Chemical Warfare Agent Research Regulation: The Conflict Between Federal and Local Control

RuthAnn Sherman
CHEMICAL WARFARE AGENT RESEARCH REGULATION: THE CONFLICT BETWEEN FEDERAL AND LOCAL CONTROL

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I do not think the United States would come to an end if we lost our power to declare an Act of Congress void. I do think the Union would be imperiled if we could not make that declaration as to the laws of the several states. For one in my place sees how often a local policy prevails with those who are not trained to national views and how often action is taken that embodies what the Commerce Clause was meant to end.

Justice Oliver Wendell Holmes¹

Denial of the right to experiment may be fraught with serious consequences to the Nation. It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.

Justice Louis Brandeis²

I. INTRODUCTION

"In no future war will the military be able to ignore poison gas. It is a higher form of killing."³ The prophecy of Fritz Haber, chemist, Nobel Prize winner, and pioneer of gas warfare, came true. Poison gas and other chemical warfare agents have not been ignored by the

* Executive Editor, 1986–87, Boston College Environmental Affairs Law Review.
2 New State Ice Co. v. Liebmann, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting) quoted in Pierce, supra note 1, at 609.

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military. Toxic chemical and biological weapons have been developed for warfare in the twentieth century and may become more common in the future. In the modern era, chemical warfare agents are a component of military planning and spending, whether efforts are focused on the development of new chemical weapons or on the detoxification of existing stockpiles of obsolete chemical weapons.

In the 1986 Department of Defense Authorization Act, the Armed Services Committee declared its support and approval for the production of new binary chemical weapons. These weapons are safer than earlier chemical weapons because the agents are separated in two compartments and only combine enroute to a target. The Act stated that "[i]t is the sense of Congress that existing unitary chemical munitions currently stored in the United States and in European member nations of NATO should be replaced by modern, safer binary chemical munitions." Thus, the path is clear toward renewed production of chemical weapons for the first time since 1969.

Despite their importance and their hazards, it is unclear who, under current federal law, will regulate chemical warfare agent research. While the Department of the Army is soliciting private contractors to conduct research on chemical warfare agents, the legal question of who controls these activities is largely unanswered. At least one municipality has given the Army its response. In Arthur D. Little, Inc. v. Commissioner of Health and Hospitals of Cambridge, the Massachusetts Supreme Judicial Court upheld the au-

4 See R. Clarke, The Silent Weapons (1968); S. Hersh, Chemical and Biological Warfare: America's Hidden Arsenal (1968); S. Seagrace, Yellow Rain: A Journey Through the Terror of Chemical Warfare (1981); S. Murphy, A. Hay, & S. Rose, No Fire, No Thunder: The Threat of Chemical and Biological Weapons (1984).


9 Throughout the early 1980's, Congressional appropriations have steadily increased to support the development of a new generation of chemical warfare agents—the binary weapons. N.Y. Times, supra note 5, at F4; S. Murphy, A. Hay, & S. Rose, supra note 4, at 1. The Department of Defense Authorization Act of 1986 approved the Department of Defense request of $1,236 million for chemical modernization. See supra note 6, at 480.

Binary chemical weapons are equivalent to the current forms of chemical weapons in terms of military effectiveness. They are, however, much safer to handle, transport, dispose of, and store. They contain two relatively safe chemical components in separate compartments which combine enroute to a target to form the same lethal agents found in existing chemical weapons. Parks, Classification of Chemical-Biological Warfare, 13 U. Tol. L. Rev. 1165, 1175 (1982).

authority of the City of Cambridge to halt chemical warfare agent research conducted by Arthur D. Little (ADL) and to prohibit all future chemical warfare agent-related business within the City's borders. This contest pits the municipality's police powers over health and safety issues against the federal government's preemptive powers over national defense—a conflict at the core of the federal system.

This Comment addresses two issues raised by the ADL decision: (1) the narrow question of who regulates chemical warfare agent research activities; and (2) the broader question of what roles local and federal government should play in the regulatory system. As general background to the area, the Comment will first discuss chemical warfare agents' physical properties, and the potential environmental impact of these agents. The Comment will then explore the judicial preference for according local authorities flexibility to regulate the use of various toxic substances within their borders. This preference is based on a strict interpretation of the preemption doctrine. In order to determine how the courts will treat local regulation of chemical warfare agents, this Comment will examine the evolution of the preemption doctrine, as well as recent United States Supreme Court decisions that apply the preemption standards. In addition, the preemption issue of the ADL case will be examined in detail. The ADL litigation is an example of extreme judicial deference given to local chemical warfare agent research regulation. The discussion of the decision will reveal how local regulation of these agents may be preempted, but why it is not. As the decision in ADL demonstrates, under the current state of preemption analysis, a locality could impose an unlimited ban on chemical warfare agents if it chose to do so. This Comment concludes that such a possibility should not be realized. Rather, a compromise should be attempted that will accommodate the need for local control and the probability that some chemical warfare agent experimentation and detoxification programs will be located near populated areas.

II. THE DANGERS OF CHEMICAL WARFARE AGENTS

Chemical warfare agents are highly toxic substances that are designed to be quickly dispersed in order to disable and/or kill great numbers of people. At present, these agents are largely unregu-

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11 Cambridge Scientific Advisory Committee (SAC) Report to the City Manager (September, 1984) at 2 (available from the Cambridge Commissioner of Health & Hospitals) [hereinafter SAC Report].
lated by local, state, or federal statutes. The danger chemical warfare agents pose necessitates a regulatory scheme satisfying both local and national concerns.

A. Toxicological and Physical Properties

There are several different types of chemical warfare agents; their effects vary depending on the particular agent's potency and the dose received. Among the different chemical warfare agents in existing weapons stockpiles and those being tested for use in new weapons systems are nerve agents and blister agents such as those which the City of Cambridge banned from its borders. The military categorizes these agents as "casualty agents." They are lethal in relatively small doses, and can enter the body by inhalation or absorption through the skin.

The toxicity of chemical warfare agents is measured by dose level. For example, the City of Cambridge considered the following dose levels in its determination of the dangers posed by chemical warfare agent research within the city limits:

- $LD_{50}$ Adult (defined as the dose level at which 50% of exposed adults will die without immediate emergency medical care);
- $LD_{0.1}$ Adult (defined as the dose level at which 1% of exposed adults will die without immediate emergency medical care);
- $LD_{0.1}$ Child (defined as the dose level at which 1% of exposed children will die without immediate emergency medical care).

Examination of the approximate $LD_{50}$ dose levels indicates the highly toxic nature of these chemical warfare agents. For example, VX, the most toxic agent by inhalation, has an estimated $LD_{50}$ dose level wherein about 0.3mg (about 1/100 of a drop) of VX is sufficient...
to kill 50% of the adults who inhale it directly.\textsuperscript{19} The LD\textsubscript{50} adult lethal dose is about 1/7th this amount.\textsuperscript{20} A single drop of VX that directly touches an adult's skin will be lethal if left untreated for several minutes.\textsuperscript{21} These chemical materials can thus be quite harmful even if one is exposed to small amounts for a short period of time.

Blister agents and nerve agents affect the human biologic system in different ways. For example, nerve agents (such as Soman-GD, Sarin-GB, and VX) work by inhibiting the enzyme acetylcholinesterase (ACHE) which controls the body's muscle movements.\textsuperscript{22} At synapses throughout the nervous system, the chemical acetylcholine activates the muscle or nerve cells and rapidly accumulates. Acetylcholine is normally decomposed by ACHE. Since nerve agents block production of ACHE, they prevent the body from stopping the activation and movement of its muscles.\textsuperscript{23} The consequent buildup of acetylcholine at synapses in the nervous system produces the following symptoms: intense sweating, filling of the bronchial passages with mucus, bronchial constriction, dimming and loss of vision, uncontrollable vomiting, loss of bowel control, convulsions, paralysis, and, if the dose level was lethal, death by asphyxia and respiratory failure.\textsuperscript{24} The inhibiting effect of the nerve agents actually causes the body to "strangle in its own vital organs."\textsuperscript{25} While they are also highly toxic, blister agents such as mustard-HD and lewisite cause irritations and burns.\textsuperscript{26} Moreover, greater quantities of blister agents are usually necessary to produce the same effect as a smaller amount of nerve agents.\textsuperscript{27}

\begin{itemize}
\item \textsuperscript{19} SAC Report, \textit{supra} note 11, at 6.
\item \textsuperscript{20} Id.
\item \textsuperscript{21} Id.
\item \textsuperscript{22} S. Hersh, \textit{supra} note 4, at 45; M. Meselson & J. P. Robinson, \textit{supra} note 15, at 39.
\item \textsuperscript{23} Id.
\item \textsuperscript{24} Id.
\item \textsuperscript{25} S. Hersh, \textit{supra} note 4, at 45.
\item \textsuperscript{26} The Army training manual, \textit{Military Chemistry and Chemical Agents} describes the effects of one type of blister agent:
Mustard acts first as a cell irritant and finally as a cell poison on all tissue surfaces contacted. The first symptoms of HD poisoning usually appear in from four to six hours; the higher the concentration, the shorter the interval between the exposure to the agent and the first symptoms. The local action results in conjunctivitis or inflammation of the eyes; erythema (redness of the skin) which may be followed by blistering or ulceration; and inflammation of the nose, throat, trachea, bronchi and lung tissue.

