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Shake & Bake: Dual-Use Chemicals, Contexts, and the Illegality of American White Phosphorus Attacks in Iraq

JOSEPH D. TESSIER*

We must never forget that the record on which we judge these defendants today is the record on which history will judge us tomorrow. To pass these defendants a poisoned chalice is to put it to our own lips as well.¹

I want to say this to America: Either give us help, real help, not in speech, or we want a chemical bomb to kill us all, because we are suffering too much.²

I. INTRODUCTION

On November 8, 2005, “Italian public television aired a documentary accusing U.S. forces of killing and maiming residents of Fallujah, including women and children, with chemical weapons during . . . November 2004.”³ The *New York Times* described the documentary as “riddled with

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1. 2 TRIAL OF THE MAJOR WAR CRIMINALS BEFORE THE INTERNATIONAL MILITARY TRIBUNAL 101 (1948) (Robert Jackson’s opening address for the United States at Nuremberg).

2. Ray Moseley, *Refugees Tell U.S.: “Give us help or kill us,”* CHI. TRIB., Apr. 9, 1991, at C5 (quoting Tagreet, an Iraqi female microbiologist, pleading for U.S. help after her village was bombed with chemical white phosphorus). Note that the *Chicago Tribune* described the white phosphorus attack as a *chemical* attack:

[A] youth, Khaled Taher, said his family home in Dohuk had been struck by a white phosphorus shell. Only he and his brother, Tariq, survived the chemical attack, he said. Ointment had been applied to his face and burned hands at an Iraqi hospital, he said, but his face was wreathed in quiet suffering.

Id.

3. Darrin Mortenson, *Official Waffling on White Phosphorus Fuels Debate Abroad*, N. COUNTY TIMES (Escondido, Cal.), Nov. 22, 2005, available at <http://www.globalsecurity.org/org/news/2005/051122-phosphorus-debate.htm>. On November 16, 2005, Brig. Gen. Donald Alston, U.S. Air Force, then Deputy Chief of Staff, Strategic Communications, and spokesperson, Multi-National Force (Baghdad) told CNN: “We have not changed our position that in fact we did not use white phosphorus against civilians in Falluja during Operation al-Fajr.” *Anderson Cooper 360 Degrees: Vice President Dick Cheney Blasts Democrats over Iraq War Criticism* (CNN television broadcast Nov. 16, 2005) (transcript on file with *Pierce Law Review*). On the same day, however, Pentagon spokesman Lt. Col. Barry Venable told the *Financial Times* that civilians had not been targeted but indicated that “[i]t

errors and exaggerations,”⁴ and “[t]he military called it propaganda.”⁵ The State Department initially responded by saying that the military used white phosphorus (WP) “very sparingly in Fallujah, for illumination purposes.”⁶

The U.S. Ambassador in London, Robert Holmes Tuttle, publicly stated that U.S. forces “do not use napalm or white phosphorus as weapons.”⁷ Lt. Col. Steve Boylan, director of the Combined Press Information Center and spokesman for the U.S. military in Iraq told reporters, “I do not recall the use of white phosphorus during the offensive operations in Fallujah in the fall of 2004.”⁸ On November 10, 2004, it was clarified that white phosphorus was used to provide smoke screens, illuminations, and as a “psychological weapon” against the enemy. Pentagon spokesman Lt. Col. Barry Venable explained that white phosphorus could also be used as an anti-personnel weapon:

When you have enemy forces that are in covered positions that your high explosive artillery rounds are not having an impact on and you wish to get them out of those positions, one technique is to fire a white phosphorus round into the position because the combined effects of the fire and smoke—and in some cases the terror brought about by the explosion on the ground—will drive them out of the holes so that you can kill them with high explosives.⁹

Similarly, on November 18, 2004, Lieutenant Colonel Boylan told reporters in a press conference that “[white phosphorus] is a munition that can be used to force people out of locations because of the smoke and the heat.

would not be out of the realm of the possible” that civilians had been killed by white phosphorus. Guy Dinmore, *Phosphorus “May Have Killed,”* FIN. TIMES (London), Nov. 17, 2005, at Americas 12.

4. Mortenson, *supra* note 3 (quoting Scott Shane, *Defense of Phosphorus Use Turns into Damage Control*, N.Y. TIMES, Nov. 21, 2005, at A14).

5. *Id.*

6. Int’l Info. Programs, U.S. Dep’t of State, *Did the U.S. Use “Illegal” Weapons in Fallujah?*, http://usinfo.state.gov/media/Archive_Index/Illegal_Weapons_in_Fallujah.html (last visited Sept. 23, 2007).

7. Paul Reynolds, *White Phosphorus: Weapon on the Edge*, BBC NEWS, Nov. 16, 2005, <http://news.bbc.co.uk/2/hi/americas/4442988.stm>. The American ambassador to Italy, Ronald P. Spogli, also denied that white phosphorus had been used as a weapon by the United States. Shane, *supra* note 4.

8. Phil Stewart, *Burning Agent Used in Iraq, Says TV Report*, IRISH TIMES (Dublin), Nov. 9, 2005, at 12.

9. *U.S. Forces Used “Chemical Weapon” in Iraq*, INDEPENDENT (London), Nov. 16, 2005. In a press conference Brig. Gen. Rick Lynch, spokesman for U.S. forces in Baghdad, told reporters, “[w]e don’t use munitions of any kind against innocent civilians. . . . In accordance with all established conventions, [white phosphorus] can be used against enemy combatants.” John Daniszewski & Mark Mazzetti, *White Phosphorus Use Ignites Debate: Critics Say the U.S. Killed Iraqi Civilians with the Incendiary Weapon. The Pentagon Denies It*, L.A. TIMES, Nov. 28, 2005, at A1 (alteration in original). Col. Dave Lapan, top spokesman for the U.S. Marine force, “maintained that white phosphorus bombs could be unleashed on insurgents.” Mortenson, *supra* note 3.

We always fire it at a military target. It was a military target in Fallujah. It was against terrorists and insurgents.”¹⁰

Ambassador Tuttle explained to the *London Times* regarding his earlier denial: “We did the best we could with the information we had, but we regret that it was not totally accurate.”¹¹ Bryan Whitman, Deputy Assistant Secretary of Defense for Public Affairs, told reporters that he “had *no knowledge* of any civilian victims of attacks with white phosphorus.”¹²

On November 29, 2005, in a Department of Defense press conference with Secretary of Defense Donald Rumsfeld and Gen. Peter Pace, Chairman of the Joint Chiefs of Staff, General Pace stated that white phosphorus “is a legitimate tool of the military,” and can be used for illumination, smoke, and incendiary purposes.¹³ Incredibly, the Department of Defense released an addendum to the press conference clarifying that white phosphorus was not used as an incendiary weapon.¹⁴ According to General Pace, “it was well within the law of war to use white phosphorus . . . for marking and screening.”¹⁵ This was the last official statement on white phosphorus. The chemical’s legality as an anti-personnel weapon within the laws of war or the Chemical Weapons Convention was not discussed.

Despite the Pentagon’s claim that white phosphorus has only been used for legitimate purposes (illumination and smoke) in Iraq, there have been numerous allegations and accounts by members of the U.S. military, war correspondents, and Iraqi civilians that white phosphorus has been used as an anti-personnel weapon against Iraqi combatants and civilians

10. Erin Emery, *Coloradan: Incendiary Killed Civilians*, DENVER POST, Nov. 18, 2005, at A1. The article further quotes Maj. Todd Vician, a Pentagon spokesman, as saying: “In Fallujah, the insurgents were in entrenched lines and small holes, and we could not get at them effectively with our munitions. So [white phosphorus shells] were used then to bring the insurgents out of those areas to . . . engage them better with the high-explosive munitions.” *Id.* (alterations in original).

11. Al Kamen, *Chemical Reactions*, WASH. POST, Nov. 18, 2005, at A21. After the Pentagon’s first retraction, the American Embassy in London directed “all questions on [white phosphorus]” to the Pentagon. Andrew Buncombe et al., *Incendiary Weapons: The Big White Lie: U.S. Finally Admits Using White Phosphorus in Fallujah—and Beyond*, BELFAST TELEGRAPH, Nov. 17, 2005. On November 22, 2005, William Burns, U.S. Ambassador to Russia, commented: “On the question of [white] phosphorus, we have made clear publicly that we have not undertaken any actions that would violate international law, and we have not undertaken any actions against civilians.” *Ambassador Burns’ Interview with Gazeta.ru: William Burns, U.S. Ambassador to Russia*, Nov. 22, 2005, http://moscow.usembassy.gov/bilateral/statement.php?record_id=23.

12. *U.S. Defends Use of White Phosphorus Against Iraq Insurgents*, AFX FIN. NEWS (London), Nov. 16, 2005, <http://www.globalsecurity.org/org/news/2005/051116-phosphorus-defense.htm> (emphasis added).

13. *News Briefing with Secretary of Defense Donald H. Rumsfeld and Gen. Peter Pace* (U.S. Dep’t of Def. news transcript Nov. 29, 2005), available at <http://www.defenselink.mil/transcripts/2005/tr20051129-secdef4361.html>.

14. Vince Crawly, *Top Military Official Calls White Phosphorus “Legitimate Tool,”* INT’L INFO. PROGRAMS, Dec. 1, 2005, <http://usinfo.state.gov/xarchives/display.html?p=washfile-english&y=2005&m=December&x=20051201140216mvyelwarc0.787594>.

15. *Id.*

within urban areas. This note examines: (1) “Shake & Bake”: the use of white phosphorus to flush out combatants from fortified positions so they can be killed with conventional munitions;¹⁶ (2) the direct use of white phosphorus illumination mortars against human targets;¹⁷ and (3) the use of improvised phosphorus bombs to clear insurgents out of buildings.¹⁸

White phosphorus is an example of a “dual-use” chemical. As with most dual-use chemicals, there are lawful and prohibited purposes. It is an especially legally precarious chemical because there are both legitimate and potentially improper military purposes.¹⁹ Peter Kaiser, spokesman for the Organization for the Prohibition of Chemical Weapons (OPCW) (the international body responsible for implementation of the Chemical Weapons Convention) has described the prohibited uses of white phosphorus as those military purposes that are *dependent on the chemical’s toxicity*.²⁰ Thus, the central question of this article asks whether the legality of the United States’ intended use of anti-personnel white phosphorus depends on the chemical’s toxic properties.

This note analyzes the legal implications of the cited examples of white phosphorus use by looking at the following: (1) general principles of international humanitarian law and the necessity defense, (2) the *Zyklon B* case, and (3) the Chemical Weapons Convention and the Chemical Weapons Convention Implementation Act of 1998.

II. GENERAL INTERNATIONAL HUMANITARIAN LAW PRINCIPLES

There are three core principles of international humanitarian law underlying this analysis. First, the principle of *discrimination* requires that weapons be employed in a way that discriminates combatants from civilians. Second, weapons cannot be deployed in such a way as to cause *un-*

16. See James T. Cobb, *The Fight for Fallujah*, FIELD ARTILLERY, Mar.–Apr. 2005, at 22, 26, available at http://sill-www.army.mil/famag/2005/MAR_APR_2005/PAGE24-30.pdf.

17. Christopher L. Budihas, *So, You’re Going to Iraq? Company Commander Shares Successful Tactics, Techniques*, INFANTRY MAG., Sept. 1, 2004, at 23 (“When needed, they [white phosphorus illumination mortars] suppressed enemy personnel in the objective area, suppressed personnel attempting to escape, illuminated the battlefield, and marked targets for rotary-wing air-support. Due to the FOB [forward operating base] being located on the edge of a town, I would periodically (on average four times a week) use mortar illumination rounds as pseudo H&I [harassment and interdiction] fires. My intent was to not cause any unnecessary local national casualties, but I wanted them to know that we were still there and alert.”).

18. Earl J. Catagnus, Jr. et al., *Infantry Squad Tactics: Some of the Lessons Learned During MOUT in the Battle for Fallujah*, MARINE CORPS GAZETTE, Sept. 2005, at 80, 88, available at <http://www.smallwars.quantico.usmc.mil/search/Articles/Infantry%20Squad%20Tactics.pdf>.

19. See Reynolds, *supra* note 7.

20. See *id.*

necessary suffering. Third, the prohibition on poison or asphyxiating weapons. These principles are codified in the Law of Land Warfare.²¹

Article 22 of the Regulations Respecting the Laws and Customs of War on Land stipulates that “[t]he right of belligerents to adopt means of injuring the enemy is not unlimited.”²² Article 23 states that it is “especially forbidden . . . [t]o employ poison or poisoned weapons [or] [t]o employ arms, projectiles, or material calculated to cause unnecessary suffering.”²³

While it is true that weapons are meant to kill and maim, the Law of Land Warfare recognizes that some weapons, uses, and tactics are strictly prohibited because they violate any or all of these three principles. Conversely, some weapons, uses, and tactics, are perfectly legal and honorable. These restrictions are also subject to the principal defense of military necessity. Military necessity authorizes the use of military force necessary to accomplish the mission. Thus, a weapon or tactic may cause *unnecessary suffering* and still be lawful because it is the only means that can accomplish a military objective. Nevertheless, military necessity is not a defense for acts expressly prohibited by treaty.²⁴

In 1899, the Hague Gas Declaration declared that “projectiles the sole object of which is the diffusion of asphyxiating or deleterious gases” would be illegal under international law.²⁵ The test for this declaration was whether toxicity was the dominant effect of the projectile.²⁶ Consequently, projectiles that combine both gas and shrapnel would still be lawful provided that the shrapnel caused the dominant effect of the weapon. For example, in World War I, the Germans employed chlorine projectiles. Germany argued that the weapon did not violate international law because the sole object of the projectile was not “the [d]iffusion of [a]sphyxiating or [d]eleterious gases.”²⁷ Under the declaration, a proportional analysis was required to determine whether a weapon was a prohibited chemical weapon.²⁸

21. DEP’T OF THE ARMY, THE LAW OF LAND WARFARE (1956), available at http://www.loc.gov/rr/frd/Military_Law/pdf/law_warfare-1956.pdf.

