

An hourglass-shaped graphic with a globe inside. The top bulb is dark blue, and the bottom bulb is light blue. The globe is centered in the narrow neck of the hourglass. The top bulb is filled with a dark blue color, and the bottom bulb is filled with a light blue color. The globe is centered in the narrow neck of the hourglass.

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*Biological and Chemical Weapons: Criminal Sanctions and
Federal Regulations*

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Updated February 5, 2004

Abstract. This report reviews criminal sanctions attaching to the development, production, possession, and use of biological and chemical weapons. It also addresses certain federal regulations attaching to the development, production, and transportation of biological agents.

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Biological and Chemical Weapons: Criminal Sanctions and Federal Regulations

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Biological and Chemical Weapons: Criminal Sanctions and Federal Regulations

Summary

The Biological Weapons Convention and the Chemical Weapons Convention, both of which have been signed and ratified by the United States, obligate signatory parties to enact legislation or otherwise restrict the development, use, and acquisition of biological and chemical weapons within their territorial jurisdiction. In accordance with these obligations, the United States has enacted various federal requirements and criminal sanctions applying to biological and chemical weapons. Recent anti-terrorism legislation, such as the USA PATRIOT Act, amended many of these provisions, broadening the scope of criminal sanctions relating to the use of biological and chemical weapons and materials. Further, a number of miscellaneous statutory provisions dealing with terrorism and weapons of mass destruction also covers chemical and biological materials in the context of restrictions on specific types of actions. Additionally, the United States has adopted strict regulations and licensing procedures concerning the acquisition, handling, and transfer of biological agents.

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Biological and Chemical Weapons: Criminal Sanctions and Federal Regulations

Introduction

This report reviews criminal sanctions attaching to the development, production, possession, and use of biological and chemical weapons. It also addresses certain federal regulations attaching to the development, production, and transportation of biological agents. It does not cover rules and restrictions specifically focusing on aviation or military facilities.

International Law

The United States has signed and ratified the Biological Weapons Convention (“BWC”) and the Chemical Weapons Convention (“CWC”). Both the BWC and the CWC oblige signatory states to implement domestic legislation. Article VII of the BWC requires each signatory state to enact legislation or otherwise prohibit violations of the Convention committed within its territorial jurisdiction or in areas within its control.¹ Prohibited acts include the development, production, stockpiling, acquisition, and retention of biological weapons. Article VII of the CWC requires state parties to enact penal legislation proscribing activities prohibited by the Convention.²

¹ See Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Apr. 10, 1972, 26 U.S.T. 583, 1015 U.N.T.S. 163. See generally CRS Report RL31059, *Biological Weapons: A Primer*.

² See Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, Jan. 13, 1993, reprinted in 32 I.L.M. 800 (1993) (ratified by the United States on April 25, 1997). The Convention requires signatory states to “prohibit natural and legal persons” within their jurisdiction from “undertaking any activity prohibited to a State Party under this Convention,” and requires signatories to enact penal legislation with respect to such activity. *Id.* at Art. VII, P1(a). Moreover, a state obligates itself to “extend its penal legislation enacted under subparagraph (a) to any activity prohibited to a State Party under this Convention undertaken anywhere by natural persons, possessing its nationality, in conformity with international law.” *Id.* at Art. VII, P 1(c). It has been noted that this subparagraph requires that penal legislation conform to international law, but does not require it to a signatory state’s constitution. Ronald Rotunda, *The Chemical Weapons Convention: Political and Constitutional Issues*, 15 CONST. COMMENTARY 131, 159 n. 6 (2001). One observer has concluded that “it is not a defense, under this subparagraph, that the United States refuses to enact penal legislation on the grounds that it violates our Constitution.” *Id.*

Domestic Law

A. Biological Weapons, 18 U.S.C. §§ 175 - 178. 18 U.S.C. sections 175 - 178 are the primary legal framework restricting the use and development of biological agents, toxins, and delivery systems.³ Section 178(1) broadly defines biological “agents” as including any “microorganism (including, but not limited to, bacteria, viruses, fungi, rickettsiae or protozoa), or infectious substance,” or any naturally occurring or engineered part of any such microorganism or infectious substance that is capable of causing (1) *biological malfunction*, like death or disease, in a living organism; (2) *deterioration* of food, water, equipment, supplies, or material of any kind; or (3) *deleterious alteration* of the environment.