\ldots Injuries produced by HD heal much more slowly and are more liable to infection than burns of similar intensity produced by physical means or by other chemicals.
\item \textsuperscript{27} Id. at 47-48.
\item \textsuperscript{28} Id.
\end{itemize}
B. Environmental and Health Effects of Chemical Warfare Agents

Due to their extreme toxicity, the production and storage of chemical warfare agents present environmental and health hazards of an immediate and potentially catastrophic nature to local populations.\(^{28}\) Despite stringent Army safety requirements,\(^{29}\) accidents involving the release of chemical warfare agents have occurred in the past\(^{30}\) and may occur in the future as the stockpiles of obsolete chemical weapons continue to deteriorate causing leaks of the chemical agents.\(^{31}\) As the military pursues its goals of updating its chemical warfare arsenal and disposing of the outdated arsenal, the potential hazards increase.

These stockpiles of chemical weapons currently are stored at several locations around the nation: Tooele Army Depot/Dugway Proving Ground, Tooele, Utah; Pine Bluff Arsenal, Pine Bluff, Arkansas; Umatilla Army Depot, Hermiston, Oregon; Anniston Army Depot, Anniston, Alabama; Newport Army Ammunition Plant, Newport, Indiana; Pueblo Army Depot, Pueblo, Colorado; Johnston Island, Pacific Ocean; Edgewood Arsenal, Edgewood, Maryland; Blue Grass Army Depot, Lexington, Kentucky; and Rocky Mountain Arsenal, Denver, Colorado.\(^{32}\) The location of these munitions may present

\(^{28}\) See Wolfe, Chemical and Biological Warfare: Medical Effects and Consequences, 28 McGill L.J. 732, 748 (1983) wherein the author compares the medical effects of a nuclear bomb explosion on the test population to the effects of a nerve gas release on the same test group.

\(^{29}\) See infra notes 196–213 and accompanying text.

\(^{30}\) S. Seagrave, supra note 4, at 258–76.


\(^{32}\) According to one source, the total estimate of chemical warfare agents stored in bulk containers or in munitions is roughly 40,000 tons. The inventory is broken down at the following locations: 1) Tooele Army Depot/Dugway Proving Ground, Tooele, Utah; 39–43% of total stocks; nerve and mustard gas, including almost every type of filled munition (H, HD, HT, GB, or VX) currently operational; eight 1/2-mile rows of one ton bulk storage containers reported; 2) Pine Bluff Arsenal, Pine Bluff, Arkansas; 12–13% of total stocks; nerve and mustard gas, some or all of the latter in one ton bulk storage containers; 3) Umatilla Army Depot, Hermiston, Oregon; 12–13% of total stocks; nerve and probably mustard gas, some in bulk storage containers; 4) Anniston Army Depot, Anniston, Alabama; 9–10% of total stocks; nerve and mustard gas, some or all of the latter in one ton bulk storage containers; 5) Newport Army Ammunition Plant, Newport, Indiana; 3–6% of total stocks; VX only; 6) Pueblo Army Depot, Pueblo, Colorado; 3–6% of total stocks; mustard gas only; 7) Johnston Island, Pacific Ocean; 3–6% of total stocks; VX, GB, and mustard gas; 8) Edgewood Arsenal, Edgewood, Maryland; 3–5% of total stocks; mustard gas only, some or all in bulk storage containers; 9) Blue Grass Army Depot, Lexington, Kentucky; 1% of total stocks; nerve and perhaps mustard gas; 10) Rocky Mountain Arsenal, Denver, Colorado; less than 1% of total stocks; GB and VX agents. J. P. Perry Robinson, Chemical Warfare Capabilities of the Warsaw and North Atlantic Treaty Organizations: An Overview from Open Sources in STOCKHOLM INTERNATIONAL
dangers to adjacent populations.\textsuperscript{33} For example, the Rocky Mountain Arsenal, which stores 4.2 million pounds of Saren-GB nerve gas, as well as bombs filled with the nerve agent VX, is located on the edge of Denver's International Airport, only ten miles from the City itself.\textsuperscript{34} The proximity of the Rocky Mountain Arsenal to the airport raises the possibility of an airplane crash that could affect the safety of the chemical storage depot.\textsuperscript{35}

In 1968, an incident occurred at the Dugway Proving Ground near Salt Lake City, Utah, where 6,300 sheep died when a cloud of VX nerve agent was accidently released.\textsuperscript{36} During one of the Army's ongoing nerve gas tests and demonstrations, an aircraft's tanks containing the gas failed to close properly. As the plane ascended, the nerve agent dispersed, killing the sheep.\textsuperscript{37} Dr. D.A. Osguthorpe, head of the state's investigation into the deaths, said, "We're very lucky no people were killed."\textsuperscript{38} Another similar incident was reported in 1979 at the Army's Lexington Blue Grass Depot where 70,000 M-55 nerve gas rockets are stored.\textsuperscript{39} Forty-five residents of nearby Madison County, Kentucky were hospitalized after an accident at the facility released noxious fumes over the area.\textsuperscript{40}

The detoxification of these outmoded, non-binary chemical munitions is an important concern.\textsuperscript{41} In fact, the Army has identified certain "defective" nerve and blister gas weapons which have leaked in the past, causing "mild" symptoms for some people, but no deaths, or "known lasting effects."\textsuperscript{42} A paper on the subject, prepared by a Pentagon transition team in 1981, stated:

\begin{quote}
\end{quote}

\textsuperscript{33} S. SEAGRAVE, supra note 4, at 4. An incident in August, 1972 on Johnston Island indicates that the poison gas stockpiles may be less than secure. At that time, the United States Air Force was forced to evacuate quickly all personnel because the island's chemical warfare depot was in the path of a hurricane. Such forms of natural disasters like hurricanes and earthquakes could cause an accidental release of the deadly chemical warfare gases. \textit{Id.}

\textsuperscript{34} \textit{Id.} at 2.

\textsuperscript{35} \textit{Id.} at 4. In 1971, the residents of the Rocky Mountain arsenal area and nearby areas brought suit to challenge the storage of chemical warfare agents at that site. The Court dismissed the suit on the grounds that it was an unconsented suit against the United States. Furthermore, the Court held that the federal government exercises unfettered control over the operation of federal military establishments. McQueary v. Laird, 449 F.2d 608 (10th Cir. 1971).

\textsuperscript{36} Osguthorpe v. Anschutz Land & Livestock Co., 456 F.2d 996, 1002 (10th Cir. 1972).

\textsuperscript{37} \textit{Id.}

\textsuperscript{38} S. SEAGRAVE, supra note 4, at 259.

\textsuperscript{39} Nerve Gas and Blue Grass, Newsweek, August 19, 1985, at 19.

\textsuperscript{40} \textit{Id.}

\textsuperscript{41} See The Washington Post, supra note 31, at A5, col. 1.

\textsuperscript{42} \textit{Id.}
In addition, the paper estimated that the "total stockpile demilitarization" cost would be $3.7 billion. Congress demonstrated its concern about the deterioration of current chemical warfare stocks in the Department of Defense Authorization Act of 1986. That law makes the final assembly of new binary chemical munitions dependent on the implementation of a plan to destroy the stockpile of lethal, obsolete chemical weapons by September 30, 1994.

Military efforts to detoxify obsolete chemical weapons or to develop new weapons will involve research, storage, transportation, and disposal of extremely toxic chemical warfare agents. Whether this work is done on army bases or by private contractors, the health and safety of adjacent communities could be affected. Recognizing these potential dangers, Congress imposed several conditions on the continued development of new binary chemical weapons. For example, the two components of these munitions must be stored in separate states and be transported separately in order to qualify for federal funding.

The budgeting of Department of Defense funds for new chemical warfare agent research, development, and detoxification indicates national interest in this area. The potential environmental and health hazards of chemical warfare agents mandate a cooperative regulatory scheme between the competing local and national concerns. A cooperative effort is particularly necessary because the lack

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43 Id.
44 Id. Note—this is a 1981 estimate and therefore the figure is probably higher today.
45 See supra note 6, at § 1411(c)(2)(D).
46 Id.
47 In its preliminary environmental impact statement, the Army stated that on-site incineration is its "preferred alternative" for destroying obsolete chemical agents stored throughout the United States. [Current Developments] 17 ENV'T REP. (BNA) No. 10, at 361 (July 4, 1986). The incineration in containers designed to prevent the escape of gases is to begin in June 1989. Id. In preparing its preliminary impact statement, the Army considered four alternative methods of disposal:

1) On-site disposal at existing storage installations;
2) Transportation to regional disposal centers at two storage sites in Alabama and Utah;
3) Transportation to one national disposal center in Utah; and
4) No action/continued storage.