22. *Id.* at 17 (quoting Annex to the Convention with respect to the Laws and Customs of War on Land art. 22, Oct. 18, 1907, 36 Stat. 2277, T.S. No. 403 [hereinafter Annex to the Laws and Customs of War]).

23. Annex to the Laws and Customs of War, *supra* note 22, art. 23.

24. INT’L & OPERATIONAL LAW DEP’T, JUDGE ADVOCATE GENERAL’S LEGAL CTR. & SCH., LAW OF WAR HANDBOOK 164–65 (2005), available at http://www.loc.gov/rr/frd/Military_Law/pdf/law-war-handbook-2005.pdf.

25. Declaration Concerning Asphyxiating Gases, July 29, 1899, 32 Stat. 1779, 187 CONSOL. T.S. 453, available at <http://hei.unige.ch/humanrts/instree/1899e.htm>.

26. INGRID DETTER, THE LAW OF WAR 254 (2d ed. 2000).

27. *Id.*

28. *Id.*

In 1925, the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases sought to close this loophole:

WHEREAS the *use in war of asphyxiating, poisonous or other gases*, and of all analogous liquids, materials or devices, has been justly condemned by the general opinion of the civilised world . . . TO THE END that this prohibition shall be universally accepted as a part of International Law, binding alike the conscience and the practice of nations²⁹

The sole purpose criterion was replaced by a prohibition on the use of asphyxiating, poisonous, or other gases. Moreover, the 1925 protocol differed from the 1899 declaration because the restricted chemical weapons were not limited to “projectiles,” but rather extended to “materials and devices.” This was particularly important because the Germans in World War I initially used chlorine canisters to disrupt enemy trench lines and to fortify positions. Germany had argued that the use of chlorine was not illegal because the chemical was contained in canisters and not projectiles.³⁰ Thus, the 1925 protocol further developed the principle of chemical weapon prohibition to include devices and materials employed in war, where these devices and materials are used for their poisonous and asphyxiating properties. President Ford ratified the 1925 protocol in 1975.³¹

A. Toxic Chemicals & the United Nations War Crimes Commission

1. Zyklon B: Wasch-und Desinfectionsraum

Hydrogen cyanide or prussic acid (Zyklon B) is probably the quintessential example of a dual-use chemical. On one hand, vast amounts of Zyklon B were shipped to German concentration camps for the benign purpose of disinfecting buildings and delousing clothing of interned prisoners. On the other hand, the chemical was the chief toxic gas used to “systematically exterminat[e] human beings to an estimated total of six million, of whom four and a half million were exterminated by the use of Zyklon B in one camp alone, known as Auschwitz/Birkenau.”³²

In the *Zyklon B Case*, a British military tribunal charged three German businessmen, Bruno Tesch, Joachim Drosihn, and Karl Weinbacher with

29. Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous, or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571, 14 I.L.M. 49 (emphasis added).

30. DETTER, *supra* note 26, at 254.

31. *Id.*

32. *In re Tesch (Zyklon B Case)*, 1 Law Rep. of Trials of War Criminals 93, 94 (Brit. Mil. Ct. 1946), available at <http://www.ess.uwe.ac.uk/WCC/zyklonb.htm>.

war crimes, alleging “that they ‘at Hamburg, Germany, between 1st January, 1941, and 31st March, 1945, in violation of the laws and usages of war did supply poison gas used for the extermination of allied nationals interned in concentration camps well knowing that the said gas was to be so used.’”³³

The prosecution introduced evidence that Tesch was asked about killing Jews with hydrogen cyanide and recommended that the gas be used in enclosed spaces, as was done in exterminating vermin. The German businessmen pleaded not guilty. Counsel for Tesch made the following defenses:

First, that Tesch had no knowledge of the killing of human beings by means of Zyklon B; secondly, that Zyklon B was delivered only for normal purposes of disinfection and for medical reasons; thirdly, that the parts of the gas chambers were sold only for the purpose of exterminating vermin; fourthly, that concentration camps got the gas only in amounts which were quite normal in relation to the number of inhabitants, and only for killing vermin; and fifthly, that instruction courses were held only according to the relevant laws and regulations, and again only for the purpose of teaching the method of exterminating vermin.³⁴

Weinbacher’s and Drosihn’s defense was that they had no knowledge of the killing of human beings by the poisonous gas until the end of the war and that they did not have any reason to believe that Zyklon B was being used for anything but the extermination of vermin. They insisted that the Zyklon B was not a weapon and that they had no knowledge of the context in which it was being used.³⁵

The judge advocate argued that to render a verdict against the defendants, the court had to be sure of three facts: “[F]irst, that Allied nationals had been gassed by means of Zyklon B; secondly, that this gas had been supplied by Tesch and Stabenow; and thirdly, that the accused knew that the gas was to be used for the purpose of killing human beings.”³⁶

The tribunal found Tesch and Weinbacher guilty based on this three-part test. Drosihn was a subordinate in the firm and had no knowledge of the way the gas was being used.³⁷ Although the tribunal did not have any evidence that Weinbacher had knowledge of the illegal use of Zyklon B, the court seemed to rely on the fact that he had *reason to know* based on

33. *Id.* at 93 (citation omitted in original).

34. *Id.* at 96.

35. *Id.* at 96–97.

36. *Id.* at 101.

37. *Id.* at 102.

his position within the firm.³⁸ Specifically, it was reasonable to infer that “a competent business person in a leadership position will know the context behind the major efforts of his business.”³⁹

2. *The Tesch Deception*

Dual-use chemicals and their attendant circumstances are not trivial. The specific context, not the abstract non-prohibited purpose, was the legally significant issue that determined whether or not Zyklon B was being used as a chemical weapon to kill allied nationals. Killing vermin, cleaning, and disinfecting were merely smokescreens to conceal and distract from the terror that had occurred within the dual-context of the gas chambers at Auschwitz. The dual-use, dual-context argument was a deliberate ploy by Germany to avoid international criticism and war crime liability. During the Nuremberg Trials, Justice Jackson engaged in the following exchange with Albert Speer (Germany’s Minister for Armaments during World War II), asking why Germany had chosen not to use its vast stockpiles of deadly gases:

MR. JUSTICE JACKSON: And your reasons, I take it, were the same as the military’s, that is to say, it was certain Germany would get the worst of it if Germany started that kind of warfare. That is what was worrying the military, wasn’t it?

SPEER: No, not only that. It was because at that stage of the war it was perfectly clear that under no circumstances should any international crimes be committed which could be held against the German people after they had lost the war. That was what decided the issue.⁴⁰

So according to Speer, concern of being held for international crimes was the reason for the Nazis not using the deadly gases Sarin and Tabun. It is important to note that the concern not to use obvious chemical weapons did not stop the Nazis from improperly using common lawful chemicals—carbon monoxide (Death Vans) and a pesticide (Zyklon B)—within enclosed spaces to kill human beings.

These historical lessons illustrate the principal need to evaluate the legality of weapons or methods of warfare in the context in which they are

38. Kyle Rex Jacobson, *Doing Business with the Devil: The Challenges of Prosecuting Corporate Officials Whose Business Transactions Facilitate War Crimes and Crimes Against Humanity*, 56 A.F. L. REV. 167, 194 (2005).

39. *Id.* at 195.

40. 16 TRIAL OF THE MAJOR WAR CRIMINALS BEFORE THE INTERNATIONAL MILITARY TRIBUNAL 528 (1948).

being applied rather than in abstract isolation.⁴¹ This is particularly important when evaluating weapons that possess poison or asphyxiating capabilities.⁴² Article 36 of the Geneva Convention recognizes this principle by stating that the legality of weapons or methods of warfare is evaluated “in some or all circumstances.”⁴³ Thus, the purpose for which the weapon was used is the controlling legal principle. Fundamentally, a “context-based” approach⁴⁴ makes intended or initial design of the weapon incidental to the analysis.

This principle is crucial in chemical weapons proliferation because the modern economy depends of an array of toxic chemicals for industry. Common chemicals can be combined or improperly used in such a context which would transform a seemingly benign chemical into a chemical weapon. A chemical need not be manufactured or labeled as “chemical weapons” in order to be, in certain circumstances, a chemical weapon under international law. For example, the U.S. Army field manual on urban combat cautions that lawfully possessed chemicals such as ammonia, chlorine, and sulfuric and phosphoric acids pose toxic threats for both state and non-state actors.⁴⁵

B. *The Chemical Weapons Convention: “Never Under Any Circumstances”*

1. *Definition of a Chemical Weapon: Toxic Chemicals*

The Chemical Weapons Convention⁴⁶ (CWC) was established in recognition of the danger posed by chemical weapons and the ease by which

41. See James D. Fry, *Contextualized Legal Reviews for the Methods and Means of Warfare: Cave Combat and International Humanitarian Law*, 44 COLUM. J. TRANSNAT'L L. 453, 455 (2006) (“context-based legal reviews of methods and means of warfare can help close loopholes and ensure that the spirit of these [international humanitarian] laws prevails”).

42. *Id.* at 456.

43. *Id.* at 468–69 (citing Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts art. 36, June 8, 1977, 1125 U.N.T.S. 3, 16 I.L.M. 1391, available at <http://www1.umn.edu/humanrts/instree/y5page.htm>).

44. See *id.* at 480.

45. U.S. ARMY, COMBINED ARMS OPERATIONS IN URBAN TERRAIN, FIELD MANUAL 3-06.11 (2002), available at https://atiam.train.army.mil/soldierPortal/atia/adlsc/view/public/9629-1/fm/3-06.11/fm3_06x11.pdf. See also Jonathan P. Edwards, *The Iraqi Oil “Weapon” in the 1991 Gulf War: A Law of Armed Conflict Analysis*, 40 NAVAL L. REV. 105, 130 (1992) (concluding that the igniting of Kuwaiti oil fields constituted a violation of the law of war).

46. Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, opened for signature Jan. 13, 1993, S. TREATY DOC. NO. 103-21, 32 I.L.M. 800, available at http://www.opcw.org/docs/cwc_eng.pdf [hereinafter Chemical Weapons Convention]. The treaty entered into force for the United States and other original signers on April 25, 1997. Organization for the Prohibition of Chemical Weapons, Membership of the OPCW (2007), http://www.opcw.org/html/db/members_ratifyer.html [hereinafter OPCW Membership].

commercial chemicals could be employed as weapons or in the making of weapons. Under Article I, section 1, “[e]ach State Party to th[e] Convention undertakes never under any circumstances . . . to use chemical weapons.”⁴⁷ Article I, section 5 states that “[e]ach State Party undertakes not to use riot control agents as a method of warfare.”⁴⁸ Unlike the Law of Land Warfare, the CWC *does not* contain an exception for military necessity.⁴⁹

Both the CWC and the Chemical Weapons Convention Implementation Act of 1998⁵⁰ (CWCIA) define *chemical weapons* to include “toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes.”⁵¹

Article II, section 2 of the CWC defines “toxic chemical” as:

Any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in facilities, in munitions or elsewhere.⁵²

Article II, section 9 of the CWC lists purposes not prohibited, which include “[m]ilitary purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare.”⁵³

Section 229F(7)(C) defines purposes not prohibited as “[a]ny military purpose of the United States that is not connected with the use of a chemical weapon or that is not dependent on the use of the toxic or poisonous properties of the chemical weapon to cause death or harm.”⁵⁴

Section 229 describes unlawful conduct as follows: (1) any person *knowingly* using any chemical weapon; or (2) assisting or inducing, in any way, any person to use such chemical weapon.⁵⁵ Further, exempted persons include “any . . . member of the Armed Forces . . . who is authorized by law or by an appropriate officer of the United States to retain, own, pos-

47. Chemical Weapons Convention, *supra* note 46.

48. *Id.*

49. Compare THE LAW OF LAND WARFARE, *supra* note 21, at 179, with Chemical Weapons Convention, *supra* note 46.

50. Pub. L. No. 105-277, 112 Stat. 2681-2856 (codified as amended at 22 U.S.C. §§ 6701-71 (2006)).

51. *Id.* § 3(1)(A), 22 U.S.C. § 6701(1)(A); Chemical Weapons Convention, *supra* note 46, art. II, § 1(A).

52. Chemical Weapons Convention, *supra* note 46, art. II, § 2.

53. *Id.* § 9(c).