For purposes of 18 U.S.C. §§ 175 - 178, “toxin” is defined under section 178(2) as “toxic material of plants, animals, microorganisms (including, but not limited to, bacteria, viruses, fungi, rickettsiae or protozoa), or infectious substances, or a recombinant or synthesized molecule, whatever their origin or method of production...” This definition includes “any poisonous substance or biological product that may be engineered as a result of biotechnology produced by a living organism” or “any poisonous isomer or biological product, homolog, or derivative of such a substance.”⁴

Section 178(3)’s definition of “delivery system” includes “any apparatus, equipment, device, or means of delivery specifically designed to deliver or disseminate a biological agent, toxin, or vector; or any vector.”⁵

General Offenses. Section 175(a) prohibits the knowing development, production, stockpiling, transfer, acquisition, retention, or possession of any biological agent, toxin, or delivery system *for use as a weapon*. Attempts, threats, and conspiracies to commit a proscribed act are also punishable.⁶ The statute also prohibits persons from knowingly assisting, or attempting, threatening, or conspiring to assist, a foreign state or organization in committing an offense listed under section 175.⁷ Pursuant to section 175(c), the use of biological agents, toxins, or delivery systems for “prophylactic, protective, bona fide research, or other peaceful purposes” is exempted from the requirements generally imposed by section 175.

Section 175 provides that the federal government enjoys extraterritorial jurisdiction to enforce the section’s provisions in relation to an offense committed by

³ See also 42 C.F.R. §§ 72.1-72.7 (regulating the transportation of biological products, biological materials, and etiologic agents, and subjecting violators to fines up to \$500,000 and imprisonment for up to five years.)

⁴ 18 U.S.C. § 178(2).

⁵ Section 178(4) defines “vector” as a living organism, or molecule, including a recombinant or synthesized molecule, capable of carrying a biological agent or toxin to a host.

⁶ 18 U.S.C. § 175(a).

⁷ *Id.*

or against a U.S. national.⁸ Persons found to have violated section 175(a) are subject to a fine and/or imprisonment for any term of years or life.⁹

Possession Offenses. Section 175(b), as amended by the USA PATRIOT Act, imposes a broader prohibition on the use and development of biological agents and related materials than section 175(a). Specifically, section 175(b) prohibits persons from knowingly possessing “any biological agent, toxin, or delivery system of a type or in a quantity that, under the circumstances, is *not reasonably justified* by a prophylactic, protective, bona fide research, or other peaceful purpose.”¹⁰ Violators of this provision are subject to a fine and/or imprisonment for up to 10 years. For purposes of section 175(b), the terms “biological agent” and “toxin” *do not* “encompass any biological agent or toxin that is in its naturally occurring environment, if the biological agent or toxin has not been cultivated, collected, or otherwise extracted from its natural source.”

An additional possession offense for biological agents provided under section 175b, which prohibits restricted classes of persons from possessing, shipping, or transporting certain, listed biological agents.¹¹ Persons found to have violated this section are subject to a fine and/or imprisonment for up to 10 years.¹²

B. Chemical Weapons: 18 U.S.C. §§ 229 et seq. 18 U.S.C. sections 229-229F restricts the use and development of chemical weapons. Section 229F provides three, integrated definitions of “chemical weapon”: (1) “A toxic chemical and its precursors,” unless it is intended for a purpose otherwise permitted under section 229; (2) “A munition or device, specifically designed to cause death or other harm” through the release of “toxic properties of those toxic chemicals” defined in definition (1); and (3) “Any equipment specifically designed for use directly in connection with the employment of munitions or devices” specified in definition (2).¹³

Pursuant to section 229(a), it is unlawful for a person to knowingly “develop, produce, otherwise acquire, transfer directly or indirectly, receive, stockpile, retain, own, possess, or use, or threaten to use any chemical weapon.” Additionally, it is unlawful for any person to assist or induce any person to commit violation of section

⁸ 18 U.S.C. § 175(a).