Id. at 362. The Army's concern over possible accidents or terrorist attacks during transportation was the primary reason for the decision to burn on site. Id.
48 See supra note 6, at § 1411(c)(4) and (c)(5).
49 See supra note 6.
of clear federal control in the chemical warfare agent field raises the question of which governmental bodies possess the authority to regulate these agents.\textsuperscript{50}

III. THE PREEMPTION DOCTRINE AND REGULATORY AUTHORITY

Whether a locality can regulate chemical warfare agent research within its borders depends on the extent of congressional action in that field. When local and national interests collide, the question of which claim will predominate is resolved by examining federal regulation in that area. If a locality has advanced its interests at the expense of national interests, then either Congress or a federal agency with the delegated authority may preempt the local regulation.\textsuperscript{51} In order to understand the current regulatory scheme that affects chemical warfare agents, it is necessary to examine the preemption doctrine generally,\textsuperscript{52} to analyze the judicial solicitude for state and local interests in recent preemption decisions,\textsuperscript{53} and then to see the application of such considerations in the ADL litigation.\textsuperscript{54}

\textsuperscript{50} There have been some international efforts to control chemical weapons. See Lawler, \textit{Progress Towards International Control of Chemical and Biological Weapons}, 13 U. Tol. L. REV. 1220 (1982). For example, their use in war is prohibited by the Geneva Protocol of 1925 to which all major nations have agreed. \textit{Id.} Moreover, since 1976 the United States and the Union of Soviet Socialist Republics have had several negotiation sessions in Geneva aimed at chemical disarmament, including a ban on the development, production, and stockpiling of chemical weapons. \textit{Id.} at 1236. The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (1972) already embodies these prohibitions against biological agents but not against chemical weapons. \textit{Id.} at 1231. In addition, the United Nations General Assembly continues to recommend two resolutions on its agenda that call for an agreement to prohibit chemical weapons, and, pending that agreement, a moratorium on the further development, production, or stockpiling of chemical agents for weapons. \textit{Id.} at 1235. The goal of chemical weapon disarmament remains an urgent one for the United Nations as reflected in the report by the ad hoc working group on Chemical Weapons to the Committee on Disarmament. \textit{Id.} at 1242. The report stated that the objective of an international convention on chemical weapons was as follows:

Each State Party to this Convention should undertake . . . never under any circumstances to develop, produce, otherwise acquire, stockpile, retain or transfer chemical weapons and to destroy or otherwise dispose of existing stocks of chemical weapons and means of production of such weapons.

\textit{Id.} at 1242, n. 64. As of this writing, there is no international accord prohibiting the development, production, and stockpiling of chemical weapons.

\textsuperscript{51} For good discussions of administrative preemption, see Foote, \textit{Administrative Preemption: An Experiment in Regulatory Federalism}, 70 VA. L. REV. 1429 (1984); Pierce, \textit{supra} note 1.

\textsuperscript{52} For a general discussion and overview of the preemption doctrine, see J. NOWAK, R. ROTUNDA, & J. YOUNG, \textit{Constitutional Law} 292–96 (2d ed. 1983).

\textsuperscript{53} See \textit{infra} notes 81–97 and accompanying text.

\textsuperscript{54} See \textit{infra} notes 98–124 and accompanying text.
A. The Evolution of Preemption Analysis

In its determination of which law to apply when there is a conflict between federal and local regulation, the United States Supreme Court is guided by the Constitutional provision that federal law is “the supreme Law of the Land.”55 Throughout the nation’s history, the Court has repeatedly been asked to determine whether federal and local laws in an area can coexist or whether the supremacy clause requires that local laws give way to national regulation.56

In its most recent decisions, the Court has refined its preemption analysis, the roots of which lie within the oft-cited language of Rice v. Santa Fe Elevator Corp.:57

[t]he question in each case is what the purpose of Congress was. . . . Such a purpose may be evidenced in several ways. The scheme of federal regulation may be so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it. Or the Act of Congress may touch a field in which the federal interest is so dominant that the federal system will be assumed to preclude enforcement of state laws on the same subject. [Or] the object sought to be obtained by the federal law and the character of obligation imposed by it may reveal the same purpose. Or the state policy may produce a result inconsistent with the objective of the federal statute.58

In its efforts to answer the “perplexing question whether Congress has precluded state action”59 the Court has woven the tangled strands of preemption analysis into three more or less distinct categories:60 explicit or implicit federal occupation of the field,61 actual

55 Article VI, § 2 of the United States Constitution provides:
This Constitution, and the Laws of the United States which shall be made in Pursuance thereof, and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, anything in the Constitution or Laws of any State to the Contrary notwithstanding.
57 331 U.S. 218 (1947).
58 Id. at 230 (citations omitted).
59 Id.
conflicts with federal law, and obstacles to accomplishment of congressional goals. Congress can directly "occupy an entire field" to the exclusion of all state regulation. It is rare, however, that Congress will pronounce its express intention to do so. In fact, congressional acts often include a "savings clause" authorizing concurrent state or local regulation. The Court will thus conclude that Congress has preempted all state authority only if it finds either an explicit intent to do so or a federal regulatory scheme so pervasive that it demonstrates an implicit congressional intent to occupy the field. Indeed, the Court has stated that absent clear congressional intent to preempt a field, "[t]he exercise of federal supremacy is not lightly to be presumed." The Court must determine congressional intent by analyzing a federal statute's general operation and the relationship between that operation and the state action at issue.

Second, federal law will supplant any state or local regulation that directly conflicts with the federal regulatory requirements. Even if Congress has not completely displaced state regulation in a particular area, state law is still preempted to the extent that the Court finds an "actual conflict" with federal law—that is "when it is impossible to comply with both state and federal law.

Finally, state or local regulatory action will be preempted when the state or local law "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." To determine whether a local regulation frustrates the policies underlying a federal regulation the Court must consider the goals of the federal enactment and the effect of the local law on the federal government's ability to achieve those goals. For example, the purpose of some federal regulation is to obtain uniform results, an

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64 J. NOWAK, R. ROTUNDA, & J. YOUNG, supra note 52, at 292.
65 Id.
66 Id.
69 J. NOWAK, R. ROTUNDA, & J. YOUNG, supra note 52, at 293.
70 Ray, 435 U.S. at 158.
impossibility if the various states can supplement federal laws with their own requirements. 73

The Court has thus formulated certain standards to analyze the competing claims of state and congressional supremacy. 74 Yet, as Justice Black cautioned in Hines, "... none of these expressions provides an infallible constitutional test or an exclusive constitutional yardstick. In the final analysis, there can be no one crystal clear distinctly marked formula." 75

Complicating the preemption analysis further is the deferential treatment accorded regulations that are an exercise of a state or locality's traditional police powers. 76 The state's police powers include authority to enact legislation to protect the health, safety, and general welfare of the state's citizens. 77 The Court has defined the police power of a state as embracing "regulations designed to promote the public convenience or the general prosperity, as well as regulations designed to promote the public health, the public morals or the public safety." 78 Moreover, the Court has stated that when the state's exercise of its police power is challenged under the supremacy clause, "... we start with the assumption that the historic police powers of the State[s] were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress." 79 The purpose of Congress, however, is often neither "clear" nor "manifest." Since the burden of discovering congressional intent falls to the courts, it is instructive to analyze the current judicial concern for state interests in order to see the movement toward greater local control over areas involving federal regulation. 80

73 See Ray, 435 U.S. at 163. Congress intended that national standards for design and construction of tankers be uniform which foreclosed the passage of different or more stringent state requirements. In the case of chemical warfare agents, federal action to control the decaying stockpile would eliminate the state-created dangers of disparate control and inspection and replace them with a uniform system.

74 J. NOWAK, R. ROTUNDA, & J. YOUNG, supra note 52, at 293.

75 Hines, 312 U.S. at 67.

76 J. NOWAK, R. ROTUNDA, & J. YOUNG, supra note 52, at 268–70.

77 Id.

78 Chicago, B. & Q. Ry. v. Illinois ex. rel. Drainage Comm'n, 200 U.S. 561, 592 (1906); see also Huron Portland Cement Co., 362 U.S. at 442 (state or locality may, in the exercise of police power, act in the area of interstate commerce concurrently with the federal government).

79 Rice, 331 U.S. at 230; see also Metropolitan Life Ins. Co. v. Massachusetts, 105 S. Ct. 2380, 2398 (1985), quoting Slaughter-House Cases, 83 U.S. 36, 62 (1873) ("The States traditionally have had great latitude under their police powers to legislate as 'to the protection of the lives, limbs, health, comfort, and quiet of all persons.'").