54. Chemical Weapons Convention Implementation Act § 229F(7)(C), 22 U.S.C. § 6701(8)(C).

55. *Id.* § 229(a), 18 U.S.C. § 229(a).

sess, transfer, or receive the chemical weapon.”⁵⁶ However, the exemption does not apply to the *use* of chemical weapons.⁵⁷

The United States has jurisdiction when the use of chemical weapons “takes place outside of the United States and is committed by a national of the United States.”⁵⁸ In general, criminal penalties require that a person⁵⁹ who uses a chemical weapon be “fined, or imprisoned for any terms of years, or both.”⁶⁰ Moreover, any person who uses chemical weapons by which “the death of another person is the result shall be punished by death or imprisoned for life.”⁶¹ This provision also allows for civil penalties upon proof of such violation by a preponderance of the evidence.⁶²

It is important to note that the CWC and the CWCIA recognize the knowing use of a toxic chemical as a method of warfare against a human being as an unlawful use of a chemical weapon. Moreover, under federal law, members of the U.S. armed forces outside the United States are not exempt from using toxic chemicals connected with the use of the chemical’s toxic or poisonous properties to cause death or harm of a human being.⁶³ It is also important to note that the statute and treaty do not use the terms “dominant” or “sole” but rather “connected” and “dependent” respectively. This is a critical difference between the CWC and the proportionality analysis required under the 1899 Hague Gas Declaration. Again, since the use of a toxic chemical as a method of warfare is expressly prohibited by treaty there can be no defense of necessity under the laws of war.

2. Chemicals Subject to Inspection

The CWC also specifically lists three schedules of chemicals as well as a broad class of chemicals called *Unscheduled Discrete Organic Chemicals* (UDOCs), which are subject to inspection by the OPCW.⁶⁴ This list is

56. *Id.* § 229(b)(2)(A).

57. *Id.*

58. *Id.* § 229(c)(2).

59. *Id.* § 3(6), 22 U.S.C. § 6701 (“The term ‘person,’ except as otherwise provided, means any individual, corporation, partnership, firm, association, trust, estate, public or private institution, any State or any political subdivision thereof, or any political entity within a State, any foreign government or nation or any agency, instrumentality or political subdivision of any such government or nation, or other entity located in the United States.”).

60. *Id.* § 229A(a)(1), 18 U.S.C. § 229A(a)(1).

61. *Id.* § 229A(a)(2).

62. *Id.* § 229A(b)(1).

63. *Id.* § 229.

64. ORGANIZATION FOR THE PROHIBITION OF CHEMICAL WEAPONS, FACT SHEET 4: WHAT IS A CHEMICAL WEAPON? (2000), <http://www.opcw.org/docs/fs4.pdf> [hereinafter OPCW FACT SHEET].

sometimes incorrectly interpreted as being a list of prohibited chemicals.⁶⁵ The stringency of these schedules decrease as the likelihood of improper use as an agent of warfare decreases. Schedule 1 chemicals “are known as chemical warfare agents with little or no other uses.” These include agents such as VX (nerve) and mustard gas. Schedule 2 consists of chemicals with the potential to be used as chemical weapons but which also have legitimate uses. Schedule 3 chemicals have potential for use as chemical weapons but also have substantial industrial uses. These include chemicals such as phosgene and hydrogen cyanide (the main ingredient in Zyklon B).⁶⁶ UDOCs include all compounds of carbon (except its oxides, sulfides, and metal carbonates). Within UDOCs, PSF chemicals (chemicals containing *phosphorus*, sulfur, or fluorine) are subject to more stringent controls.⁶⁷ Nevertheless, any toxic chemical’s use as a method of warfare would be prohibited regardless of it being a chemical subject to inspection.

3. UDOCs

Although the first of the three inspection schedules covers more infamous chemicals, it does not cover others like chlorine, which has numerous legitimate uses in the economy. However, chlorine falls under the UDOC category in the CWC. Interestingly, chlorine was one of the first chemicals used in warfare in modern times.⁶⁸

In World War I, the Germans employed toxic chlorine gas against entrenched French and Canadian forces. They buried 168 metric tons of chlorine gas and released it where the wind carried to the Allies in the trenches.⁶⁹ The fog frightened the troops and they “experienced violent nausea, asphyxiation, blindness, and agonizing pain. Within thirty minutes, the toxic gas had caused 15,000 casualties and 5,000 deaths, leading to the collapse of two entire French divisions.”⁷⁰ Many felt that the Ger-

65. Pentagon spokesman Lt. Col. Barry Venable misinterpreted the inspection schedule to be an exclusive list of prohibited chemicals. See *U.S. Used White Phosphorus in Iraq*, BBC NEWS, Nov. 16, 2005, http://news.bbc.co.uk/1/hi/world/middle_east/4440664.stm [hereinafter *White Phosphorus*]. Any toxic chemical used as a method of warfare would be prohibited under the CWC.

66. See Chemical Weapons Convention, *supra* note 46, Annex on Chemicals.

67. See Organization for the Prohibition of Chemical Weapons, Determining Declarable Industrial Activities, http://www.opcw.org/html/db/chemind_declarable.html (last visited Dec. 3, 2007).

68. Timothy K. Webster, *The Future of the Chemical and Biological Weapons Conventions*, NAT. RESOURCES & ENV'T, Winter 2002, at 187, 188, available at <http://www.abanet.org/enviro/pub/pub/nre/specissue/webster.pdf>.

69. *Id.* at 196.

70. See Jonathan B. Tucker, *Introduction to THE CHEMICAL WEAPONS CONVENTION: IMPLEMENTATION CHALLENGES AND SOLUTIONS* 1, 1 (Jonathan B. Tucker ed., 2001) (citing Jonathan B. Tucker, *From Arms Race to Abolition: The Evolving Norm Against Biological and Chemical Warfare*, in *THE NEW TERROR: FACING THE THREAT OF BIOLOGICAL AND CHEMICAL WEAPONS* 159, 159–226 (Sidney D. Drell et al. eds., 1999)).

mans had found a way to break the trenches. Germany's use of chemical warfare prompted retaliation by the Allies and new agents like phosgene and mustard gas were developed.⁷¹

However, the inception of chemical warfare goes back even further. The first use of chemical weapons in ancient times occurred from 429 BC to 424 BC with the Spartan sieges of Plataea and Delium during the Peloponnesian Wars. In 423 BC, the Spartans took an Athenian-held fort by directing poisonous fumes from burning pitch and sulfur and channeling them into the fighting positions occupied by Athenian combatants.⁷²

In recognition that commonly used industrial products could be converted to serve illegitimate purposes, the drafters of the CWC included a broad category of chemicals called UDOCs (Unscheduled Discrete Organic Compounds).

The CWC would seemingly close the loopholes of dual-use UDOC agents like the Germans' use of chlorine. It would also prohibit the use of toxic sulfur fumes to dislodge troops (as in the Spartan sieges).

4. *Quasi-Chemical RCAs*

Riot Control Agents (RCAs) are defined as chemicals not listed in an inspection schedule "which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure."⁷³

Under the CWC, the state parties agree not to use RCAs as a method of warfare. If a state party believes that an RCA has been used against it as a method of warfare, it has the right to request assistance from the OPCW.⁷⁴ However, it is important to note for this analysis that Iraq is not a party to the CWC. Nevertheless, this does not eliminate U.S. obligations under the treaty and U.S. law.

5. *Interpretations of Method of Warfare: "A Special Killing Equation"*

The use of RCAs was a topic of considerable debate during the CWC negotiations. Specifically, the convention gave no indication as to what methods of warfare meant. Despite this gray area, there is agreement that a

71. *Id.*

72. Fry, *supra* note 41, at 453.

73. ORGANIZATION FOR THE PROHIBITION OF CHEMICAL WEAPONS, DECLARATION HANDBOOK FOR THE CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION, STOCKPILING AND USE OF CHEMICAL WEAPONS AND ON THEIR DESTRUCTION § K (2002), http://www.opcw.org/handbook/html/sec_k.html.

74. OPCW FACT SHEET, *supra* note 64.

method of warfare would include the use of an RCA to amplify the use of lethal force.⁷⁵

Dr. Matthew Meselson, testifying before the Senate Armed Services Committee regarding the CWC, gave an example of a method of warfare in which RCAs would be used to “drive personnel from protective cover into the line of ground fire or bombing, to disrupt their operations and otherwise as multipliers of lethal force.”⁷⁶ Similarly, Dr. Amy Smithson testified before Congress, during the ratification, that the “law of war describes a method of warfare as a way to attain military objectives. According to this definition, *flushing enemy soldiers from foxholes into the line of fire*, or launching an RCA attack on an enemy command post easily qualify as method of warfare uses.”⁷⁷

Moreover, the Chemical Weapons Convention Bulletin pointed out that non-lethal RCAs have been historically employed as a lethal method of warfare:

Police gases extensively used in war include ethyl bromoacetate and congeners in the first World War; agent CN in Ethiopia (from December 1935), China (from late 1937) and the Yemen (1963); and agent CS in the Vietnam War and the Iraq-Iran war. In each case, *these agents were used mainly or entirely not to avoid the use of conventional firepower but in conjunction with it*, as a force multiplier. Moreover, starting in World War I, combat use of such gases preceded every significant outbreak of lethal chemical warfare.⁷⁸

Detter, in *The Law of War*, notes that historically many states used chemical or biological weapons in their colonization processes:

After the establishment of colonies it became common to use CBW (Chemical/Biological Weapons) against insurgents, for example to drive them out of caves or hiding places, as did the French in Algeria in the middle of the last century. There is no doubt the British used gas in the Boer War.⁷⁹

According to Harper, employment of RCAs “in advance of lethal weapons, whether chemical or conventional, against enemy troops, positions

75. Ernest Harper, *A Call for a Definition of Method of Warfare in Relation to the Chemical Weapons Convention*, 48 NAVAL L. REV. 132, 133 (2001).

76. *Id.* at 156.

77. *Id.* at 149 (emphasis added).

78. *Id.*

79. DETTER, *supra* note 26, at 252.

and equipment is the archetypal use [of RCAs] as a method of warfare.”⁸⁰ His analysis concludes with a possible definition: “Riot Control Agents are a method of warfare when used to systematically enable or multiply the use of lethal force against hostile enemies,” but not when meant to save lives.⁸¹ Moreover, he suggests that “when used in conjunction with lethal weapons, RCA is a method of warfare even if the targets are civilians.”⁸²

6. Use of Chemicals Authorized Against Iraqis

I am strongly in favor of using poisoned gas against uncivilised tribes. The moral effect should be so good that the loss of life should be reduced to a minimum. It is not necessary to use only the most deadly gasses: gasses can be used which cause great inconvenience and would spread a lively terror and yet would leave no serious permanent effects on most of those affected.⁸³

On February 5, 2003 (the same day that Secretary of State Colin Powell appeared before the United Nations describing Iraq’s deceptive Chemical Weapons Program),⁸⁴ Secretary of Defense Donald Rumsfeld appeared before the House Arms Committee and said that absent a presidential waiver, U.S. troops would not be able to use RCAs in combat: “In many instances our forces are allowed to shoot somebody and kill them, but they are not allowed to use a nonlethal riot agent under the law.”⁸⁵

In April 2003, President Bush authorized the U.S. military to use tear gas in Iraq.⁸⁶ According to the Pentagon, tear gas was issued to American troops and would only be used to save civilian lives in accordance with the executive order and the CWC.⁸⁷ As of April 30, 2003 Defense Department officials interpreted the CWC to mean that chemicals would be allowed to subdue Iraqis “for their own safety or to defend U.S. troops.”⁸⁸

80. Harper, *supra* note 75, at 149–50.

81. *Id.* at 158–59.

82. *Id.* at 150.

83. Centre for Research on Globalisation, Winston Churchill’s Secret Poison Gas Memo (quoting Memorandum from Winston Churchill (May 12, 1919), in 4 MARTIN GILBERT, WINSTON S. CHURCHILL (1976)), available at <http://www.globalresearch.ca/articles/CHU407A.html>.

84. Colin Powell, U.S. Sec’y of State, Iraq Denial and Deception: Address Before the U.N. Sec. Council (Feb. 5, 2003), available at <http://www.whitehouse.gov/news/releases/2003/02/20030205-1.html>.

85. Kerry Boyd, *Rumsfeld Wants to Use Riot Control Agents in Combat*, ARMS CONTROL TODAY, Mar. 2003, available at http://www.armscontrol.org/act/2003_03/nonlethal_mar03.asp.

86. Nicholas Wade & Eric Schmitt, *Bush’s Authorization for Troops to Use Tear Gas is Criticized*, INT’L HERALD TRIBUNE, Apr. 3, 2003, at 3.

87. *Id.*

88. Paul Richter, *After the War: Treaty Complicates Crowd Control*, L.A. TIMES, Apr. 30, 2003, at A8.

Some commentators have pointed out that the use of RCAs on the battlefield creates a slippery slope. It could provoke retaliation with more toxic weapons. Furthermore, use of RCAs on the battlefield could also result in the use of “chemicals on intermingled combatants and civilians in a war zone, for example, [or] could lead to or become the excuse for *unrestricted* employment in urban warfare.”⁸⁹ Elisa Harris, of the Center for International and Security Studies at the University of Maryland, drew parallels between the United States’ decision to use RCAs in combat to previous uses of chemicals in combat.⁹⁰ “In four major uses of chemical weapons in the past—by combatants in World War I, by the Italians in Ethiopia, by the Egyptians in Yemen, and the Iran-Iraq war—deployment was preceded by non-lethal agents.”⁹¹

The point at which a non-lethal weapon becomes lethal is a matter of degree. This issue presents several problems. At what percentage does a non-lethal gas become a lethal agent (thirty to forty percent fatality rate)? At what point does a gas inflict no fewer casualties than firing lethal shots to disperse a crowd?