⁹ *Id.*

¹⁰ 18 U.S.C. § 175(b) (emphasis added).

¹¹ 18 U.S.C. § 175b(a)(1). For purposes of section 175b, the term “restricted person” includes, *inter alia*, an individual who (1) is under indictment for or has been convicted of a crime punishable by a term exceeding a year, (2) is a fugitive, (3) is an unlawful user of a controlled substance, (4) is an alien unlawfully in the United States, (5) has been committed to any mental institution, or (6) has been dishonorably discharged from the armed services. 18 U.S.C. § 175b(d)(2)

¹² 18 U.S.C. § 175b(a)(2).

¹³ 18 U.S.C. § 229F(1).

229, or to conspire or attempt to do the same.¹⁴ A person who acts in violation of section 229 is subject to a fine and/or imprisonment for any term of years, except in cases where the violation results in the death of another person, in which case the offender is subject to life imprisonment or death.¹⁵ Criminal liability extends extraterritorially when an offense under section 229 is committed by or against a U.S. national or is committed against property owned, leased, or used by the United States.¹⁶ A person who commits an offense under section 229 may also be subject to a civil penalty not exceeding \$100,000 for each violation.¹⁷

Governmental agencies and departments and those authorized by law, such as a member of the armed services authorized to receive chemical weapons, are exempted from the above-mentioned provisions, as are those who, in an emergency situation, attempt to destroy or seize a chemical weapon.¹⁸

C. Miscellaneous Statutory Provisions. While sections 175-178 and sections 229-229F deal broadly with the use and delivery of biological and chemical weapons and agents, a number of other statutory provisions covers these materials in the context of restrictions on specific types of actions. This subsection will detail certain provisions of particular relevance to domestic, non-aviation, security.

Mailing Injurious Articles, 18 U.S.C. § 1716. Section 1716 defines categories of nonmailable items and outlines conditions for prosecuting those who send prohibited items through the mails. Notable “nonmailable” items subject to restriction under section 1716 include, *inter alia*, (1) “all kinds of poisons,” (2) “all articles and compositions containing poison,” (3) “chemical devices . . . which may ignite or explode,” (4) “all disease germs,” and (5) “all other natural or artificial articles, compositions, or material which may kill or injure another, or injure the mails or other property.”¹⁹ Except in specified circumstances, the Postal Service may waive these prohibitions for mailings that comply with relevant rules and regulations.²⁰

In general, a person who knowingly mails a prohibited item is subject to a fine and/or imprisonment for up to a year.²¹ However, a person who knowingly mails a prohibited item with an intent to kill or injure a person, or with an intent to injure the mails or other property, is subject to a fine and/or imprisonment for up to twenty years.²² Further, if death results from the knowing mailing of a prohibited substance,

¹⁴ 18 U.S.C. § 229(a)(2).

¹⁵ 18 U.S.C. § 229A(a).

¹⁶ 18 U.S.C. § 229(c).

¹⁷ 18 U.S.C. § 229A.

¹⁸ *See* 18 U.S.C. § 229(b).

¹⁹ 18 U.S.C. § 1716(a).

²⁰ *See* 18 U.S.C. § 1716(b)-(h).

²¹ 18 U.S.C. § 1716(j)(1).