B. Current Preemption Analysis—A Solicitude for State Interests

The Court under former Chief Justice Burger has generally favored concurrent state-federal regulation and has therefore been reluctant to find federal preemption of local regulations. In more and more decisions, the Court has incorporated into its preemption inquiry a concern for state and local interests. Rather than completely invalidating the state law, the Court's approach is often an attempt to reconcile the operation of both the state and federal laws.

One of the main reasons that the Court disfavors outright preemption is that a finding of no preemption leaves the door open to future congressional action. The Court hesitates to invalidate state and local legislation because the state is then powerless to change that decision. On the other hand, the federal government can always enact further legislation to overrule a finding of no preemption. If the Court misinterprets the intent of Congress, the legislative branch may then use its power to correct the situation. In addition, the judicial solicitude for state and local interests also stems from a belief that the diffusion of regulatory power to the states furthers democracy. The current position of the Court therefore approaches a presumption against preemption based on these two factors: no

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81 Exxon Corp. v. Governor of Maryland, 437 U.S. 117, 132 (1978) ("This Court is generally reluctant to infer preemption."); see also, Agency Rent-A-Car, Inc. v. Connolly, 686 F.2d 1029, 1038 (1st Cir. 1982).
82 In recent years, the Court has not found preemption of state laws that were challenged under the supremacy clause, even in areas with a comprehensive federal regulatory scheme. See, e.g., New York Telephone Co. v. New York State Dept. of Labor, 440 U.S. 519, 540 (1979) (state power to provide unemployment benefits for strikers is not preempted by National Labor Relations Act); DeCanas, 424 U.S. at 357-59 (state authority to regulate employment of illegal aliens is not preempted by Immigration and Nationality Act); New York State Dept. of Social Services v. Dublino, 413 U.S. 405, 413-14 (1973) (state work programs for welfare recipients not preempted by Aid to Families With Dependent Children program); Goldstein v. California, 412 U.S. 546, 560-61, 571 (1973) (state copyright law is not preempted by Copyright Clause and federal statutes enacted thereunder).
83 Merrill Lynch, Pierce, Fenner & Smith v. Ware, 414 U.S. 117, 127 (1973) (Court upheld state law regarding employee pension benefits despite an actual conflict with federal securities law).
85 Agency Rent-A-Car, Inc., 686 F.2d at 1038.
86 Id.
87 Pierce, supra note 1, at 629.
preemption enables Congress to act without burdening the states, while it also affirms democratic values.\(^8^9\)

The Court's preference for upholding state and local regulations against supremacy clause challenges is evident in two recent decisions involving nuclear power. Both *Pacific Gas & Electric Co. v. State Energy Resources Conservation & Development Commission*\(^9^0\) and *Silkwood v. Kerr-McGee Corp.*\(^9^1\) dealt with challenges to state

\(^{89}\) Id.

\(^{90}\) 461 U.S. 190 (1983). In *Pacific Gas & Electric Co.* the utility company raised a supremacy clause challenge to a California statute prohibiting construction of nuclear power plants until a state agency determined that adequate storage and disposal facilities existed for the nuclear waste material. *Id.* Pacific Gas and Electric Company (PG&E) argued that the Atomic Energy Act preempted the state law. The stated purpose of the Atomic Energy Act is "to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public." Atomic Energy Act of 1954, 42 U.S.C. § 2013(d) (1982).

In its interpretation of the Act, the Court concluded that Congress intended to divide the regulatory authority between federal and state control. *Pac. Gas & Elec. Co.*, 461 U.S. at 211-12. While the Act gave exclusive jurisdiction over nuclear safety matters to the Atomic Energy Commission, the states retained their traditional responsibility to regulate economic aspects of nuclear power. *Id.* The Court thus distinguished between a valid state moratorium based on "economic" concerns and an invalid state moratorium based on "safety" concerns. *Id.* at 213. The Court upheld the California statute because it was aimed at economic problems, for example, the possibility of higher electric rates if nuclear plants had to shutdown for lack of waste storage space. *Id.* at 213-14. The Court concluded that despite the congressional desire to develop nuclear power, states have "sufficient authority" to slow or even stop that development for "economic reasons." *Id.* at 223.

\(^{91}\) 464 U.S. 238 (1984). In *Silkwood v. Kerr-McGee Corp.* the Court qualified the preemptive effect of federal law even further. *Silkwood* involved a determination of whether an award of punitive damages authorized by state law was preempted by the Atomic Energy Act. *Id.* at 241. The jury's award of $10,000,000 in punitive damages was based on a finding that Kerr-McGee was "grossly negligent, reckless and wilful" in allowing plutonium to escape from its facility. *Id.* at 245. However, Kerr-McGee argued that its compliance with federal regulations under the Price-Anderson Act preempted the state's authority and precluded an award of punitive damages. *Id.*

Kerr-McGee argued that the state law authorizing an award of punitive damages did not survive a supremacy clause challenge based on the three principles of preemption analysis—the federal government had occupied the nuclear field, the state action actually conflicted with federal regulation, and the state action frustrated congressional purposes. *Id.* at 248. Consistent with its recent decision in *Pacific Gas & Electric*, the Court rejected all three arguments for preemption.

The majority found that, while "the federal government has occupied the entire field of nuclear safety concerns," their occupation did not extend to preemption of state tort law. *Id.* at 249. The Court declined to hold state regulations that award punitive damages preempted because Congress was silent concerning the preemptive effect of the Act on traditional tort law. In fact, the Court found the congressional silence significant "in light of Congress' failure to provide any federal remedy" for those exposed to radiation in a nuclear plant. *Id.* at 251.

The Court then rejected Kerr-McGee's second argument that state awards of punitive damages actually conflict with the NRC's authority "to impose civil penalties on licensees when federal standards have been violated." *Id.* at 257. It found no fatal conflict. "Paying
laws based on the preemptive authority of the Atomic Energy Act. In each case the Court rejected the preemption challenge and upheld the state law.

Analyzed together, the Court's decisions in Pacific Gas & Electric and Silkwood evidence a judicial reluctance to find federal preemption of state regulation even in areas such as nuclear power where there is extensive federal involvement. States and localities seem to be freer, in the eyes of the law, to regulate in ways that may conflict with national goals. As the decision in Pacific Gas & Electric demonstrates, it is possible for a state to regulate in an area and effectively frustrate a federal purpose. The state need only express the rationale for its regulation in a manner different from the stated basis for federal involvement.

Moreover, the Silkwood decision reveals that the Court may advance state or local regulations over federal statutes when there is a supremacy clause challenge. For example, the Silkwood Court would not hold a state regulatory action preempted even in an area "occupied by" federal law if the state operated through a traditionally available state method. Silkwood also suggests a reluctance by the Court to hold state regulatory action preempted unless the conflict with the federal scheme makes it literally impossible to comply with both regulatory requirements. The Court thus rigorously applies its preemption analysis in a manner that favors state regulations.

It seems, therefore, that unless Congress has shown its clear intention to preempt the particular form of state regulatory action, the Court will uphold the state action even if it affects national interests. As one state court explained, "[p]reemption . . . is not favored, and State laws should be upheld unless a conflict with Federal law is clear."  

Both federal fines and state-imposed punitive damages for the same incident would not appear to be physically impossible," the Court concluded. Id.

Finally, the Court rejected Kerr-McGee's contention that state punitive damages awards are preempted because they would frustrate the congressional purpose of furthering commercial nuclear power development. Relying on their reasoning in Pacific Gas & Electric, the Court concluded, as it had in that earlier decision, that Congress did not intend to further "the promotion of nuclear power . . . 'at all costs.'" Id.

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92 See supra note 82.
93 See supra note 90.
94 Id.
95 See supra note 91.
96 Id.
A court's preemption analysis in the field of chemical warfare agents should be conducted against the backdrop of these cases that favor concurrent state regulation against supremacy clause challenges. The ADL decision is an example of the federal preemption doctrine, applied in a state court context, to regulation of these agents. The case demonstrates how far local regulation may go in the absence of any federal regulatory impediment. A municipality may prohibit chemical warfare agents within its borders without its actions being preempted. These bans could then have an effect on future development and detoxification of chemical weapons.

C. An Example of Preemption Analysis in the Chemical Warfare Agent Field: The ADL Case

There is a federal regulatory vacuum concerning chemical warfare agents. The lack of a clear, effective federal presence in this area leaves the field open to complete regulatory control by state and local authorities pursuant to their police powers. Given the current Administration's continuing commitment to the development and, possibly, the production of new chemical weapons, the Department of Defense's preference for private chemical warfare agent research, and the pressing concerns about detoxifying the deteriorating stockpiles of old chemical weapons, the existence of a strong national interest is clear. Similarly, as the research and testing of chemical warfare agents expands, communities where private defense contractors are located, or that are near Army bases and arsenals, have a legitimate interest in how these agents are controlled.