The CWC attempts to overcome this slippery slope by requiring the following: (1) RCAs must not be listed as restricted chemicals,⁹² (2) RCAs must be registered with the OPCW,⁹³ and (3) RCAs cannot be used as a method of warfare.⁹⁴ There is general agreement that a prohibited method of warfare is defined as non-lethal chemicals being used in conjunction with lethal force.⁹⁵

C. Improper Use of White Phosphorus

1. Customary International Law

[N]ot everything automatically becomes permissible between hostile parties once war has regrettably begun. As a means of limiting the devastating consequences of war as much as possible, especially for civilians, the international community has created international humanitarian law. [R]espect for that law must be binding on all peoples.⁹⁶

89. Harper, *supra* note 75, at 152 (emphasis added).

90. Wade & Schmitt, *supra* note 86.

91. *Id.*

92. Chemical Weapons Convention, *supra* note 46, art. II, § 7.

93. *Id.* art. III, § 1(e).

94. *Id.* art. I, § 5.

95. Harper, *supra* note 75, at 134, 158.

96. Stacey Meichtry, *Pope Speaks Out Against Sophisticated Weapons of War*, RELIGION NEWS SERVICE, Dec. 13, 2005.

Customary international law “results from a general and consistent practice of states followed by them from a sense of legal obligation.”⁹⁷ In order for a state practice to become customary international law, states must follow the practice out of a sense of legal obligation or *opinio juris*.⁹⁸ “Explicit evidence of a sense of legal obligation” may come from official statements.⁹⁹ Moreover, “in determining whether a rule has become international law, substantial weight is accorded to . . . the opinions of international tribunals and the writings of scholars.”¹⁰⁰ Consequently, customary international law is binding upon all states even in the absence of a particular state’s consent.¹⁰¹ However, it may be modified within a state by subsequent legislation or a treaty.¹⁰²

Section 701 of the Restatement (Third) of Foreign Relations Law of the United States declares that:

A state is obligated to respect human rights subject to its jurisdiction: (a) that it has undertaken to respect by international agreement; (b) that states generally are bound to respect as a matter of customary international law; and (c) that it is required to respect under general principles of law common to the major legal systems of the world.¹⁰³

The following sections analyze the prohibition of improper use of white phosphorus under (1) customary international law as established by state practice of sovereign nations, and (2) prohibition of the white phosphorus recognized under the CWC.

2. State Practice: Official Statements

There is evidence of state practice that many nations (including major nations) and the United Nations view the anti-personnel use of white phosphorus as prohibited under international law. The official British policy is not to use it as an anti-personnel weapon.¹⁰⁴ Although the Israelis were reported to have used white phosphorus as an anti-personnel weapon, the official position of Israeli officers was that they do not use white phospho-

97. RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE U.S. § 102(2) (1987).

98. *Id.* § 102 cmt. c.

99. *Id.*

100. *Id.* § 103(2)(a), (c).

101. *See id.* § 102 cmts. d, k.

102. *Id.* § 115.

103. *Id.* § 701.

104. Reynolds, *supra* note 7.

rus in that way.¹⁰⁵ Likewise, in response to allegations of illegal white phosphorus use in Iraq, the Russian Duma (Senate) issued a statement condemning the use of phosphorus bombs under any circumstances and stated that such bombs are banned by international treaties even “under cover of noble aims of the fight against terrorism.”¹⁰⁶ In response to questions on whether the Italian government would condemn America’s use of white phosphorus in Iraq, Italian Prime Minister Silvio Berlusconi said, “[i]f white phosphorus was used, *condemnation is absolutely inevitable*.”¹⁰⁷ Other countries have also stated publicly that white phosphorus is only used for the purpose of screening and/or illumination and not as an anti-personnel weapon.¹⁰⁸ Scholars have also raised questions as to white phosphorus’s illegality as an anti-personnel weapon.¹⁰⁹

105. HUMAN RIGHTS WATCH, CIVILIAN PAWNS: LAWS OF WAR VIOLATIONS AND THE USE OF WEAPONS ON THE ISRAEL-LEBANON BORDER (1996), available at <http://hrw.org/reports/1996/Israel.htm> [hereinafter CIVILIAN PAWNS].

106. *Russian Parliament Condemns U.S. Use of Phosphorus Bombs in Iraq*, AFX NEWS, Nov. 24, 2005 [hereinafter *Russian Parliament Condemns*]. See also *Russian Duma Urges Probe into Iraqi Human Rights, Criticizes U.S.*, RIA NOVOSTI, Nov. 24, 2005. Venezuelan President Hugo Chavez called the U.S.’s use of white phosphorus in Iraq a violation of international law. *Venezuelan Leaders’ Statements on US 26 Nov-2 Dec 05*, WORLD NEWS CONNECTION, Dec. 3, 2005. Cuba’s President Fidel Castro said, “White phosphorus in Fallujah—that is a weapon prohibited among international weapons.” *Castro Denies CIA Parkinson’s Diagnosis*, AGENCE FRANCE-PRESSE, Nov. 18, 2005.

107. *Berlusconi Pledges to Stay as P.M. for Next Five Years*, AGENCE FRANCE-PRESSE, Dec. 23, 2005 (emphasis added).

108. Italian Army Chief of Staff Filberto Cecchi said, “[white phosphorus] are munitions which are used for specific purposes, to create smoke shields or to illuminate a battlefield.” *Weekly Says Army Has Purchased White Phosphorus Munitions*, ANSA ENG. MEDIA SERVICE, Nov. 24, 2005. British Defense Secretary John Reid told *The Guardian* that the British Military uses white phosphorus to provide smokescreen cover on operations. When asked about the American use he replied that “the Americans have to answer the questions which are put to them on this issue . . . I can only answer for the British.” Michael White & Richard Norton-Taylor, *Tougher Phosphorus Rules Urged After U.S. Use in Falluja Siege*, THE GUARDIAN (London), Nov. 17, 2005, at 4. Danish Prime Minister Anders Fogh Rasmussen said that the “United States and other countries active in Iraq must respect international conventions ruling how to wage war . . . The premier said he had not recently discussed the issue of white phosphorus or allegations of torture with [United States] President George W. Bush, but ‘he has no doubts about my views.’” *Denmark “Not Ready to Set Date for Leaving Iraq,”* DEUTSCHE PRESS-AGENTUR, Nov. 22, 2005.

109. Paul Rodgers of the University of Bradford Department of Peace Studies said “[white phosphorus] probably would fall into the category of [a] chemical weapon if used directly against people.” *U.S. Denies Chemical Attack on Iraq*, DAILY POST (Liverpool, U.K.), Nov. 16, 2005, at 5. Professor Norman Dombey of Sussex University said that

[t]he use of white phosphorus shells by coalition infantry at Fallujah on residential areas is banned by the 1993 Chemical Weapons Convention. That is arguable, but unlikely to be accepted by the British government.

What is beyond doubt however, is that the use of [white phosphorus] shells in civilian areas is banned by Protocol III on the use of incendiary weapons of the 1980 Geneva convention on conventional weapons.

Phosphorus Banned Under 1980 Treaty, Says Physics Professor, IRNA (Tehran), Nov. 22, 2005, available at http://dtirp.dtra.mil/tic/WTR/wtr_22nov05.pdf. Marie Chevrier, Associate Professor of Political Economics at the University of Texas–Dallas, told WBEZ-FM radio that the use of white phosphorus as a weapon is banned under the Chemical Weapons Convention because it turns into a

There is also evidence of state practice that white phosphorus use is prohibited against civilians. In the Bosnian War, Serbian forces shelled a village, and a white phosphorus shell hit a house, burning one its occupants.¹¹⁰ A spokesman for the United Nations called the action a violation of the laws of war.¹¹¹ Bosnian Ambassador to the UN, Muhamed Sacirbey, called on the UN Security Council for assistance in ending civilian suffering and called the use of phosphorus bombs banned under the Geneva Convention.¹¹² He described the Serbs' use of white phosphorus in the following way:

These weapons are being used against the population of Sarajevo without punishment or response. Once again, Bosnian civilians are paying the heaviest price. According to UN logic, which justifies the failure to act by the fact that the sides are equal in strength, the Nazi murders of innocent civilians were really nobody's business, because the allies more than matched the Nazis in strength.¹¹³

Similarly, Human Rights Watch (HRW) investigated reports describing the Israeli Defense Forces shelling of Lebanese homes with white phosphorus in 1996. Although there was only circumstantial evidence, HRW stated that such violations would be in violation of the Law of Land Warfare.¹¹⁴

There is also indication and evidence of state practice that the United States views the anti-personnel use of white phosphorus as a violation of the laws of war. The last official statement by the Department of Defense was that white phosphorus was only used for screening, marking, and illumination. The U.S. Army Training Battle Book states that anti-personnel use of white phosphorus is prohibited by the laws of war.¹¹⁵ In World War

mist that burns what it touches, and described the irritating and caustic effect it has on mucus membranes. *White Phosphorus Controversy* (WBEZ-FM radio broadcast Nov. 18, 2005).

110. United Nations spokesman Alexander Ivanko commented on the use of white phosphorus artillery shells in the town of Maglaj: "This attack proves just how much respect the Bosnian Serbs have for the laws of the international community from which they seek recognition and legitimacy." John Pomfret, *U.N. Gives Evidence of Serb Air Attack on Bosnian Enclave; Bombing Would Violate NATO 'No-Fly Zone'*, WASH. POST, Apr. 30, 1995. United Nations spokesman Lt. Col. Gary Coward said that the use of white phosphorus by the Serbs was banned under the Geneva Convention because it causes "severe burns." *Fighting Worsens Inside Sarajevo*, SUN-SENTINEL (Fla.), May 25, 1995, at 14A. See also Sean Maguire, *Serbs Launch Phosphorus Attack in Bosnia*, REUTERS, Apr. 29, 1995.

111. Pomfret, *supra* note 110.

112. *Bosnian Ambassador Calls on U.N. to Protect Civilians in Bosnia*, BBC, May 25, 1995.

113. *Id.*

114. CIVILIAN PAWNS, *supra* note 105. In response to allegations that Israel used white phosphorus in southern Lebanon in July 2006, Human Rights Watch Emergencies Director Peter Bouckaert told the Sydney Morning Herald: "Phosphorus shells do have a legitimate use in illuminating the battlefield at night. The offensive use of phosphorus would be a violation of international conventions." *Israel Using Chemical Weapons: Doctors*, SYDNEY MORNING HERALD, July 27, 2006.

115. U.S. ARMY COMMAND & GEN. STAFF COLL., BATTLE BOOK / ST 100-3, at ch. 5, § 3, subsec. 5-11(b)(4) (1999), available at <http://www.fas.org/man/dod-101/army/docs/st100-3/c5/5sect3.htm>.

II, a declassified memo instructed military leaders to refrain from mentioning the anti-personnel use of white phosphorus to the media because it caused unnecessary suffering and violated the laws of war.¹¹⁶ In response to Serbian shelling of Sarajevo in 1995, Republican Senate Majority Leader Robert Dole issued the following Congressional Press Release: “It is about time that the UN allowed NATO to take action to respond to the dramatically deteriorating situation in Sarajevo. Just yesterday, the citizens of Sarajevo were attacked with *phosphorous* [sic] *shells—which are banned by the Geneva Convention.*”¹¹⁷

More recently, Gen. James “Spyder” Marks, former commander of intelligence for U.S. forces in Iraq, told CNN that white phosphorus should not be used against troops in the open.¹¹⁸ Similarly, in the wake of allegations that U.S. forces used white phosphorus as a weapon in Fallujah in 2005, Lt. Gen. Walter Buchanan III, commander for U.S. Central Command’s Air Forces, told reporters that “white phosphorus is *purely* used as a marking round, not a weapon.”¹¹⁹

According to Jon Holdaway, American Fire Direction Artillery Officers that use white phosphorus when there are other means available would violate the principle of unnecessary suffering.¹²⁰ On the other hand, if there were no other means available to accomplish the particular military objective, then the use would be legal as the suffering was *necessary*. This conclusion assumes that the use of white phosphorus in such a context does not violate a treaty agreement.¹²¹

116. Supreme Headquarters Allied Expeditionary Force Combined Field Press Censorship Group, “*Terror*” *Bombing of German Cities*, Feb. 18, 1945, <http://www.fpp.co.uk/History/General/Censored0245.html>.

117. Bob Dole, Senate Majority Leader, *Bosnia Airstrike*, CONG. PRESS RELEASES, May 25, 1995 (emphasis added).

118. *Anderson Cooper 360 Degrees: Crisis in the Middle East* (CNN television broadcast July 24, 2006), available at <http://transcripts.cnn.com/TRANSCRIPTS/0607/24/acd.02.html>.

119. Mortenson, *supra* note 3 (emphasis added).

120. Jon D. Holdaway, *The Law of War and Fire Support: A Primer for Fire Supporters*, FIELD ARTILLERY J., May 2001, available at http://www.findarticles.com/p/articles/mi_m0IAU/is_3_6/ai_76610404.

121. “Military necessity is not a defense for acts expressly prohibited by [treaty].” INT’L & OPERATIONAL LAW DEP’T, JUDGE ADVOCATE GENERAL’S LEGAL CTR. AND SCH., OPERATIONAL LAW HANDBOOK 12 (2006) [hereinafter OPERATIONAL LAW HANDBOOK], available at <http://www.fas.org/irp/doddir/army/law0806.pdf>.

