the laws of war, as codified in the 1977 Protocol Related to the Protection of Victims of International Armed Conflicts and two earlier international treaties.

--incapacitants could be used covertly as lethal weapons by deploying synergistic pairs of incapacitants that, together, have a fully lethal effect.

--incapacitants could be used to mask lethal chemical weapons programs, since production, testing, and delivery systems would be hard to distinguish.

--incapacitants could be used for the suppression of dissent by despotic governments. Unlike tear gas, which disperses crowds, chemical incapacitants would incapacitate them in place, allowing demonstrators to be taken into custody, mistreated or tortured. Popular opposition to totalitarian regimes would become more difficult and dangerous.

--In the longer term, the development of chemical incapacitants will invite further exploitation of biotechnology to provide agents for controlling human beings through modification of consciousness, cognition, emotions and other mental functions. The basic technology is already available (see [Scientific and technological change and the future of the CWC: the problem of non-lethal weapons](#), M. Dando, *Disarmament Diplomacy*, no.4 2002). In September 2002 the International Committee of the Red Cross (ICRC) issued an Appeal warning of the possible covert alteration of physiological or psychological processes of target populations such as consciousness, behaviour, fertility and genetic makeup. To prevent the manipulation for hostile ends of the “life processes at the core of human existence,” ICRC calls on all political and military authorities to work together to subject potentially dangerous biotechnology to effective controls (see [here](#) for ICRC appeal).