The Massachusetts Supreme Judicial Court recently ended the competition between these interests when it held that the City of Cambridge's regulatory power was not preempted by any federal regulatory scheme. The court found that the City could legally ban the testing, storage, transportation, and disposal of chemical warfare agents within its borders. This case is the only one to date that addresses local regulation of these chemical agents.


98 See supra note 9.

99 See supra note 5.

100 See supra notes 41-47 and accompanying text.

101 See supra note 39.

102 395 Mass. at 557, 481 N.E.2d at 455.
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1. Factual Background

The events that culminated in the Massachusetts decision began when a consulting firm, Arthur D. Little (ADL), signed a contract with the Department of Defense (DOD) on June 23, 1982. ADL contracted to test chemical warfare agents in order to increase the sensitivity of the Army's chemical agent detection methods used in their Water Testing Kits. The contractual work was to be done with nerve agents, mustard agents, lewisite, and cyanide.

In 1982, ADL made plans to renovate an existing laboratory in order to satisfy the DOD contractual specifications for handling chemical warfare agents. Section H of the DOD contract entitled "Special Provisions" stipulated the safety and security measures to be taken. The DOD also established detailed specifications for the construction of the buildings where the chemical warfare agents would be tested. One of these provisions stated that "the most secure facilities available be used for the . . . storage of the chemicals."

Ultimately, the safety burden associated with testing these agents rested on the private contractor, ADL. Section H(11) of the contract provided that the contractor would be responsible for planning and safeguarding the detoxification and decontamination of the chemical agents furnished by the government. If a fire, explosion, or other accident occurred, it was the contractor's responsibility to have adequate resources to respond to the emergency. The DOD contract specified that the private contractor could not rely on outside agencies, such as local fire departments, for emergency capabilities. In 1983 ADL's Levins Laboratory was completed pursuant to this contract and its safety provisions.

2. The Local Regulatory Response

Despite the numerous safety precautions mandated by the DOD contract, local political and citizen opposition to the activities at ADL
began to gather momentum in October, 1983. In response to the growing public concern over the chemical warfare agent testing, the Cambridge Commissioner of Health and Hospitals adopted a regulation that would prohibit continued research with these agents pending completion and review of two reports being prepared on the issue. ADL promptly brought an action against the City in the Superior Court to enjoin the City's enforcement of the Commissioner's regulation. The court granted a preliminary injunction. The City's efforts to regulate for health and safety were thus unsuccessful in the early legal stages.

While legal proceedings continued, the Cambridge Scientific Advisory Committee (SAC) met between April and September 1984 to consider the issue. In addition, an independent environmental consulting firm hired by the City prepared its report on the "Community Risks From Experiments With Chemical Warfare Agents at Arthur D. Little." The consulting firm scientifically analyzed the potential public dangers of chemical warfare agent experimentation at ADL. Their report did not characterize the hazards as either acceptable or unacceptable. A senior consultant did, however, conclude in an affidavit submitted to the court that the "accidental or intentional release of nerve gas to the environment is very unlikely but not impossible."

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111 For a chronology of the events prior to the ADL litigation, see SAC Report, supra note 11, at Appendix B.
112 A Cambridge Scientific Advisory Committee (SAC) was created by the City Council. Its members were appointed by the City Manager. The responsibility of SAC was to consider whether research or other use of toxic chemicals at present or in the future in Cambridge may have substantial risk for the public health and safety within the city. A specific responsibility of the committee shall be to consider whether the research on testing of nerve agents at Arthur D. Little Company may have a substantial risk for the public health in Cambridge. SAC Report, supra note 11, at 1.
113 ADL, 395 Mass. at 538, 481 N.E.2d at 444.
114 SAC Report, supra note 11, at 1. The SAC consisted of sixteen members, predominantly Cambridge residents, who represent such varied disciplines as chemistry, physics, pharmacology, public health, environmental policy, architecture, and public interest advocacy. Id. at A-1.
116 Id. at 1.
117 The consulting firm explained its decision not to characterize the hazard: "[p]erspective or what is acceptable involves comparison with other risks people are exposed to as well as consideration of other factors such as whether the risks are voluntary or involuntary and what benefits accompany the risk." Id. at 1.
118 Id. at Appendix-9.
The SAC Report issued on September 15, 1984 reached the same conclusion. The Committee found that ADL's use of the chemical agents was "inappropriate" and that the risks involved in such research were "unacceptable" 119 considering the laboratory's location within the densely populated City of Cambridge. 120 Following the submission of these two reports, the Commissioner of Health & Hospitals issued a second regulation and order reaffirming the City's prohibition of ADL's chemical agent research. 121

Both sides continued their legal struggle to test the validity of the Cambridge regulation. The issue of whether the municipality had the power to prohibit the chemical warfare agent testing was ultimately brought before the Massachusetts Supreme Judicial Court. 122

119 In its conclusion on the ADL activity, the SAC stated:

"That an accident involving release of chemical warfare agent into the community is unlikely, but not impossible. In the event of such a release, members of the general public might be located within range of potentially lethal levels of chemical warfare agent. The SAC feels that the benefits of research with these chemical warfare agents do not justify lethal risks to any individual. For this reason, the SAC believes that storage and testing of chemical warfare agents in the quantities and concentrations used by ADL within the densely populated City of Cambridge is inappropriate. In addition, the majority of members of the SAC judge the risks associated with any such work unacceptable.

SAC Report, supra note 11, at 14. Both the SAC and TRC reports studied the effects of the release of these agents into the environment. The effects were calculated in terms of "the type and quantity of nerve agent released, the form of the release and the weather conditions." Both reports found that the following groups of people "lie within the range of greatest risk" in the event of a release:

(1) ADL employees in the immediate lab area;
(2) patrons of the motel, restaurant, disco and bowling alley located within 600 feet of ADL;
(3) motorists and pedestrians passing along Route 2 within 80 feet of ADL;
(4) people playing on the fields located across Route 2 within 650 feet of ADL;
(5) the residential neighborhoods within 650 feet of ADL; and
(6) the curious who might be attracted to a fire or accident.

Id. at 9.

120 According to the 1980 U.S. Census, the City of Cambridge has a population density of 15,130 per square mile. This is a relatively high figure as compared to other Massachusetts communities. For example, the least populous, Belchertown, has a density of 452 per square mile, while the most populous, Somerville, has a density of 19,839 per square mile. Memorandum of Decision on the Parties' Cross-Motions for Summary Judgment, February 26, 1985, Superior Court, No. 84-1529 at 5.

121 The second regulation was the same as the first except for the reference to awaiting completion of the scientific reports. ADL, 395 Mass. at 538, n.2, 481 N.E.2d at 444, n.2.

122 After the Commissioner issued a second regulation and order reaffirming the chemical agent ban, the parties filed cross-motions for summary judgment in the suit originally filed by ADL to test the regulation's validity. Judgment was entered on behalf of the Commissioner on February 27, 1985, declaring the regulation valid and enforceable. ADL then filed a notice of appeal as well as a motion for a stay pending appeal. The stay was denied by the lower court, then granted on March 15, 1985 by a single justice of the Appeals Court. The Commissioner then filed a petition for relief from the stay with a justice of the Supreme Judicial Court.
One of the main points upon which the decision turned was whether any federal regulatory scheme existed which would preempt the City's action. The Court found none.

IV. EXISTING REGULATORY SCHEME FOR CHEMICAL WARFARE AGENTS

In its opinion on the preemption issue, the Massachusetts court studied possible avenues of federal control over chemical warfare agents. The court's inquiry began at the highest level of federal authority, the Constitution, then turned to an examination of federal legislative enactments regarding these agents. Finally, the court considered the possibility of administrative control in this area. At each stage, the court concluded that the federal regulatory scheme did not have preemptive effect over the City's regulation of chemical warfare agent research.

A. Preemption at the Constitutional Level

The Constitution grants plenary powers over war and defense to the federal government. It provides Congress with the power to "provide for the common Defence," "[t]o raise and support Armies," "[t]o provide and maintain a Navy," "[t]o make Rules for the Government and Regulation of the land and naval Forces" and grants Congress the power "[t]o declare War." These provisions confer explicit constitutional authority to the federal government over all national defense matters. That does not mean, however, that "every regulation which has some incidental effect on a defense program is invalid under the supremacy clause."
The courts must examine the underlying purpose of a particular state or local enactment. If the local regulation has nothing more than a "speculative and indirect impact" on the national defense, then it is not preempted. The Massachusetts court found that local regulation of chemical warfare agents did not impermissibly interfere with an essential element of a key national defense program. The Department of Defense is still free to continue its chemical warfare program elsewhere. A local regulation of this type would thus not conflict with the constitutional grant of war and defense powers to the federal government. The state or locality is merely exercising its presumptively valid police powers in enacting a bona fide public health regulation. As stated by the trial court in ADL, "[t]he issue in this case is whether Cambridge may prohibit testing of toxic chemicals within its boundaries, not whether it may alter federal military policy decisions."