III. WHITE PHOSPHORUS AND THE CWC

A. Screening and Illumination, or Flush Out and Kill?

On the roof, embers of white phosphorus glowed in the dark, from the flares fired by the advancing forces that snaked down from the sky like the tentacles of an octopus. The air was filled with acrid chemical smoke.¹²²

International law requires that a “treaty be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in light of its object and purpose.”¹²³ In determining whether American white phosphorus attacks constituted a violation of CWC Article 2(9)(C), 22 U.S.C. § 6711, we must determine whether these attacks were dependent and/or connected to the chemical’s toxic properties for the purpose of flushing the enemy out of enclosed spaces so they could then be killed with conventional weapons.

In reaction to allegations of illegal white phosphorus use in Iraq by U.S. forces, some have insisted that white phosphorus is not a banned chemical under the CWC.¹²⁴ David Fidler suggests that white phosphorus might be considered an improper use of an RCA because it was seemingly used to generate “smoke [to] produce[] . . . temporary [disabling] effects” as a method of warfare.¹²⁵ More specifically, these effects would drive insurgents out of entrenched positions where they could then be attacked by high explosives.¹²⁶

Fidler raises three issues with this theory. First, he contends that the “Shake & Bake” tactics seemed to be open air detonations and not within

122. Anne Barnard, *Advancing Forces Meet an Eerie Stillness*, BOSTON GLOBE, Nov. 9, 2004, at A20.

123. Vienna Convention on the Law of Treaties art. 31(1), *done on* May 23, 1969, 1155 U.N.T.S. 331 (1980), available at http://untreaty.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf.

124. *All Things Considered: Pentagon Defends Use of Toxic Agent in Iraq*, (Nat’l Pub. Radio broadcast Nov. 18, 2005), available at <http://www.npr.org/templates/story/story.php?storyId=5019073> [hereinafter *Pentagon Defends*].

125. David Fidler, *The Use of White Phosphorus Munitions by U.S. Military Forces in Iraq*, ASIL INSIGHTS, Dec. 6, 2005, available at <http://www.asil.org/insights/2005/12/insights051206.html>.

126. *Id.*

While use of white phosphorous [sic] might be legal as an illuminator or smoke screen, its legality may shift when used in the confines of a cave, bunker, or foxhole, as appears to have been the case in Fallujah. Indeed, white phosphorus not only has the potential of causing superfluous injuries and unnecessary suffering through painful chemical burns, but also has the potential of asphyxiating or suffocating the occupants of an enclosed space on account of the burst of yellow flames and thick smoke produced upon its contact with oxygen, as its chemical reaction continues until the material is consumed or the oxygen is depleted entirely.

Fry, *supra* note 41, at 458.

enclosed spaces.¹²⁷ Second, he states that white phosphorus has not been considered to fall within the “ambit of the CWC’s rules on RCAs.”¹²⁸ Third, he argues that the primary difficulty with “the RCA argument is that the permitted uses of white phosphorus munitions as marking, illuminating, or screening and (in certain circumstances) incendiary weapons also produce smoke that contains toxic substances that might be temporarily irritating or disabling.”¹²⁹ Thus, the primary question is whether white phosphorus’s *toxic properties* were purposely used to flush out and kill.

Despite these contentions and observations, credible evidence strongly suggests that the detonations have purposely taken place within enclosed spaces such as spider holes,¹³⁰ entrenched lines,¹³¹ covered positions,¹³² bunkers,¹³³ and the insides of buildings.¹³⁴ Moreover, Spokesmen Lieutenant Colonels Venable and Boylan have both publicly recognized the utility of phosphorus smoke in driving the enemy from positions.¹³⁵

In addition, it is patently false that the United States has never considered white phosphorus an RCA, which would fall within the ambit of the CWC. In a hearing before the Senate Armed Services Committee, the legal status of white phosphorus under the CWC was briefly discussed:

SEN. NUNN: Turning to riot control agents, have you talked about those yet

. . . .

SEN. NUNN: So-called RCAs, riot control agents. General, according to your testimony the administration interprets the prohibition of using riot control agents as a method of warfare, to include targeting combatants. During Vietnam, *white phosphorus* rounds were commonly used by artillery, armor, and aviation units to direct fire and register artillery and naval gun fire. Are white phosphorus rounds still in use today, and if so, *would the use of these rounds in a combat scenario be prohibited?*

[DEPUTY SEC’Y OF DEFENSE] DEUTCH: The Schedule C, sir—if I may answer the question—Schedule C contains chemicals

127. Fidler, *supra* note 125.

128. *Id.*

129. *Id.*

130. Cobb, *supra* note 16.

131. Emery, *supra* note 10.

132. *White Phosphorus*, *supra* note 65.

133. *Newsnight: U.S. Military Admits Use of White Phosphorus Weapons in Iraq* (BBC television broadcast Nov. 15, 2005).

134. Catagnus et. al, *supra* note 18.

135. Emery, *supra* note 10; *White Phosphorus*, *supra* note 65.

such as *phosphorus*, such as *hydrogen cyanide*, which have been previously used for—conceived of for chemical agent use, but have other applications, and they are not banned by the treaty.

SEN. NUNN: They are not[?]

[DEPUTY SEC'Y OF DEFENSE] DEUTCH: They are not.¹³⁶

It is unclear what the Deputy Secretary of Defense meant by “Schedule C.” There is no Schedule C of Chemicals in the CWC. Neither the current CWC annex of schedules nor the 1993 CWC Handbook makes any reference to a Schedule C list of chemicals.¹³⁷ However, hydrogen cyanide is on Schedule 3. Interestingly, in defense of white phosphorus as a dual use agent, Deutch makes an intriguing comparison to hydrogen cyanide. In the *Zyklon B* case, the tribunal found that Tesch was responsible for purposely killing allied nationals with a common chemical in enclosed spaces. Logically, the U.S. Defense Department’s comparison of white phosphorus with hydrogen cyanide extends the *Zyklon B* principle (purposeful toxicity within enclosed spaces to cause death) to the proper and improper uses of white phosphorus.

Fundamentally, the U.S. Defense Department’s comments on both toxic chemicals seem to express the principle that the legality of a chemical agent is determined by the purpose for which the chemical is used. More importantly is the Defense Department’s acknowledgment of white phosphorus being restricted by the Chemical Weapons Convention and that the United States would be in compliance if it continued to use it for proper purposes such as marking and screening (purposes not dependent upon or connected to white phosphorus’s toxicity). This American position is consistent with the current OPCW opinion on the prohibited uses of white phosphorus. Peter Kaiser, spokesman for the OPCW, explained the legal status to the BBC in response to being asked if white phosphorus was banned:

No it is not forbidden by the CWC if it is used within the context of a military application which does not tend to require or does not intend to use the toxic properties of white phosphorus. White phosphorus is normally used to produce smoke, to camouflage movement.

136. *Hearing of the Senate Armed Services Committee Subject: Chemical Weapons Convention*, FEDERAL NEWS SERVICE, Aug. 11, 1994 [hereinafter *CWC Hearing*] (emphasis added).

137. See generally BARRY KELLMAN ET AL., *MANUAL FOR NATIONAL IMPLEMENTATION OF THE CHEMICAL WEAPONS CONVENTION* (1993).

If that is the purpose for which the white phosphorus is used, then that is considered under the Convention legitimate use. *If on the other hand, the toxic properties of white phosphorus, the caustic properties, are specifically intended to be used as a weapon, that of course is prohibited*, because the way the Convention is structured or the way it is in fact applied, any chemicals used against humans or animals that cause harm or death through the toxic properties of the chemical are considered chemical weapons.¹³⁸

Phosphorus is specifically listed within the inspection schedule as a PSF (phosphorus, sulfur, fluorine) UDOC.¹³⁹ Furthermore, like other inspection chemicals, UDOCs can be used to produce, or improperly used themselves to become, *illicit chemical weapons*. UDOCs (sulfur in the Peloponnesian War, chlorine gas in WWI) have been historically used as chemical weapons to disrupt enemy positions. The next section addresses Fidler's third and primary contention by examining the history of white phosphorus as a beneficial toxic chemical in combat.

B. *White Phosphorus as a Chemical Agent*

1. *Shake & Bake: Toxicity as a Necessary Ingredient*

In 1943, reports from the front in World War II praised the versatility of the 4.2 WP rifled mortar.¹⁴⁰ The U.S. Chemical Warfare Service (CWS) developed white phosphorus munitions.¹⁴¹ It was originally designed to cloak troops with smoke screens but it had "become one of the great anti-personnel weapons of the war."¹⁴² Army commanders considered white phosphorus to be "versatile" and its use paid dividends.¹⁴³ It was used to produce smoke screens, inflict burns, set fires, unnerve enemy troops, support infantry attacks, shield flame-thrower operations, and to flush out troops from fortified positions. "For these reasons the CWS purchased two hundred million pounds of white phosphorus from 1942–1945, far more than any other smoke agent during the war."¹⁴⁴

138. Reynolds, *supra* note 7 (emphasis added).

139. *Id.*

140. *White Fire*, TIME, Nov. 29, 1943, at 68.

141. *Id.*

142. *Id.*

143. BROOKS E. KLEBER & DALE BIRDSSELL, THE CHEMICAL WARFARE SERVICE: CHEMICALS IN COMBAT 509 (2003).

144. *Id.*

The three anti-personnel uses (psychological effect, inflicting burns, and flushing out) are important for this analysis because they depend on the toxicity of white phosphorus. The psychological effect is described as “tremendous,” instilling “fear,” and hard on enemy morale.¹⁴⁵ For inflicting burns, white phosphorus was described as a “rain of fire,” “particularly painful,” “slow to heal,” “sticks to clothing and cannot be brushed off,” “burns to the bone,” and “wounded enemy soldiers just as readily as rifle bullets and shell fragments.”¹⁴⁶ More importantly, World War II seems to be the first time that the U.S. military discovered that they could use the *toxicity* of white phosphorus to flush out the enemy from fortified positions. Consider these four examples:

“The Germans are very allergic to [white phosphorus]. We would root them out of their foxholes with well-placed rounds of phosphorus and when we had them above ground we plastered them with HE [high explosive]. We killed large numbers of them in that way and they sure dreaded the mortars. . . . Letters taken from prisoners have shown that the Germans fear [white phosphorus] . . .”¹⁴⁷

Artillery and chemical mortar companies hurled shells [white phosphorus] to set fire to enemy held buildings and cane fields, to drive the enemy soldiers from fortified positions, to wound and unnerve enemy troops, to support infantry attacks, and to shield flame-thrower operations.¹⁴⁸

White Phosphorus is another favorite. It burns, even under water and the fumes are toxic. It is not fun to sit in a *fighting hole while everything burns down around you [and you] have to breath toxic fumes*. While the fumes do not kill someone who breathes them, like nerve gas, they are not exactly harmless either. White Phosphorus or WP can also be used to mark a target for air strikes because it generates a lot of smoke and is visible to a fast moving attack fighter.¹⁴⁹

145. *Id.*

146. *Id.*

147. *White Fire*, *supra* note 140 (second alteration in original).

148. LEO BROPHY ET AL., *THE CHEMICAL WARFARE SERVICE: FROM LABORATORY TO FIELD* 198 (1959).

149. William S. Frisbee, Jr., *Mortars*, <http://www.military-sf.com/mortars.htm>. “White phosphorus smoke—it is toxic.” Lester W. Grau & Jacob W. Kipp, *Urban Combat: Confronting the Specter*, *MILITARY REV.*, July–Aug. 1999, available at <http://leav-www.army.mil/fmso/documents/urban-combat/urbancombat.htm>.

. . . Despite the weight and ammunition problem, it is a magnificent and extraordinarily effective weapon. The mortar is most effective with white phosphorus and HE. The Germans are very *allergic to white phosphorus anyway and we would root them out of their holes with well-placed rounds of phosphorus and, when we had them above ground, we plastered them with HE.* We killed large numbers of them that way, and they sure dreaded the mortars.¹⁵⁰

The British in the Falkland War described a similar tactic. Col. Tim Collins, a former British Special Air Service officer, described “Shake & Bake”: “Shake and Bake is a recognized tactic and was used extensively in the Falklands. If you want to wrinkle the enemy out of buildings there is no better way than using white phosphorus.”¹⁵¹

In Colonel Collins’s autobiography *Rules of Engagement*, he describes training the Royal Irish Regiment for a planned operation in Basra Iraq called Operation Fury. He called white phosphorus the “star of the show”:

The star of the show was the new grenade which had only been on issue since the previous summer. It absolutely trashed the inside of the room it was put into. I directed the men to use them where possible with white phosphorus, as the *noxious smoke* and heat had the effect of drawing out enemy from cover, while the fragmentation grenade would shred them.¹⁵²

Interestingly, these examples point that the driving out of troops from foxholes, entrenched positions, and buildings is connected to the “allergic effect,” “toxic fumes,” and “noxious/choking smoke” caused by white phosphorus. These attributes substantially differentiate white phosphorus from other chemicals or explosives that cause unintended exposure to toxic fumes. The noxious properties of white phosphorus smoke (phosphorus pentoxide/phosphoric acid) are a necessary ingredient in “Shake & Bake” operations.