²² 18 U.S.C. § 1716(j)(2).

the person or persons responsible for the knowing mailing are also subject to the death penalty or life imprisonment.²³

Weapons of Mass Destruction and Terrorism, 18 U.S.C. § 2332a. An offense under section 2332a is committed when a person, “without lawful authority, uses, threatens, or attempts or conspires to use, a weapon of mass destruction” other than a chemical weapon as that term is defined by 18 U.S.C. § 229F.²⁴ Section 2332a defines the term “weapon of mass destruction” as including any weapon:

- (1) designed or intended to cause death or serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors;
- (2) involving a biological agent, toxin, or vector as those terms are defined under 18 U.S.C. § 178;
- (3) designed to release radiation or radioactivity at a level dangerous to human life; or
- (4) that is a “destructive device” under 18 U.S.C. § 921.²⁵

A violation of section 2332a is generally punishable by imprisonment for any term of years or for life when it is directed against (1) a United States national abroad; (2) any person in the United States, when the action affects or would have affected interstate commerce; or (3) the domestic or foreign property of the United States government.²⁶ However, if death results from the offense, the offender may also be subject to the death penalty.²⁷

Criminal liability under section 2332a attaches extraterritorially to any United States national outside the territorial jurisdiction of the United States who uses, threatens to use, or attempts or conspires to use, a weapon of mass destruction other than a chemical weapon.²⁸

Acts of Terrorism Transcending National Boundaries. 18 U.S.C. section 2332b(a) prohibits persons from attempting, threatening, conspiring to commit, or engaging in actions that may cause serious bodily injury or property damage, when such conduct transcends national borders and an additional circumstance listed under section 2332b(b) is satisfied. These additional circumstances include, *inter alia*:

²³ 18 U.S.C. § 1716(j)(3).

²⁴ It is unclear whether a “hoax” constitutes a “threat” under this section. *See, e.g.,* Barry Kellman, *Biological Terrorism: Legal Measures for Preventing a Catastrophe*, 24 HARV. J.L. & PUB. POL’Y 417, 467 (2001).

²⁵ 18 U.S.C. § 2332a(c). Section 921 defines the term “destructive device” as including, *inter alia*, any “explosive, incendiary, or poison gas” bomb, grenade, rocket, missile, mine, or other similar device. 18 U.S.C. § 921(a)(4)(A).

²⁶ 18 U.S.C. § 2332a(a).

²⁷ *Id.*

²⁸ 18 U.S.C. § 2332a(b).

- (1) the mail or any facility of interstate or foreign commerce being used in furtherance of the offense;
- (2) the offense affecting interstate or foreign commerce had the offense been consummated;
- (3) the victim or intended victim being the United States Government, a member of the armed forces, or an official, employee, officer, agent, department, or agency of the United States; or
- (4) the property that is affected or would have been affected by the offense being, in whole or in part, owned, possessed, or leased to the United States.²⁹

A person found to have violated section 2332b is subject to imprisonment for a term that is dependant on the nature of the offense committed,³⁰ with violations resulting in death being punishable by death or imprisonment for life or for any term of years.³¹ Jurisdiction over offenses covered by section 2332b applies extraterritorially.³² Further, jurisdiction exists over all co-conspirators and accessories after the fact for any offense under section 2332b, so long as the circumstances described in section 2332b(b) apply to at least one offender.³³

Terrorist Bombings of Places of Public Use and Government Facilities. Section 2332f prohibits the unlawful delivery, discharge, or detonation of “an explosive or other lethal device in, into, or against a place of public use, a state or government facility, a public transportation system, or an infrastructure facility” with the intent to cause death, serious bodily injury, or extensive property damage.³⁴ Lethal devices covered under section 2332f include those devices designed or having “the capability to cause death, serious bodily injury, or substantial property damage through the release, dissemination, or impact of toxic chemicals, biological agents, or toxins ... or radioactive material.” Persons who attempt or conspire to commit offenses under section 2332f are also subject to criminal penalties under the statute.³⁵ Persons found to have violated section 2332f are subject to the penalties provided under section 2332a(a), including imprisonment and death.³⁶

²⁹ 18 U.S.C. § 2332b(b).