It would be an entirely different question if a community were to regulate such military policy decisions. Courts generally have not looked favorably on private suits that raise substantive issues regarding the national defense or national security. Rather, these questions "lie within that narrow band of matters wholly committed to official discretion both because of the delicate security issues they raise and the constitutional delegation of those concerns to the political departments of our government."

In sum, "the courts are not the proper forum for debate on national security and defense issues."

Therefore, unless there is a direct impact on military policy decisions, local regulations covering chemical warfare agent testing that are designed to protect the public health and safety are valid. These

134 Id., quoting, DeCanas, 424 U.S. at 355 (fact that aliens are subject of state statute does not render it "per se preempted by exclusive [f]ederal control over immigration under Constitutional allocation of powers").
135 ADL, 395 Mass. at 547, 481 N.E.2d at 449.
136 Id.
137 Id.
138 Id.
139 Memorandum on Severed Issue, supra note 103, at 9.
140 Concerned About Trident v. Schlesinger, 400 F. Supp. 454, 482 (D.D.C. 1975), affirmed in part and reversed in part sub nom., Concerned About Trident v. Rumsfeld, 555 F.2d 817 (D.C. Cir. 1976) (private suit challenging Trident submarine weapons program); see also, McQueary v. Laird, 449 F.2d 608 (10th Cir. 1971) (private suit challenging storage of toxic chemicals at federal arsenal); Luftig v. McNamara, 373 F.2d 664 (D.C. Cir. 1967) (Army private sought to enjoin Secretary of Defense from sending him to Vietnam).
141 Concerned About Trident, 400 F. Supp. at 482.
142 Id.
laws will not be preempted by the constitutional grant of war and defense powers to the federal government.\textsuperscript{143}

\section*{B. Preemption at the Legislative Level}

Local regulations prohibiting chemical warfare agent testing may be preempted by existing federal legislation. The court in \textit{ADL} examined federal statutes that authorize and regulate chemical warfare research,\textsuperscript{144} and gave cursory treatment to the Toxic Substances Control Act (TOSCA).\textsuperscript{145} Applying the three categories of standard preemption analysis—federal occupation of the field,\textsuperscript{146} actual conflict,\textsuperscript{147} and obstacle to accomplishment of congressional goals\textsuperscript{148}—the court found that there was no federal legislative preemption of the City’s ban on chemical warfare agent research.

1. Statutes Authorizing and Restricting Chemical Warfare Agent Research

The court found that neither the general military procurement statute\textsuperscript{149} nor legislation limiting the DOD’s chemical and biological warfare program\textsuperscript{150} met the three bases for exercise of supremacy clause authority. The former authorizes the DOD “to acquire property and services ... in the most timely, economic, and efficient manner ... by any kind of contract ... that will promote the interest of the United States.”\textsuperscript{151} The statute further authorizes “the Secretary of Defense ... [to] engage in basic and applied research projects that are necessary to the responsibilities of the Department of Defense in the field of basic and applied research and development and that relate to weapons systems and other military needs.”\textsuperscript{152}

\begin{flushleft}
\textsuperscript{143} \textit{ADL}, 395 Mass. at 547, 481 N.E.2d at 449.
\textsuperscript{144} \textit{Id.} at 548–51, 481 N.E.2d at 450–52.
\textsuperscript{146} See supra notes 64–67 and accompanying text.
\textsuperscript{147} See supra notes 70–71 and accompanying text.
\textsuperscript{148} See supra notes 72–73 and accompanying text.
\end{flushleft}
The Service, Supply, and Procurement statute\textsuperscript{153} is essentially permissive in nature. It encourages cost-efficient research projects, but does not mandate a chemical warfare agent development program as a national objective.\textsuperscript{154}

In addition, the Chemical and Biological Warfare Program statute\textsuperscript{155} that does refer to "research, development, test[ing], and evaluation of all lethal and nonlethal chemical and biological agents" by the DOD, places limits and restrictions on these efforts. For example, the statute requires an annual report to Congress from the Secretary of Defense detailing the research conducted during the preceding year on any lethal or nonlethal agents.\textsuperscript{156} The law prohibits the expenditure of funds for the transportation, open air testing, or disposal of chemical warfare agents unless certain procedures are followed. For example, the Surgeon General is required to review potential public health hazards posed by such activities.\textsuperscript{157} The law also prohibits the expenditure of funds "for the procurement of delivery systems specifically designed to disseminate lethal chemical or . . . biological warfare agents," unless the President certifies "that such procurement is essential to the safety and security of the United States."\textsuperscript{158} The statute further prohibits, except in emergency situations, the disposal of chemical warfare agents unless they have first been detoxified.\textsuperscript{159} There also are regulations for any chemical warfare agent tests or experiments with human subjects.\textsuperscript{160}

These two statutes set forth the parameters for the DOD's chemical warfare program. The court in \textit{ADL} found, however, that these statutes do not have preemptive effect over local health and safety regulations in the chemical warfare agent field.\textsuperscript{161} Nowhere do these statutes indicate that Congress intended "to occupy the field" of chemical warfare agents to the exclusion of the states.\textsuperscript{162} In fact, most of these statutory provisions apply to the Secretary of Defense and not to other parties such as independent contractors.\textsuperscript{163} The

\textsuperscript{154} Brief for the Defendant-Appellee at 22, Arthur D. Little, Inc. v. Commissioner of Health & Hospitals of Cambridge.
\textsuperscript{156} \textit{Id.} at § 1511.
\textsuperscript{157} \textit{Id.} at § 1512.
\textsuperscript{158} \textit{Id.} at § 1516.
\textsuperscript{159} \textit{Id.} at §§ 1517–1518.
\textsuperscript{160} \textit{Id.} at § 1520.
\textsuperscript{161} \textit{ADL}, 395 Mass. at 549–50, 481 N.E.2d at 450–51; \textit{See also}, Brief for the Defendant-Appellee at 21–22.
\textsuperscript{162} \textit{ADL}, 395 Mass. at 550, 481 N.E.2d at 451.
\textsuperscript{163} \textit{Id.}
court thus concluded that neither the Service, Supply, and Procure-
ment regulation nor the Chemical and Biological Warfare Program
restricts a state's regulatory authority because there is insufficient
congressional occupation of the field to warrant preemption.\footnote{Id.}
Moreover, local enactments would present no "conflict" with these
statutes in the sense that "compliance with both federal and state
regulations is a physical impossibility."\footnote{Id., quoting Florida Lime & Avocado Growers, 373 U.S. at 142–43 (1963).} Indeed, the DOD could
simply move its research efforts to other locations or onto Army
bases. Under the Constitution's grant of power to Congress to ex-
cercise exclusive authority for the "erection of Forts, Magazines,
Arsenals, Dock-Yards, and other needful Buildings,"\footnote{U.S. CONST. art. I, § 8, cl. 17.} the military
would be allowed to carry on its chemical warfare agent activities
free from state or local regulations.\footnote{McQueary, 449 F.2d at 612 ("In its proprietary military capacity, the Federal Government
has traditionally exercised unfettered control with respect to internal management and operation of federal military establishments.").}
Finally, local regulation of chemical warfare agents does not create
"an obstacle to the accomplishment and execution of the full purposes
and objectives of Congress"\footnote{Hines, 312 U.S. at 67.} so as to frustrate the federal scheme.
In fact, the court concludes that there is no federal scheme that
promotes or encourages private research on toxic chemical agents.\footnote{ADL, 395 Mass. at 550, 481 N.E.2d at 451.}
Therefore, since these statutes do not indicate a "clear and manifest
purpose" of Congress to encourage only private chemical warfare
agent research, there is no pervasive federal scheme that a local
chemical warfare agent ban would frustrate.\footnote{Id.}

2. Toxic Substances Control Act (TOSCA)

Congress has enacted a number of environmental protection stat-
utes that regulate the use and disposal of hazardous or toxic sub-
stances. Most of these are designed to combat the after-effects of
chemicals that have already been released into the environment.\footnote{The Toxic Substances Control Act: Overview and Evaluation, A Report by the Toxic Substances Control Act Policy Research Project, Lyndon B. Johnson School of Public Affairs, Number 50, at 15 (1982).} TOSCA differs because it is intended to be a preventive measure; its goal is to prevent hazardous substances from ever entering the
environment. In this respect, it could possibly preempt local regulations of chemical warfare agent testing.

TOSCA is a broad review and permit statute that is designed to fill existing gaps in federal environmental legislation. TOSCA authorizes the Environmental Protection Agency (EPA) to conduct a premarketing review of new chemicals and require testing of all existing chemicals to determine whether they "present an unreasonable risk of injury to health or the environment." If the EPA concludes that the chemical substance presents an unreasonable risk to the public, then the agency must issue regulations pursuant to TOSCA to protect the public against such risk.