150. DAVID W. MEYERSON & BOB LADSON, WORLD WAR II HISTORY OF THE SECOND CHEMICAL MORTAR BATTALION, available at <http://www.4point2.org/hist-2w.htm> (emphasis added) (last visited Dec. 5, 2007).

151. Sean Rayment, *Tim Collins Trained Troops to Fight with White Phosphorus*, SUNDAY TELEGRAPH (London), Nov. 20, 2005, at 13. Combinations of white phosphorus and explosive grenades are also known as a “dolly mixture.” See Thomas Harding, *Chemical Grenade Used on Rebels, U.S. Admits*, DAILY TELEGRAPH (London), Nov. 16, 2005, at 16.

152. Rayment, *supra* note 151. “[W]hite phosphorus . . . generate[s] a choking smokescreen and set[s] fire to almost anything they hit.” George C. Wilson, *Visible Violence*, NAT’L J., Mar. 22, 2003.

2. Israeli and Serbian Use of White Phosphorus: An Irritant in a Civilian Population

In Lebanon, in October 1993, the Israeli Defense Force (IDF) launched a week long attack in retaliation for a rocket attack against Israeli civilians by Hamas.¹⁵³ The operation was named Operation Accountability. The IDF reportedly used phosphorus shells against military and civilian targets. A chief feature of the IDF's policy was a depopulating of the south which led to the dislocation of over 300,000 people.¹⁵⁴ Human Rights Watch consulted U.S. military experts and noted an unusual incidence of incendiary and illumination rounds. According to two experts from the U.S. National Ground Intelligence Center: "One possible explanation for this, in their view, was that such rounds lessen civilian casualties, and their use made good sense in any attempt to compel people to leave their homes."¹⁵⁵ This tactic seemed consistent with the IDF leader's stated objective to foment a refugee exodus from villages in southern Lebanon to Beirut.¹⁵⁶

Similarly, UN Reports out of Sarajevo in 1995 during the Serbian siege described some areas of the city as being filled with white smoke coming from white phosphorus grenades meant to "intimidate civilians."¹⁵⁷ The *New York Times* reported that the smoke from the white phosphorus grenades was "banned under the Geneva [C]onvention on the use of chemical weapons."¹⁵⁸ The *Jerusalem Post* said that the Geneva Convention specifically bans the use of white phosphorus and that its use should be included as one of Yugoslavia's war crimes.¹⁵⁹

3. Russian Use of White Phosphorus: A Toxic Gas in Urban Fighting

On New Year's Eve in 1994, Russian forces first attempted to seize the rebel Chechen city of Grozny. Lessons learned from the siege describe white phosphorus, tear gas, tranquilizers, and other agents as very useful. White Phosphorus as a smoke screen was essential for movement in the city. Moreover, the Russians also indicated a *side benefit* of white phosphorus. It was also useful as a *toxic smoke* that "readily penetrated protec-

153. CIVILIAN PAWNS, *supra* note 105.

154. *Id.*

155. *Id.*

156. *Id.*

157. Roger Cohen, *NATO May Be Called on to Silence Guns in Sarajevo*, N.Y. TIMES, May 25, 1995, at 14.

158. *Id.*

159. Editorial, *The Saigon Feeling*, JERUSALEM POST, May 25, 1995, at 6.

tive mask filters.”¹⁶⁰ In the siege, “every fourth or fifth artillery round was smoke or white phosphorus.” The article points out that the use of white phosphorus is not in violation of any convention.¹⁶¹

However, during the siege the president of Chechnya, Dzhokhar Dudayev, called for the United States to cut off aid to Russia and said that the Russians were “deliberately attacking the civilian population in Chechnya, using multiple rocket launchers, napalm, cluster bombs and *phosphorus* bombs.”¹⁶² According to the Chechens, the Russians were using banned ammunition.¹⁶³ One report out of Chechnya indicated that 200 people were admitted to a hospital for chemical poisoning in the village of Avturu.¹⁶⁴ “Eyewitnesses testified that five . . . [villagers] . . . developed sores and rash which resemble the after-effects of such chemical substances as chlorine or *phosphorus*.”¹⁶⁵

4. Summary of White Phosphorus as a Chemical Agent

The use of white phosphorus as a chemical agent by the United States during World War II and the British during the Falkland conflict demonstrates a specific method of warfare that is dependent on and/or connected to the chemical’s toxic properties. White phosphorus was employed both as a profound wounding mechanism and an irritant used in conjunction with conventional weapons. The use by the Israelis illustrates the utility of white phosphorus’s toxic effects in driving civilians out of urban areas and minimizing the loss of innocent lives. The Serbs used white phosphorus smoke to intimidate civilians. Moreover, the Russians’ use of white phosphorus in the siege on Grozny found value in white phosphorus as a toxic gas that can penetrate protective masks in urban fighting. These examples illustrate military applications in which white phosphorus’s toxicity was purposefully utilized.

160. Lester W. Grau, *Changing Russian Urban Tactics: The Aftermath of the Battle for Grozny*, INSS STRATEGIC FORUM (No. 38), July 1995, available at <http://www.globalsecurity.org/military/library/report/1995/grozny.htm>.

161. *Id.* (this siege occurred prior to Russian ratification of the CWC).

162. President Dudayev told the *Washington Post*: “The whole city is destroyed—the hospitals, the buildings, the schools.” He also said that “[i]f we start a guerrilla war, we will start it inside Russia.” His foreign minister, Shamsettin Yusef, added, “We will fight in Moscow if they don’t stop the war.” Editorial, *Chechnya’s Resolve*, WASH. POST, Jan. 30, 1995, at A15.

163. The official Russian response to the allegations was that “[o]nly positions of the illegally formed armed groupings come under federal artillery and air attacks.” *Chechnya: Use of Cluster Bombs and Phosphorus Denied by Federal Troops Command*, BBC, May 19, 1995.

164. *Chechen Villagers Admitted to Hospital Suffering from Chemical Poisoning*, BBC, Aug. 12, 1995.

165. *Id.*

These particular uses of white phosphorus illustrate what U.S. Deputy Department of Defense Secretary Deutch meant by “conceived of for chemical agent use” and what OPCW spokesman Peter Kaiser meant in saying that the “toxic properties of white phosphorus, the caustic properties, are specifically intended to be used as a weapon.”¹⁶⁶ Moreover, these uses of white phosphorus are entirely consistent with historical uses of other chemical weapons used in dislodging enemy troops (i.e., sulfur, chlorine gas) and uses of RCAs as prohibited methods of warfare (to flush out and kill). Whereas common explosives might cause unintended exposure to toxic chemicals, the particular tactic of “Shake & Bake” is a deliberate use of white phosphorus’s toxic properties as a prohibited method of warfare.

C. American Phosphorus Attacks in Iraq: Evidence of a Consistent Pattern of Gross Violations

In mid-November 2005, Lt. Gen. Walter Buchanan III, commander for U.S. Central Command Air Forces told the *Wall Street Journal* that “white phosphorus is *purely* used as a marking round, not a weapon.”¹⁶⁷ Similarly, on November 29, 2005, the Chairman of the Joint Chiefs of Staff Peter Pace told reporters that “it [was] well within the law of war to use [white phosphorus] for [smokescreens] and [illumination].”¹⁶⁸ Likewise, according to Teledyne Technologies Inc., the businessmen that produce white phosphorus projectiles for the military, “[w]hite phosphorus is a *chemical* used to fill munitions and projectiles for signaling, screening and incendiary purposes.”¹⁶⁹ Despite these official statements by two top-ranking generals and the firm that supplies the chemical, there have been several instances of anti-personnel use of white phosphorus in Iraq by U.S. forces that go beyond “purely” conventional purposes.

For example, in *Infantry Magazine*, Staff Sgt. Jason E. Levy described troops fleeing from an observation post that were hit with white phosphorus fires in Irbil, Iraq in 2003.¹⁷⁰ In *Infantry Magazine*, Captain Budihas noted the benefit of using illumination projectiles to “suppress enemy personnel” in Kirkuk, Iraq in 2004.¹⁷¹ In an April 2004 Fallujah report, the *North County Times* described Cpl. Nicholas Bogert employing the tactic

166. Reynolds, *supra* note 7.

167. Mortenson, *supra* note 3 (emphasis added).

168. Crawly, *supra* note 14.

169. *Teledyne Awarded \$10 Million Pine Bluff Arsenal Subcontract*, BUS. WIRE, Oct. 26, 2005, (emphasis added).

170. Jason E. Levy, *TTPs for the 60mm Mortar Section*, INFANTRY MAG., May 1, 2004, at 43.

171. Christopher L. Budihas, *So You're Going to Iraq*, INFANTRY MAG., Sept. 1, 2004, at 23.

of “Shake & Bake” where white phosphorus and HE (high explosives) were fired into buildings of suspected insurgents.¹⁷² In November 2004, in *Field Artillery Magazine*, Capt. James T. Cobb pointed out that they saved white phosphorus for lethal missions and described the tactic of “Shake & Bake” as firing white phosphorus into trenches and spider holes of suspected insurgents.¹⁷³ In the *Marine Corps Gazette*, Sgt. Earl Catagnus reported on the use of an improvised phosphorus bomb which was used to clear out buildings of suspected insurgents in the November battle for Fallujah.¹⁷⁴ Moreover, mid-level Pentagon Spokesmen Major Vican, Lieutenant Colonels Boylan and Venable, and Colonel Lapan have stated that U.S. forces have used white phosphorus as an anti-personnel weapon in Iraq. Likewise, journalists from the *San Francisco Chronicle*, *Washington Post*, *Boston Globe*, CNN, ABC News, *North-County Times*, and the *Sunday Telegraph* (UK) also reported on American white phosphorus anti-personnel use.¹⁷⁵ These instances clearly describe the use of white phosphorus as an anti-personnel weapon against enemy combatants, and *not* as General Pace and Lieutenant General Buchanan III contend, for the purpose of illumination or smokescreens.

D. Law of War Violation: The Soldier's Dilemma

The use of white phosphorus as an offensive weapon may be a violation of the Law of Land Warfare in certain situations. It is well established that white phosphorus causes painful chemical burns and that these burns are slow to heal and may cause system toxicity or death if not treated.¹⁷⁶

172. Darrin Mortenson, *Violence Subsides for Marines in Fallujah*, N. COUNTY TIMES (Escondido, Cal.), Apr. 10, 2004, available at http://www.nctimes.com/articles/2004/04/11/military/iraq/19_30_504_10_04.txt.

173. Cobb et al., *supra* note 16, at 26.

174. Catagnus et al., *supra* note 18, at 88.

175. The *San Francisco Chronicle* reported that artillery guns had fired white phosphorus and insurgents reported “being attacked with a substance that melted their skin, a reaction consistent with white phosphorous [sic] burns.” Matthew B. Stannard, *U.S. Drives into Heart of Fallujah*, S.F. CHRON., Nov. 10, 2004, at A1. Kamal Hadeethi, a physician at a regional hospital told the chronicle that “[t]he corpses of the mujahedeen which we received were burned, and some corpses were melted.” *Id.* “Insurgents reported being attacked with a substance that melted their skin.” Jackie Spinner, *U.S. Forces Battle into Heart of Fallujah*, WASH. POST, Nov. 10, 2004, at A1. Iraqi journalist Uthman Mohammed al-Qaisi told *Boston Globe* correspondents: “At Firdous, wounded insurgents screamed from bullet wounds or burns from phosphorus. ‘Some of them were bleeding from their noses, eyes, and ears.’” Sa’ad al-Izzi, *Armed with Pen, Pad on Front Line Iraqi Journalists Find Little Refuge in No Man’s Land*, BOSTON GLOBE, Nov. 14, 2004, at A10. “In this field they find unexploded white phosphorus mortars designed to break apart in a rain of caustic fire. The soldiers wrap them with plastic explosives and take cover when they’re detonated.” *CNN News Night with Aaron Brown* (CNN television broadcast Nov. 17, 2004). “In the early morning hours before dawn, a devastating fireworks display of air power. The skies lit up with phosphorus shells designed to burn through insurgent bunkers.” *Good Morning America* (ABC television broadcast Nov. 9, 2004).

176. Thomas E. Bowen, *Sudden Death After Phosphorus Burns*, 174 ANN. SURG. 779, 779 (1971).

However, under the laws of war, anti-personnel use of white phosphorus may be legal, provided there was military necessity.¹⁷⁷ Could high explosives, thermite, or grenades have been used instead of white phosphorus directly on enemy troops? The answer to the question requires particularized investigations in each instance. Therefore, the use of white phosphorus against *open* enemy troops may have been justifiable under the laws of war given circumstances where necessity was present and the weapon's use was not dependent or connected to the chemical's toxic properties.

However, "Shake & Bake," the use of white phosphorus's toxic properties within enclosed areas for the purpose of flushing out enemy troops so they can be killed with conventional means, poses a unique law of war dilemma. On the one hand, this tactic may indeed be the only means necessary to accomplish the task of flushing the enemy out from fortified or enclosed positions. Hence, its use is consistent with the principle of military necessity. This defense may have been sufficient prior to the ratification of the CWC. On the other hand, pursuant to the Law of Land Warfare, necessity is not a defense for actions prohibited under treaty.¹⁷⁸ Since the CWC prohibits the use of white phosphorus's toxic properties as a method of warfare, then the "Shake & Bake" technique would be a violation of the Law of Land Warfare. The necessity defense is not available within this particular use and context.