³⁰ For example, a person who maimed another in violation of section 2332b is subject to imprisonment for not more than 35 years, while a person who threatened to commit a violation of section 2332b is subject to imprisonment for not more than 10 years. 18 U.S.C. § 2332b(c).

³¹ *Id.*

³² 18 U.S.C. § 2332b(e).

³³ 18 U.S.C. § 2332b(b)(2).

³⁴ 18 U.S.C. § 2332f(a).

³⁵ 18 U.S.C. § 2332f(a)(2).

³⁶ *See supra* p. 5.

For either territorial or extraterritorial jurisdiction to be triggered under section 2332f, certain additional criteria must be satisfied. If the offense takes place in the United States, there is jurisdiction if:

- (1) the offense is committed against another state or one of its facilities, including an embassy or consular premise;
- (2) the offense is committed in an attempt to compel the United States or another state to do or abstain from doing any act;
- (3) the offense is committed aboard a foreign vessel or aircraft;
- (4) a perpetrator of the offense is found outside the United States;
- (5) a perpetrator of the offense is a national of another state or a stateless person; or
- (6) a victim of the offense is a national of another state or a stateless person.³⁷

If an offense under section 2332f takes place outside the United States, the United States jurisdiction attaches when:

- (1) a perpetrator is a national of the United States or is a stateless person who habitually resides in the United States;
- (2) a victim of the offense is a national of the United States;
- (3) a perpetrator of the offense is found in the United States;
- (4) the offense is committed in an attempt to compel the United States to do or abstain from committing an act;
- (5) the offense is committed against a facility of the United States, including an embassy or consular premise;
- (6) the offense is committed aboard either a vessel flying the flag of the United States or an aircraft registered under the laws of the United States; or
- (7) the offense is committed aboard an aircraft operated by the United States.³⁸

Military activities are excluded from jurisdiction under section 2332f, as are offenses committed by persons who are U.S. citizens against victims that are also U.S. citizens.³⁹ Jurisdiction is also excluded under section 2332f when its basis is predicated solely on the nationality of a victim or offender, and the offense has no substantial effect on foreign or interstate commerce.⁴⁰

Terrorist Attacks and Other Acts of Violence against Mass Transportation Systems. 18 U.S.C. section 1993 prohibits certain listed acts that could wreck, derail, or disable mass transportation systems. Specifically, the statute prohibits a person from willfully placing “any biological agent or toxin for use as a weapon, destructive substance, or destructive device” in or near a mass transportation

³⁷ 18 U.S.C. § 2332f(b)(1).

³⁸ 18 U.S.C. § 2332f(b)(2).

³⁹ See 18 U.S.C. § 2332f(d).

⁴⁰ 18 U.S.C. § 2332f(d)(3).

system when the person knows or has reason to know that such activity would likely wreck, derail, or disable a mass transportation vehicle.⁴¹ Persons who attempt or conspire to commit an act prohibited under section 1993, or knowingly convey or cause to be conveyed false information concerning an attempt or alleged attempt to commit an offense listed under section 1993, are also subject to liability under the statute.⁴²

In general, a person who violates the provisions of section 1993 is subject to a fine and/or imprisonment for up to 20 years, if (1) the offense concerns an act or threat to act against a mass transportation provider engaged in or affecting interstate commerce or (2) in the course of committing the act, the offender travels, communicates, or transports relevant materials across a state line.⁴³ However, if an offense under section 1993 concerns a mass transportation vehicle or ferry that was carrying a passenger *or* the offense resulted in the death of any person, the offender is subject to a fine and/or imprisonment for a term of years or for life.⁴⁴

Instruction of the Use or Application of Explosives or Incendiary Devices. 18 U.S.C. section 231(a)(1) forbids persons from teaching or demonstrating the use, application, or making of any “explosive or incendiary device, or technique capable of causing injury or death to persons, knowing, or having reason to know, or intending that the same will be unlawfully employed for use in, or in furtherance of, a civil disorder.” Violation of this section is punishable by fine or imprisonment for up to five years.⁴⁵