By including a section on preemption, Congress attempted to reconcile TOSCA's broad scope with the interests of state and local governments in toxic substances regulation. While TOSCA gives the EPA general authority to insure public health and safety through toxic chemical regulation, it does not preclude states and localities from acting, too. The statute explicitly permits state and local regulation of toxic chemical substances within their jurisdiction.

The Act provides, however, two significant exceptions to the general standard of no preemption. First, if the EPA Administrator has issued a testing rule for a chemical substance or mixture under section 2603, then no state or political subdivision may require testing of that chemical for similar purposes. Second, if the EPA Administrator issues a rule or order under section 2604 (premanufacturing and processing notices) or section 2605 (regulation of hazardous chemical substances and mixtures), no state or local government may impose a requirement for that chemical that is designed to protect against the same risk. Thus, in these two instances the local regulation would be preempted. The disposal requirements of section 2605(a)(6) are expressly excepted from such preemption.

172 Id.
175 Id. § 2603.
176 Id. § 2605(a).
177 Id.
178 Memorandum on Severed Issue, supra note 103, at 10–11.
179 Id.
180 15 U.S.C. § 2617(a)(1) (1976) ("[N]othing in this chapter shall affect the authority of any State or political subdivision of a State to establish or continue in effect regulation of any chemical substance, mixture, or article containing a chemical substance or mixture.").
181 Id. § 2617(a)(2)(A).
182 Id. § 2617(a)(2)(B).
183 Id.
The state or local requirement will not be preempted, however, if it is identical to the federal Administrator's requirement,\textsuperscript{184} if it is adopted under the authority of another federal law,\textsuperscript{185} or if it prohibits the use of the substance in that state or locality.\textsuperscript{186} TOSCA itself thus provides a method for local regulations to escape the statute's limited preemptive effect.

Moreover, in the unlikely event that a state or local government's enactment is preempted by TOSCA, the locality may apply for an exemption from federal preemption under section 2617(b). The EPA Administrator may grant the exemption if compliance with the state or local requirement would not be in violation of certain requirements prescribed under TOSCA,\textsuperscript{187} if the state or local requirement provides significantly greater protection than exists under the Act,\textsuperscript{188} and if it does not unduly burden interstate commerce.\textsuperscript{189} Reading the preemption section of TOSCA as a whole, it is clear that Congress intended to allow state and local governments to provide some regulation for toxic chemical substances.\textsuperscript{190} Local regulations are allowed under TOSCA, and these may go so far as to ban the use of a particular substance or mixture within the locality even when the EPA Administrator has already prescribed a rule for that substance.\textsuperscript{191}

Thus, if the EPA has not enacted rules for a chemical substance, then the state or local government may regulate it without fear of preemption under TOSCA. Even if the EPA has enacted rules for a chemical, then the state or local government may still regulate it pursuant to another federal law or prohibit the use of such substance without being preempted. In effect, TOSCA has little preemptive power unless the EPA Administrator has prescribed rules or orders for the chemical at issue. The absence of preemption is particularly evident with chemical warfare agents because there is no "federal administrative action by which preemption is 'triggered.'"\textsuperscript{192}

\textsuperscript{184} Id. § 2617(a)(2)(B)(i).
\textsuperscript{185} Id. § 2617(a)(2)(B)(ii).
\textsuperscript{186} Id. § 2617(a)(2)(B)(iii) ("other than its use in the manufacture or processing of other substances or mixtures").
\textsuperscript{187} Id. § 2617(b)(1).
\textsuperscript{188} Id. § 2617(b)(2)(A).
\textsuperscript{189} Id. § 2617(b)(2)(B).
cality can thus regulate and ban the testing of chemical warfare agents within its jurisdiction and TOSCA does not preempt the action since it does not cover chemical warfare agents.\textsuperscript{193}

C. Preemption at the Administrative Level

While current environmental statutes do not preempt local regulations of chemical warfare agents, the fact that these agents are part of the government’s military weapons development program may impute to them the authority of federal law.\textsuperscript{194} The Department of the Army’s environmental protection regulations\textsuperscript{195} include a subpart on specific rules for chemical warfare agents.\textsuperscript{196} These regulations have the force of federal law because they were promulgated by the Secretary of the Army acting under statutory authority.\textsuperscript{197} As such they could preempt local regulations.

The Army regulations, however, have a limited applicability.\textsuperscript{198} They only apply to military installations\textsuperscript{199} and to contractor activities\textsuperscript{200} located on property under the Department of the Army’s jurisdiction.\textsuperscript{201} Activities by private contractors on private land would thus fall outside the Army’s regulatory scheme.

Even if the Army’s environmental authority extended to private contractors’ activities, the Army regulations would not present an actual conflict with local controls of chemical warfare agents. Rather, these regulations reveal a general intent to permit local toxic substances regulation:

\textsuperscript{192} SAC Report, \textit{supra} note 11, at 15; \textit{see also}, Memorandum on Severed Issue, \textit{supra} note 103, at 10.

\textsuperscript{193} But ADL’s status as a DOD contractor does not permit it, or the DOD, “to contract . . . out of local health and safety requirements.” \textit{ADL}, 395 Mass. at 552, 481 N.E.2d at 452. A contract to which the federal government is a party does not constitute federal law for supremacy clause purposes. \textit{Id}.


\textsuperscript{195} \textit{Id}, § 650.141.

\textsuperscript{196} 10 U.S.C. § 3012(g) (1982); \textit{see also}, Memorandum on Severed Issue, \textit{supra} note 103, at 14.

\textsuperscript{197} 32 C.F.R. § 650.2 (1984).

\textsuperscript{198} \textit{Id}, § 650.2(a) (Army Reserve installations); \textit{Id}, § 650.2(b) (National Guard installations); \textit{Id}, § 650.2(c) (Army installations).

\textsuperscript{200} \textit{Id}, § 650.2(d).

\textsuperscript{201} \textit{Id}.
[The Department of the Army will comply with environmental quality policies and procedures specified in this regulation and those standards established by the applicable Federal, state, interstate, or local authority for the control of hazardous and toxic materials and substances.]

In addition, the Army's policy is to "program and budget sufficient resources for the effective management and environmental control of . . . hazardous chemical stocks . . . and chemical agents . . . in consonance with any other applicable Federal, State, or local objectives." These Army regulations explicitly acknowledge the presence of local standards for the control of chemical warfare agents.

Despite its recognition of possible local action regarding toxic chemicals, the Department of the Army apparently does not go so far as to accommodate a local prohibition of these agents. Rather, the Army retains regulatory authority for purposes of national defense. Although "leadership in environmental pollution abatement and enhancement of the environment" are the stated policies of the DOD and its agencies, these must be attained "consistent with the security interests of the Nation." There is therefore an implicit tension, within the Army's own regulations, between the necessity of environmental protection and the interests of national defense. While the Army's goal is to minimize health hazards and environmental damage, there are self-imposed limits on the achievement of this objective. The Army will control its use of toxic and/or hazardous materials but only "to the extent practicable." Thus, in light of the fact that Congress funds such research, the Army regulations seem to deny the applicability of a local ban on chemical warfare agents.

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202 Id. § 650.124(b).
203 Id. § 650.124(e). Other policies of the Department of the Army include: conforming to the provisions of FIFRA, Id. § 650.124(f); conforming with Atomic Energy Act standards and guidelines, Id. § 650.124(i); prohibiting the disposal of chemical warfare agents "directly into the air, water, or land environment in a manner hazardous to man or animals or if it will cause unreasonable adverse effects on the environment," Id. § 650.124(j); conforming with federal regulations for dumping of materials into ocean waters, Id. § 650.124(k).
204 Id. § 650.5(a)(2). Similarly, TOSCA explicitly recognizes that national defense considerations may predominate local, state, or federal regulations of toxic substances. The Act provides for a "[n]ational defense waiver" in just those cases: "[t]he Administrator shall waive compliance with any provision of this chapter upon a request and determination by the President that the requested waiver is necessary in the interest of national defense." 15 U.S.C. § 2621 (1976).
206 Id. § 650.122.
207 Id. § 650.122(b).
208 But local prohibitions of the use of chemical warfare agents may be accommodated by
Further support for this position is evident from the control over chemical agents retained by the Army. The regulations state that the Department of the Army will "provide [a] single . . . contact point for all chemical warfare activities including demilitarization and disposal." They also state that "compliance with DA [Department of Army] and other Federal regulations on the disposal of chemical agents and munitions" will be ensured. Finally, the section on "Chemical warfare agents" mandates that "[t]he handling, use, and disposal of chemical warfare agents . . . will be in accordance with Army regulations," and the Army has set out its specific "Safety Program for Chemical Agents and Associated Weapon Systems." The Department of the Army thus extensively regulates the field of chemical warfare agents. These regulations acknowledge concurrent state and local environmental interests but also retain the Army's control over certain aspects of chemical warfare agents. Were Congress explicitly to authorize the DOD and its agencies to control the entire field, then these regulations would probably preempt any local enactments. Without a specific congressional delegation of authority to do so, however, the DOD cannot administratively preempt local health and safety requirements.