E. *The Iraqi Civilian Question*

In the words of the Danish Foreign Minister, "[it] is a highly unpleasant affair if white phosphorus has been used against civilians. Phosphorus cannot be used against civilians. I am sure the American legal system and the American system will get involved if it has been used by American soldiers."¹⁷⁹

On November 16, 2005, the Pentagon Deputy Assistant Secretary of Public Affairs told reporters that he had *no knowledge* of any Iraqi civilian victims of attacks with American white phosphorus.¹⁸⁰ Despite the Pentagon's lack of knowledge, there is indication that white phosphorus has caused Iraqi civilian casualties.¹⁸¹ Adam Mynott, a reporter for the BBC

177. Holdaway, *supra* note 120.

178. OPERATIONAL LAW HANDBOOK, *supra* note 121, at 12.

179. *Danish FM Condemns U.S. Use of White Phosphorus in Iraq*, BBC MONITORING EUR., Nov. 18, 2005.

180. *U.S. Defends Use of White Phosphorus Against Iraq Insurgents*, AFX NEWS, Nov. 16, 2005.

181. According to Fallujah civilian, Omar Ibrahim Abdullah, while walking to the Euphrates River to get away from the heavy fighting he saw dozens of burned bodies that were colored black and red. He said that they were caused by white phosphorus. Daniszewski & Mazzetti, *supra* note 9. "They must have been affected by chemicals . . . because I had never seen anything like that before." *Id.*

interviewed two Iraqi men badly burned by WP at a U.S. military aid center: "One is sitting here in front of me on a stretcher, his face is badly burned. Bits of skin are peeling off, other areas are simply weeping wounds, his hands are bandaged. The other man, his nephew, has lost all the skin off his back."¹⁸²

One man told the reporter that there was no reason for the aircraft to bomb his home. "They had no weapons and were just relaxing at home."¹⁸³ Eleven members of his family died in the air strike and six were badly burned "as the phosphorus turned the inside of the house white hot." Lt. Michael Humble, the American medic treating the men, said their "injuries required surgery and skin grafting. . . . We can dress the wounds, give them some antibiotics and hopefully keep them from getting infected but they are already going to be disfigured for the rest of their lives."¹⁸⁴

This incident occurred in Nasiriya, Iraq. Coincidentally, Nasiriya was the province where in March 1994, according to then Iraqi dissidents, the "most brutal army commander, Ali Hassan Al Majid" (Chemical Ali) used white phosphorus and napalm to set fire to civilian houses.¹⁸⁵ Tragically, after the American assault in Fallujah in 2004, Mohammed Tareq al Deraji, a biologist and director of the Research Centre for the Defence of Human Rights, told RAI news that he witnessed "a rain of fire coming down from the sky and people catching on fire."¹⁸⁶ More recently, in the June 2007 counter-insurgent Operation Phantom Thunder in Baquba, Iraq, embedded Chief Military Correspondent of the *New York Times*, Michael Gordon, told National Public Radio that "our photographer . . . had seen people who are hurt by phosphorus shells."¹⁸⁷

It is noteworthy to point out that when a Serbian white phosphorus round impacted a house, it was condemned by the UN as a clear violation of the Law of Land Warfare. Additionally, while Human Rights Watch only had circumstantial evidence of Israelis bombing civilians with white phosphorus, it said that such action would be a violation of the Law of Land Warfare. It is unclear why the United Nations and Human Rights Watch would condemn such action in previous conflicts and remain silent when there were reports of the U.S. military using this chemical and injur-

182. Adam Mynott, *Marines Try to Win Over Civilians*, BBC NEWS, Apr. 5, 2003, available at http://newswww.bbc.net.uk/1/hi/world/middle_east/2921227.stm.

183. *Id.*

184. *Id.*

185. Charles Richards, *Iraq 'Using Napalm in Marsh Offensive'*, INDEP. (London), Mar. 11, 1994, at 14.

186. Marc Wells, *An Interview with Sigfrido Ranucci: Director of The Hidden Massacre*, WORLD SOCIALIST WEB SITE, Dec. 14, 2005.

187. *All Things Considered: Baquba Residents Displaced by Insurgents* (Nat'l Pub. Radio broadcast June 21, 2007).

ing Iraqi civilians in Nasariyah, Fallujah, and Baquba.¹⁸⁸ However, despite these reports of Iraqi civilian casualties, further investigation is needed to determine what *purpose* (smokescreen, illumination, anti-material incendiary, anti-personnel, toxic gas to flush out and kill) the white phosphorus was being used for that led to these tragic injuries and deaths.

F. White Phosphorus as a Toxic Gas to Flush Out and Kill

According to Harvard biochemistry professor Dr. Matthew Meselson, white phosphorus “will burn under water, and actually burn inside the body. It can be a horrible anti-personnel weapon. The white phosphorus will also emit acidic fumes, and the effect of the fumes could be reduced by the use of a wet handkerchief over the mouth.”¹⁸⁹

In the same month the Bush Administration approved the use of chemicals in combat to save lives, there is evidence that white phosphorus might have been used as a prohibited method of warfare to enhance the effects of conventional weapons.¹⁹⁰ An After Action Report (AAR) from *Infantry Magazine* cites the use of white phosphorus in April 2003 in an artillery mortar raid outside Irbil against an entrenched Iraqi Republican Guard Battalion. The report describes that the 60mm mortar’s primary targets were personnel and light skinned vehicles. “The 60mm mortar sections emplaced traversing fire on the Iraqi trench line and observation posts. The Iraqis in one observation post attempted to flee but were fixed with white phosphorus fires. As they attempted to flee again, white phosphorus rounds impacted the vehicle and set it on fire.”¹⁹¹

Although the report indicates anti-personnel use, it is unclear in this particular context that the toxicity of white phosphorus was being used to

188. Marie Okabe, deputy spokesperson for United Nations Secretary-General Kofi Annan said: “We are aware of the reported use of white phosphorus in Fallujah last year, and are concerned about its effects on the local civilian population. We welcome the decision of the government of Iraq to launch an immediate investigation into this matter.” Elisabeth Schreinemacher, *Rights: Vietnamese Agent Orange Victims Demand Compensation*, INTER PRESS SERVICE, Dec. 19, 2005. Peter Carter, Chairman of the Bar’s Human Right’s Committee (U.K.) and international law expert “called for an independent inquiry, possibly through the United Nations, into the use of white phosphorus in Iraq.” Buncombe et al., *supra* note 11.

189. Chris Hedges, *Salvador Charged with Dropping Incendiary Bombs*, CHRISTIAN SCI. MONITOR, Apr. 27, 1984, at 1. Commenting after Salvadorian civilians reported that the Salvadorian Air Force was dropping white phosphorus bombs on villages, the Salvadorian government denied these accounts. The United States supplied the Salvadorian government with white phosphorus; however, according to Chris Hedges, U.S. Embassy Spokesman, “[t]he only incendiary device is the *white phosphorus* rocket used to mark an area for bombing. This rocket can cause a fire in a dry area.” *Id.*

190. Wade & Schmitt, *supra* note 86, at 3.

191. Levy, *supra* note 170. “We fired twenty rounds of high explosive ammunition with proximity fuses, then twelve rounds of white phosphorus ammunition. This produced a catastrophic effect on the enemy, equipment, and ammunition contained inside the trench.” Captain Mathew C. Paul, *TF Heavy Mortars in a 360-Degree Battlefield*, INFANTRY MAG., Jan. 1, 2004, at 17 (emphasis added).

drive them from the fortified positions. However, this tactic is consistent with the WWII Chemical Mortar Battalions method and with later, more explicit uses of white phosphorus to flush out the enemy trench lines.

In April 2004 (during the first siege of Fallujah), Darin Mortensen reported from the 2nd Battalion 1st Marines the use of “Shake & Bake.” This was described as the firing of white phosphorus and high explosives into insurgent positions:

“Gun up!” Millikin yelled when they finished a few seconds later, grabbing a white phosphorus round from a nearby ammo can and holding it over the tube.

“Fire!” Bogert yelled, as Millikin dropped it.

The boom kicked dust around the pit as they ran through the drill again and again, sending a mixture of bursting white phosphorus and high explosives they call “*Shake & Bake*” into a cluster of buildings where insurgents have been spotted all week.¹⁹²

In November 2004 (during the second siege of Fallujah), an AAR published in *Field Artillery Magazine* described white phosphorus as a “versatile munition”:

We used [white phosphorus] for screening missions at two breeches and, later in the fight, as a potent psychological weapon against the insurgents in trench lines and spider holes when we could not get effects on them with HE [high explosives]. We fired “*shake & bake*” missions at the insurgents, using *WP to flush them out and HE to take them out*. . . . We used improved WP for screening missions when HC smoke would have been more effective and saved the WP for lethal mission.¹⁹³

In November 2004, Toby Harnden from *The Sunday Telegraph* (U.K.) was with Marine Task Force 2-2 and also witnessed this technique:

But some of the insurgents were not visible and, once commanders felt sure that no civilians were present, the call would go up for “*shake and bake*.” It was a refrain shouted cheerfully because soldiers were aware that this meant *white phosphorous* [sic] *being dropped to flush out fighters*. . . .

The white phosphorous [sic] shells . . . would then be fired from the edge of the city, exploding on houses and sending up huge

192. Mortenson, *supra* note 172 (emphasis added).

193. Cobb et al., *supra* note 16, at 26 (emphasis added).

plumes of white smoke. Insurgents would be killed instantly or, fleeing the carnage, *exposed to sniper fire*.¹⁹⁴

The 3rd Battalion, 5th Marines, Scout/Sniper Platoon, Section 1 in Fal-lujah employed this tactic to clear insurgents out of buildings: “A 60 mm or 81 mm white phosphorous [sic] mortar round, wrapped three times with detonation cord, and a one quarter or one-half stick of C4. Used when contact is made in a house, and *the enemy must be burned out*.”¹⁹⁵

Interestingly, the November *Field Artillery* AAR report’s description of white phosphorus as a “versatile munition” and “psychological weapon,” used to drive the enemy out of holes and trenches appears to come right out of the playbook of the Chemical Mortar Battalion. Moreover, Sergeant Catagnus’s use of improvised white phosphorus bombs to flush insurgents out of buildings (in Operation Phantom Fury) seems to mirror British commander Col. Tim Collins’s “Shake & Bake” tactic where the white phosphorus grenades’ noxious fumes were to be used to flush the enemy out of rooms so they could be killed by conventional means (in Planned Operation Fury).¹⁹⁶

Perhaps this method of warfare dependent on the toxicity of white phosphorus was what a senior officer in charge of 1st Div 2-2 (the unit that wrote the *Field Artillery* AAR) Tactical Operations Command Center meant when he told a reporter from the *San Francisco Chronicle* after seventy percent of the city had been captured: “Usually we keep the gloves on. For this operation we took the gloves off.”¹⁹⁷

One could argue that the effect of white phosphorus smoke is harmless and meant to confuse entrenched soldiers, compelling them to flee in fear and expose themselves to high explosives. However, this theory fails to take account of the known toxic effects of white phosphorus smoke, especially in enclosed spaces;¹⁹⁸ the allergic effects; the noxious smoke; and the side benefit of toxicity described by the Russians in Chechnya.

194. Toby Harnden, *I Watched U.S. Use “Shake and Bake,”* SUNDAY TELEGRAPH (London), Nov. 20, 2005, at 13 (emphasis added). “He [would] do what’s called shake and bake missions and he was on artillery,” Tina Richards, mother of a Marine who served two tours in Iraq and anti-war protester. *Weekend America: Get on the Bus* (Am. Pub. Media radio broadcast Jan. 27, 2007).

195. Catagnus et al., *supra* note 18, at 88 (emphasis added).

196. Operation Fury was canceled and British forces never used the phosphorus grenades. Colonel Collins commented on his forces not using the grenades by saying that “thankfully” his men never had to use them. Rupert Hamer, *Brits Trained to Use Hell Bombs*, SUNDAY MIRROR (U.K.), Nov. 20, 2005, at 2.

197. Stannard, *supra* note 175.

198. See 2 SUBCOMM. ON MILITARY SMOKES AND OBSCURANTS, NAT’L RESEARCH COUNCIL, TOXICITY OF MILITARY SMOKES AND OBSCURANTS 18–44 (1999), available at http://books.nap.edu/openbook.php?record_id=9621&page=18.

Moreover, although John Pike, director of GlobalSecurity.org, a defense think tank, insists that white phosphorus is not a chemical weapon, he nevertheless told National Public Radio that white phosphorus does cause “irritation,” but that it goes away “when you leave the smoke.”¹⁹⁹ This need to leave because of irritation caused by the burning white phosphorus is precisely how non-lethal toxic chemicals are used in conjunction with lethal force to become a prohibited method of warfare. One flees his entrenched position to escape the toxic smoke and then is exposed to high explosives. The CWC prohibits the use of a toxic chemical as a method of warfare.²⁰⁰ Even under the narrowest definition and consistent with official U.S. policy (RCA in combat only to save lives), the use of white phosphorus as an irritant to enhance the effect of lethal force is a clear violation of the treaty and a serious felony under section 229A(7)(C) of the CWCIA.

