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# The Use of White Phosphorus Munitions by U.S. Military Forces in Iraq

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Stimulated by allegations made in an Italian television documentary,[1] a worldwide controversy has developed concerning the use of white phosphorus (WP) munitions by U.S. military forces during the assault on Fallujah, Iraq in November 2004. An important part of the controversy involves accusations that the use of WP munitions in Fallujah violated international law. This Insight examines the international legal aspects of the use of WP munitions by U.S. military forces in Iraq.

#### Background to the Controversy

U.S. military forces launched an assault on Iraqi insurgent forces located in Fallujah in November 2004. In the same month, allegations emerged that the United States used illegal chemical weapons during the fighting. In December 2004, the U.S. Department of State issued a statement rebutting news reports that the United States had illegally used napalm, poison gas, and phosphorus munitions in Fallujah.[2] In addition to rejecting charges of that use, the Department of State stated that "[p]hosphorus shells are not outlawed. U.S. forces have used them very sparingly in Fallujah, for illumination purposes. They were fired into the air to illuminate enemy positions at night, not at enemy fighters." [3] The U.S. government took the same position when questions were raised in Iraq in the spring of 2005 about the U.S. attack on Fallujah.[4]

On November 8, 2005, Italian public television aired a documentary entitled "Fallujah: The Hidden Massacre" that accused U.S. military forces of using WP munitions against insurgents and civilians and alleging that WP munitions were illegal chemical weapons.[5] In response to these charges, the U.S. government repeated the position stated by the State Department in December 2004.[6] The U.S. government was forced to retract these statements when the March-April 2005 issue of *Field Artillery* published an after-action review of the battle of Fallujah written by U.S. military officers, in which the officers reported that WP munitions:

... proved to be an effective and versatile munition. We used it 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 explosive munitions]. We fired "shake and bake" missions at the insurgents, using WP to flush them out and HE to take them out. [7]

The U.S. retraction fueled the controversy started by the allegations made in the Italian documentary about the illegal use of WP munitions by the United States.

The New York Times reported that "the charges have produced dozens of stories in the foreign news media and on Web sites suggesting that the Americans used banned weapons and tried to cover it up."<sup>[8]</sup> These stories included descriptions of U.S. intelligence reports of Saddam Hussein using "white phosphorus chemical weapons" against Kurdish rebels and populations after the 1991 Gulf War.<sup>[9]</sup>

#### Use of WP Munitions and International Law

The accusations against the United States argue that the use of WP munitions in Fallujah violated various international legal prohibitions.

#### The prohibition against the use of chemical weapons in armed conflict

Both the 1925 Geneva Protocol on the use of poisonous gases and the 1993 Chemical Weapons Convention (CWC) prohibit the use of chemical weapons in armed conflict.<sup>[10]</sup> The United States is a party to both of these treaties. WP munitions contain chemicals but are not necessarily chemical weapons because their uses for marking or illuminating targets, creating smoke screens to cover military maneuvers, and incendiary purposes are allowed by the CWC as "[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" (Article II.9(c)), as long as the types and quantities of the chemicals are consistent with such purposes (Article II.1(a)). To bring the use of WP munitions under the prohibition on the use of chemical weapons in the CWC, it would have to be established that WP (1) is a toxic chemical or precursor chemical; and (2) was used for purposes prohibited by the CWC.

On the first of these issues, the CWC defines a toxic chemical as "[a]ny chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals" (Article II.2). A precursor is defined as "[a]ny chemical reactant which takes part at any stage in the production by whatever method of a toxic chemical" (Article II.3). WP can pose harm to humans through its inherent toxicity, but this harm is not the kind WP munitions create. Munitions use may harm humans when WP ignites after coming into contact with oxygen.<sup>[11]</sup> After WP ignites, it can harm humans directly through burning skin and tissue or indirectly through the smoke and toxic substances it releases as it burns.<sup>[12]</sup> Whether the harmful effects of the fire and smoke produced by WP munitions constitute "chemical action on life processes" in the CWC's definition of a toxic chemical would be the critical legal question at this step in the analysis.