V. COOPERATIVE FEDERALISM AS AN ALTERNATIVE

There is currently no area of federal authority—constitutional, legislative, or administrative—that will preempt a local ban on chemical warfare agent testing, storage, transportation, and disposal. This regulatory vacuum enabled one community, the City of Cambridge, Massachusetts, to prohibit chemical warfare agents within its borders. The state's highest court upheld the ban finding no

the Army regulations via TOSCA. The superior court decision in ADL pursued this line of analysis. Memorandum on Severed Issue, supra note 103, at 14.

210 Id. § 650.125(b)(3).
211 Id. § 650.141.
212 Id. § 650.141(a).
213 Safety Program for Chemical Agents and Associated Weapon Systems A.R. 385–61 (1972). This safety program also acknowledges the tension between environmental protection and national defense interests. While "[t]he goal . . . will be to assure that all lethal and selected incapacitating chemical agents and their associated chemical weapon systems incorporate the maximum safety," this must be done "consistent with operational requirements." Id. 385–61(3).
215 Id. at 546–52, 481 N.E.2d at 448–52.
216 For the text of the regulation see id. at 538, n.2, 481 N.E.2d at 444, n.2.
"congressional action which clearly conflicts with the regulation at issue," nor any "congressional intent to occupy the field."217 In the absence of a federal regulatory scheme to preempt their actions, state and local governments may step in to fill the gaps.

Due to the absence of clear federal control over all chemical warfare agent research regulation, and the power of localities to regulate for health and safety pursuant to their police powers, other local regulatory bans are possible. While Cambridge is the only location to address this issue directly, other municipalities may have to do so as Congress increases the funding for DOD programs to develop new chemical weapons and to detoxify old ones.218 As an ADL vice president prophesied, "[t]hings that start in Cambridge . . . have a way of happening elsewhere."219

The chemical warfare agent field is an example of the collision of federal and local interests. Although legal, a ban on these agents will not solve the problem. These bans will not advance national defense interests associated with new chemical weapons development or old chemical weapons detoxification. The growing congressional and administrative support for chemical warfare agent research indicates the national interest in this area.220 One local ban could encourage similar action by other cities and towns, thereby thwarting the DOD's chemical warfare research program.221

In case of a ban, the Army has the alternative of conducting the toxic chemical experiments on its military bases. There it would be relatively free from local regulations.222 On federal land, the Army could conduct chemical warfare agent testing "in accordance with Army regulations."223 By picking its own sites, the Army could reduce local interference with chemical warfare agent research and

217 Id. at 551, 481 N.E.2d at 451.
218 See supra note 9.
219 See supra note 5, at F4, col. 4.
220 See supra note 9.
221 This possibility concerned the court in Warren County v. State of North Carolina, which held void an ordinance that prohibits disposal of PCBs in Warren County as conflicting with TOSCA. 528 F. Supp. 276, 290 (E.D. N.C. 1981). The Court felt that if they were "to approve this ordinance, no doubt the other ninety-nine counties in North Carolina would quickly enact identical bans." Id.; But see SED, 519 F. Supp. at 991 (court upheld local ban on PCB disposal under § 2617(a)(2)(B)(ii) of TOSCA).
222 For an attempt to reconcile the conflicting judicial interpretations of TOSCA with respect to PCB disposal, see Andreen, Defusing the "Not in My Back Yard" Syndrome: An Approach to Federal Preemption of State and Local Impediments to the Siting of PCB Disposal Facilities, 63 N.C. L. REV. 811 (1985).
223 McQueary, 449 F.2d at 612.
circumvent any nearby locality’s concerns about public health and safety. Relocation of chemical warfare agent research to Army bases also does not address regulation of the agents’ transportation to and from the federal land. Nor does the relocation solution consider the cost of conducting research on Army bases that was previously done by private contractors.

Thus, in the case of a ban, local interests are preeminent. On the other hand, the relocation of all chemical research efforts to federal land allows national interests to take precedence. In either situation, one of the two concerns—local or national—will lose.

While the problem may never arise again, in the only case to date dealing with the issue a local prohibition of chemical warfare agent research was upheld. In that case, the court found no federal authority to preempt the local regulation. An alternative to local prohibitions should be tried because chemical warfare agents will be tested in this country in the future, particularly as the congressional mandate to detoxify the obsolete weapons stockpiles takes effect. A move to Army bases, free from local regulation, could still harm nearby populations if there were an accident. Therefore, a cooperative regulatory scheme should be instituted wherein “the federal government establishes the primary regulatory framework and the states merely implement and enforce federal policy.”

While it is beyond the scope of this article to draft remedial legislation, the current regulatory scheme offers ideas and possible solutions. Existing federal toxic substances legislation, together with the DOD’s chemical warfare agent safety programs, and traditional local health and safety regulations, could effectively close the regulatory gap in the chemical warfare agent field.

A. Chemical Warfare Agents Under TOSCA

First of all, the EPA Administrator may act to bring chemical warfare agents within the ambit of TOSCA. Promulgating a rule or order with respect to these agents would not necessarily prevent

225 See supra note 9.
227 See supra notes 28-40 and accompanying text.
228 Foote, supra note 51, at 1430 n.4. Cooperative federalism regards federal and state governments as mutually complementary parts of a single governmental mechanism. Note, supra note 80, at 623 n.1.
a local prohibition of such substances. In order to prevent the possibility of a chain reaction of a local ban, then withdrawal of chemical warfare agent testing to military bases, the EPA should be empowered to review local chemical warfare agent regulations to determine whether or not they are preempted. A ban could still be allowed if it were found that unique local conditions so warranted. For example, a densely populated area may not be an appropriate location for chemical warfare agent testing.

Under TOSCA, the EPA may also cooperate with other federal agencies "for the purpose of achieving the maximum enforcement . . . while imposing the least burdens of duplicative requirements." This option of discretionary cooperation could preserve the use of the DOD regulations in addition to any EPA rulings. Such cooperation would produce an umbrella of federal action that would cover chemical warfare agent activities, even in the absence of an explicit congressional enactment as to the national objective concerning the development of chemical warfare agents.

B. Local Safety and Health Enactments

Local safety and health requirements could supplement the EPA and DOD regulatory programs. The Department of Health and Hospitals for the City of Boston recently reviewed a proposed study involving small quantities of the nerve agent Soman-GD. The study discussed some of the forms that local regulations may take. For example, the local Department of Health may retain final review and approval of any chemical warfare agent testing proposals; any shipment of these agents may only be made with an authorization certificate from the Department of Health; and the quantities of

230 Id. § 2617(2)(B)(iii).
231 The model for these non-preemption determinations is the Hazardous Materials Transportation Act and the power of the Department of Transportation to make findings thereunder. For an example of a non-preemption determination see 50 Fed. Reg. 37308 (September 12, 1985).
233 "Preemption of state regulations by federal agencies has the potential to supplement the increasingly ineffective checks on state regulations that harm national interests available . . . through judicial interpretation of typically ambiguous congressional expressions of intent concerning preemption." Pierce, supra note 1, at 640–41.
234 Proposed Soman Study: Findings and Orders, City of Boston Department of Health and Hospitals, July 26, 1985 (available from the City of Boston Department of Health and Hospitals).
235 Id. at 2.
236 Id.
chemical warfare agents kept on site may be limited. In addition, the City of Cambridge SAC recommended public hearings any time these agents were to be used. These types of local regulations, in tandem with federal regulations, could protect the public without resorting to the drastic measure of a complete prohibition of chemical warfare agent testing, storage, transportation, or disposal.

VI. CONCLUSION

The existence of out-of-date chemical weapons is a fact. Some of these are physically deteriorating, which raises the possibility of chemical leaks. Eventually, these weapons will be detoxified, a process which will involve testing, storage, transportation, and disposal of hazardous substances.

The production of new chemical weapons is a real possibility. Funding for their development has increased during the current Administration. Continuation or acceleration of these activities will also involve testing, storage, transportation, and disposal of hazardous substances.

Both national and local interests are involved in these two endeavors. In light of the current judicial solicitude for local concerns, and the absence of clear federal intent to control the field, local regulation will predominate. The only court to address the question to date concluded that the existing federal regulatory scheme for chemical warfare agents does not preempt a local ban on their use.

There is thus no federal authority that preempts state or local regulation of chemical warfare agents. A national response in this area is impossible if the states retain authority that cannot be preempted. A national solution to the conflicting interests raised over the detoxification and production of these chemical warfare agents requires thorough and precise federal action to restrain the unimpeded effect of state and local regulation.

Id.
See supra note 11, at 4.