1. *Further Evidence of Criminal Intent: Toxicity as a Necessary Ingredient.*

In 1997, “in light of the probability of future operations in urban environments, the [U.S.] Marine Corps Intelligence Activity[] was tasked to provide a preliminary assessment of urban warfare lessons learned in support of the [Close Support End-to-End Assessment] Joint Wargame.”²⁰¹ Lessons learned were drawn from Russian, Israeli, and British military experiences. Lesson 34 points out the dual-use of obscurants as *toxic gases*²⁰² in urban fighting:

Lesson 34: *Obscurants are especially useful when fighting in cities.* Russian forces made extensive use of smoke and white phosphorus to screen the movement of forces during city fighting. Every fourth or fifth Russian artillery round was either smoke or white phosphorus. (The Russians claimed that *white phosphorus had the added benefits of toxicity*, readily penetrated Chechen protective masks, and was not banned by treaty.) They also found tear gas very useful in Grozny.²⁰³

199. *Pentagon Defends*, *supra* note 124.

200. See OPCW FACT SHEET, *supra* note 64.

201. MARINE CORPS INTELLIGENCE ACTIVITY, URBAN WARFARE STUDY 1 (1999), available at <http://www.smallwarsjournal.com/documents/urbanwarfarestudies.pdf>.

202. It is interesting to note that while U.S. military officials were asserting that the white phosphorus smoke used to flush out and kill insurgents was not a violation of the CWC, the *Army Times* published an article on the development of new heater meals (MREs) for U.S. troops. The army researchers developing the new heating system were looking at a mixture of calcium oxide and *phosphorus pentoxide*. They were concerned about troops being exposed to phosphorus pentoxide because it is “highly toxic when inhaled.” Kelly Kennedy, *Hot—But Not Explosive*, ARMY TIMES, Dec. 19, 2005, at 6.

203. URBAN WARFARE STUDY, *supra* note 201, at 15.

It is unclear why this “lesson learned” would rely on a four-year-old Russian treaty interpretation as to the legality of using white phosphorus as a toxic gas in urban combat. It is especially disconcerting given that Deputy Defense Secretary John Deutch addressed the restriction on white phosphorus as an RCA in hearings before the Senate Arms Committee concerning the ratification of the CWC. Moreover, the United States became a state party to the CWC on April 25, 1997²⁰⁴ and passed federal legislation restricting the use of toxic chemicals by members of the armed forces in combat in 1998. Further, the Russian Federation became a state party to the CWC on November 5th, 1997,²⁰⁵ and now publicly declares that white phosphorus use as a weapon is a violation of international law.²⁰⁶

This case study compilation was published in 2001 and the information cut-off date was February 1, 1999. It makes no reference to the CWC in its white phosphorus recommendation. These lessons learned were later incorporated (in 2002) into the *U.S. Doctrine for Urban Operations*, a publication prepared under the direction of the Chairman of the Joint Chiefs of Staff. It was meant to provide guidance for future urban combat operations.²⁰⁷ White phosphorus as a beneficial *toxic gas* in urban fighting—Lesson 34—was later incorporated into U.S. urban warfare doctrine. This is particularly troubling because toxic chemicals employed as methods of warfare are unlawful.

IV. REQUIEM

In the *Zyklon B* case, the German businessmen claimed that cyanide was legitimately used purely for “delousing” and “disinfecting.” They further stated that the gas chambers which they built and repaired were only made for those particular purposes. Zyklon B was only intended for legitimate purposes and not as a toxic chemical used to kill human beings. How different was that (*in principle alone*) from the Pentagon’s insistence and Teledyne’s position that white phosphorus is used by the military for the legitimate purposes of “screening,” “marking,” and “illumination” only and not as a toxic chemical used to flush out and kill Iraqis. While American use of phosphorus and Teledyne’s apparent “lack of knowledge” is not

204. OPCW Membership, *supra* note 46.

205. *Id.*

206. *Russian Parliament Condemns*, *supra* note 106.

207. DOCTRINE FOR JOINT URBAN OPERATIONS (2002), http://www.globalsecurity.org/military/library/policy/dod/doctrine/jp3_06.pdf (while not explicitly citing white phosphorus as a toxic gas, the document references the lessons learned from the Marine Urban Case Studies which does describe the use of white phosphorus as a toxic gas).

even remotely comparable in motivation, fact, or proportion to the genocide at Auschwitz and the complicity of Tesch and Stabenow, the principle that dual-use chemicals within the context of enclosed spaces can serve as chemical weapons is comparable.

The juxtaposition of these two instances is neither accidental nor far-fetched. The *Zyklon B* decision was cited and explained by Judge Jack B. Weinstein, Senior District Judge for the United States District Court for the Eastern District of New York, in *In re Agent Orange*.²⁰⁸ Moreover, the comparison of hydrogen cyanide (Zyklon B), white phosphorus, and their legitimate and prohibited uses was made by the Department of Defense before the Senate Arms Committee at the time of the ratification of the CWC. It is also important to note that the current chairman of the Senate Armed Services Committee, Sen. Carl Levin (D-MI), and the current ranking chairman Sen. John Warner (R-VA), were present when white phosphorus and its implications under the CWC were discussed.²⁰⁹ It is unclear why Senator Levin (D-MI) and Senator Warner (R-VA) have not revisited this issue in light of widely reported and internationally condemned white phosphorus use.

Applying the legal standard from the *Zyklon B* decision: (1) Were Iraqis subject to phosphorus pentoxide gas/phosphoric acid? (2) Did the Command supply them with WP? (3) Did the Command know or should have known phosphorus pentoxide/phosphoric acid was being used for killing human beings?

Defendants of the U.S. military's use of white phosphorus might argue that white phosphorus is not a chemical weapon and that it has non-prohibited uses such as anti-material incendiary, smokescreen, and illumination. Principally, this is the same defense the German businessmen presented in the *Zyklon B* case—that hydrogen cyanide was not a chemical weapon and that it has non-prohibited uses of “disinfecting,”²¹⁰ “killing vermin,”²¹¹ and “cleansing.”²¹²

208. See *In re Agent Orange*, 373 F. Supp. 2d 7, 91–94 (E.D.N.Y. 2005).

209. *CWC Hearing*, *supra* note 136.

210. Experiments conducted by Marine Hospital Service in 1888 concluded that burning white phosphorus could serve as a general disinfectant. John Michels, *Phosphorus Pentoxide as a Disinfectant*, 12 SCIENCE 109, 109–10 (1888).

211. “We cordoned off the roads and built vehicle checkpoints and entrance control points around the city. We cleared the *vermin* out and did not let them come back.” Patrecia Slayden Hollis, *Second Battle of Fallujah*, FIELD ARTILLERY MAG., Mar.–Apr. 2006, at 4 (quoting Lt. Gen. John F. Sattler, commander of U.S. Marine Forces, Central Command).

212. “We are determined to *clean* Falluja from terrorists,” stated Interim Iraqi President Allawi as he gave the green light for Coalition Forces to enter Fallujah in November 2004. *Battle for Fallujah Underway*, CNN, Nov. 9, 2004, <http://www.cnn.com/2004/WORLD/meast/11/08/iraq.main> (emphasis added).

White phosphorus was used as an irritant to drive Iraqis from trenches so they could be killed. This is a prohibited method of warfare and makes white phosphorus a chemical weapon *only* in those circumstances. For both *Zyklon B* and the use of white phosphorus in Fallujah and elsewhere in Iraq, the actual purpose, not the legitimate purpose, is the dispositive issue in determining the legal status of a chemical.

There are real consequences in not holding the Bush Administration and other parties accountable for their use of chemicals in Iraq. Inaction on the part of the people of the United States and the international community in addressing this issue will inevitably set a new international legal precedent. Professor Julian Perry Robinson, an expert on the CWC convention, responded to the Bush Administration's decision to use chemicals in combat in 2003 by saying: "When the war is over and these things have been used they will be legitimized as a tool of war, and the principle of toxic weapons being banned will have gone."²¹³

Currently, John Conyers (D-MI), the Chairman of the House Judiciary Committee, is assembling a report on the false intelligence that led to the war in Iraq and the allegations of war crimes committed by the present administration. The congressman's report states that white phosphorus is not covered under the CWC.²¹⁴ This is not accurate. It was the position of the Department of Defense at the time of the treaty's ratification that white phosphorus was part of the convention. Moreover, it is the position of the OPCW that white phosphorus is banned under the CWC if it is used for its toxic properties to kill human beings.²¹⁵

In December 2006, U.S. House Representative Cynthia McKinney (D-GA), introduced House Resolution 1106, initiating articles of impeachment against George Walker Bush and other officials. House Resolution 1106 lists the use of illegal weapons as a "failure to ensure the laws are faithfully executed." Representative McKinney specifically cited and entered into the *Congressional Record* that the "deployment of white phosphorus [was] a violation of the Chemical Weapons Convention."²¹⁶

The scale of this toxic precedent is ambiguous and largely unknown. In 2003, *The Independent* (U.K.) reported that internal documents from the Pentagon showed that the United States is developing a range of calmativ gases, including sedatives such as "benzodiazepines . . . and new drugs that

213. Geoffrey Lean & Severin Carrell, *U.S. Prepares to Use Toxic Gases in Iraq*, INDEP. SUNDAY (London), Mar. 2, 2003, at 18.

214. HOUSE JUDICIARY COMM. DEMOCRATIC STAFF, *THE CONSTITUTION IN CRISIS* 102 (2007) (prepared at the direction of Rep. John Conyers, Jr.), available at <http://www.afterdowningstreet.org/constitutionincrisis>.

215. Reynolds, *supra* note 7.

216. 153 CONG. REC. E2254 (daily ed. Dec. 27, 2006) (statement of Rep. McKinney).

affect the nervous system.”²¹⁷ In 2005, Mohammed Tareq al Deraji, director of the Research Center for Defense of Human Rights in Fallujah, told RAI news that residents in Fallujah reportedly were seen falling asleep during the siege and that one former Iraqi Army Officer described the gas being used as “smelling like apples.”²¹⁸

The actual extent of the Bush Administration’s use of chemicals in the Iraq war is unknown. An investigation into the American use of white phosphorus in Fallujah was announced by Iraqi Humans Rights Minister Narmin Othman in November 2005.²¹⁹ The sovereign government of Iraq then halted the investigation a week later without publishing any findings. Iraqi Foreign Minister Hoshyar Zebari, explained that Iraq “[has no] right to judge the U.S. usage of that [white phosphorus] or any other weapon.”²²⁰ This is particularly startling since the Iraqi government seems to suggest that the American military is not subject to the universal obligations of international humanitarian law.

Regrettably, there exists no present forum to judge the use of chemicals in combat by the United States in Iraq.²²¹ Moreover, the Pentagon’s deliberate avoidance to specifically address the legality of “Shake & Bake” operations puts American enlisted and commissioned personnel at unnecessary risk for potential liability under the laws of war, CWC, and CWCIA. Lastly, the legal precedent this current forum will set for domestic and international law and for the future of toxic chemicals in combat remains uncertain.

217. Rear Adm. Stephen Baker, Navy commander in the last Gulf War commented that “the U.S. Special Forces had knock-out gases that can ‘neutralize’ people.” Speaking at the start of the invasion: “I would think that if they get the chance to use them they will.” Lean & Carrell, *supra* note 213.

218. Daniszewski & Mazzetti, *supra* note 9.

219. On November 17, 2005 Iraqi Human Rights Minister, Narmin Othman, said “a team would be dispatched to Fallujah to try to ascertain conclusively whether civilians had been killed or injured by the incendiary weapon [white phosphorus or napalm].” Buncombe et al., *supra* note 11. In addition, the *Belfast Telegraph* quoted an Iraqi government human rights official as saying: “the people of Fallujah will be fully consulted.” *Id.*

220. Approximately a week later Iraqi Foreign Minister Hoshyar Zebari told a Russian journalist that Iraq “has no right to judge the U.S. usage of that [white phosphorus] or any other weapon.” He also said that terrorist groups violated all rules in attacking U.S. and Iraqi troops. *Iraq Will Not Assess U.S. Use of White Phosphorus*, INTERFAX NEWS AGENCY, Nov. 25, 2005 (it is unclear if an investigation by the Iraqi government ever took place).

221. Mohammed Tariq (human rights worker in Fallujah) told the *Los Angeles Times* that “[w]e have registered the documents and exhibits of everything that happened,” and “[w]e informed the Iraqi Red Crescent, the International Red Cross and [other] international organizations, but our efforts were in vain.” Daniszewski & Mazzetti, *supra* note 9.

I will kill them all with chemical weapons! Who is going to say anything? The international community? Fuck them! [T]he international community, and those who listen to them!²²²

As military professionals, it is important that we take time to reflect on the values that separate us from our enemies. The challenge for us is to make sure the actions of the few do not tarnish the good work of the many.²²³

222. *Who Was Ali Hassan Al-Majid ("Chemical Ali")?*, HUMAN RIGHTS NEWS (N.Y.), Apr. 7, 2003, <http://hrw.org/english/docs/2003/04/07/iraq5508.htm> (quoting Chemical Ali in a 1988 meeting with Iraqi leaders regarding the Kurds).

223. *Ethics Lessons for U.S. Iraq Troops*, BBC NEWS, June 1, 2006, <http://news.bbc.co.uk/2/hi/americas/5036686.stm> (quoting Lt. Gen. Peter W. Chiarelli, Multi-National Corps-Iraq, Commander, commenting on the investigation of the alleged killing of 24 Iraqi civilians in Haditha, Iraq).