Harboring or Concealing Terrorists. 18 U.S.C. section 2339 makes it illegal for a person to harbor or conceal “any person who he knows, or has reasonable grounds to believe, has committed, or is about to commit, an offense under . . . section 175 (relating to biological weapons), section 229 (relating to chemical weapons) . . . section 2332a (relating to weapons of mass destruction), [or] section 2332b (relating to acts of terrorism transcending national boundaries). . . .”⁴⁶ Violation of this provision is punishable by fine and/or imprisonment for up to 10 years.⁴⁷

Providing Material Support to Terrorists. 18 U.S.C. § 2339A makes it illegal for persons to knowingly or intentionally provide material support or resources for listed terrorist activities, including, *inter alia*, violations of statutes previously discussed in this report.⁴⁸ Section 2339A further makes it illegal for a person to knowingly or intentionally conceal or disguise the nature, location, source, or ownership of material support or resources that are to be used in preparation for or in

⁴¹ 18 U.S.C. § 1993(a)(3).

⁴² 18 U.S.C. § 1993(a)(7), (a)(8).

⁴³ 18 U.S.C. § 1993(a).

⁴⁴ 18 U.S.C. § 1993(b).

⁴⁵ 18 U.S.C. § 231(a).

⁴⁶ 18 U.S.C. § 2339(a).

⁴⁷ *Id.*

⁴⁸ 18 U.S.C. § 2339A(a).

the carrying out of listed terrorist activities.⁴⁹ A person violating section 2339A is generally subject to a fine and imprisonment for up to 15 years.⁵⁰ If the violation results in the death of any person, however, the person violating section 2339A is subject to imprisonment for any term of years or life.⁵¹

D. Biological Agents and Federal Regulations.

Scope. In 1996, the Centers for Disease Control tightened existing regulations pertaining to the “acquisition, transfer, packaging, labeling, or handling of biological agents,”⁵² confining the possession of pathogens to highly regulated and controlled research and commercial facilities. Further, biological products introduced into the stream of commerce must meet Food and Drug Administration licensing requirements,⁵³ as do producers of those products.⁵⁴ Manufacturers, distributors, and other market participants face record keeping, reporting, inspection, and testing requirements.⁵⁵ The transfer and shipping of biological agents is also highly scrutinized.⁵⁶ Federal regulations also attach to the importation of pathogens.⁵⁷

Penalties. Violations of these regulations trigger varied penalties. For instance, individuals who violate regulations pertaining to the interstate shipment of certain biological agents face fines of up to \$250,000 and/or imprisonment of up to one year.⁵⁸ Organizations doing the same face fines of up to \$500,000 per event.⁵⁹ Other penalties involve the revocation or suspension of an organizations or individual’s license.⁶⁰

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² Kellman, 24 HARV. J.L. & PUB. POL’Y at 450.

⁵³ See 21 C.F.R. §§ 601.4, 601.20 (addressing biological licensing terms and conditions).

⁵⁴ See 42 U.S.C. § 262(a).

⁵⁵ See, e.g., 9 C.F.R. § 116 (outlining an extensive record keeping and reporting requirement for producers of biological products); 21 C.F.R. § 601.20 (outlining a testing procedure to ensure the products are safe, pure, and potent); 21 C.F.R. § 600.81 (outlining record keeping and reporting requirements concerning product distribution); 21 C.F.R. §§ 600.20-22 (inspection protocols).

⁵⁶ See, e.g., 42 C.F.R. § 72.6.

⁵⁷ See, e.g., 42 C.F.R. §§ 71.54(a), 72.3, 72.6(g).

⁵⁸ See 42 C.F.R. § 72.7.

⁵⁹ *Id.*

⁶⁰ See, e.g., 21 C.F.R. §§ 601.5, 601.6.