Second, if WP could be considered a toxic chemical or precursor under the CWC, it would have to be shown that the WP munitions were intended for purposes prohibited by the CWC (Article II.1(a)). In the case of the Fallujah controversy, the accusation is that the U.S. "shake and bake" use of the WP munitions as a method of warfare was dependent on the toxic properties of the chemicals produced by the munitions. In other words, the accusation is that WP munitions were used in a manner that specifically took advantage of the toxic effects of the chemicals produced by the combustion of WP to force the insurgents to change their positions by leaving trenches and spider holes, rendering them vulnerable to attack with high explosive munitions.

The argument that the use of WP munitions in Fallujah constituted a prohibited use of a chemical weapon is difficult to sustain because WP munitions can be used as incendiary weapons against enemy military targets (see below). The "shake and bake" uses of WP munitions appear to have used the incendiary capabilities of these munitions to dislodge insurgents from entrenched positions. The use does not reflect intent to kill or incapacitate insurgents specifically by exposing them to the toxic chemicals produced in the fire and smoke generated by detonation of WP munitions.

#### The prohibition against the use of riot control agents as a method of warfare

A second argument that the U.S. use of WP munitions violated the CWC invokes the prohibition against the use of riot control agents (RCAs) as a method of warfare (Article I.5). How exactly the CWC applies to RCAs has been a source of dispute between the United States and other CWC states parties. Many U.S. officials have stated that RCAs are not toxic chemicals under the CWC (and thus cannot be chemical weapons) and are only regulated by the prohibition on the use of RCAs as a method of warfare. The U.S. position means that WP munitions would be subject to the rules on RCAs even if WP is not a toxic chemical as defined by the CWC. Many other CWC states parties hold that RCAs are toxic chemicals and, as such, are subject to the CWC's entire set of rules on chemical weapons. For purposes of this analysis, this controversy is not addressed in order to focus on whether the use of WP munitions in Fallujah violated the prohibition on the use of RCAs as a method of warfare.

The CWC defines a RCA as "[a]ny chemical not listed in a Schedule, which can produce rapidly in humans sensory irritation or disabling effects which disappear within a short period of time following termination of exposure" (Article II.7). In the case of WP munitions, the smoke produced by the burning of the WP could produce the temporary physiological effects associated with RCAs, which may be exacerbated if the munitions are used in enclosed spaces. The assertion that WP munitions were used as RCAs involves arguing that the "shake and bake" operations were designed to use the toxic chemicals generated by the smoke to

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produce temporary irritation or disabling effects as a method of warfare (i.e., the smoke's chemicals dislodged the insurgents, who were then exposed to high explosive ordinance).

The difficulty with the RCA argument is that permitted uses of WP munitions as marking, illuminating, screening, and (in certain circumstances) incendiary weapons also produce smoke that contains toxic substances that might be temporarily irritating and disabling. These recognized uses of WP munitions have not previously been considered to bring such munitions within the ambit of the CWC's rules on RCAs. In addition, the "shake and bake" uses of WP munitions appear to have been open-air detonations and not releases of WP within enclosed spaces.

The prohibition against using incendiary weapons against military objectives located within a concentration of civilians

The use of WP munitions in Fallujah has also been challenged as a violation of Protocol III to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons. Protocol III deals with Prohibitions or Restrictions on the Use of Incendiary Weapons.<sup>[13]</sup> The United States, however, is not a party to Protocol III. Thus, it does not apply to the U.S. use of WP munitions, unless the rules in Protocol III can be considered customary international law binding on the United States. For purposes of this Insight, both Protocol III and the customary international law are applied to the use of WP munitions in Fallujah.

Protocol III prohibits in all circumstances (1) making the civilian population, individual civilians, and civilian objects the object of attack by incendiary weapons; and (2) any military objective located within a concentration of civilians the object of attack by air-delivered incendiary weapons (Articles 2.1 and 2.2). There is no indication that the use of WP munitions in Fallujah constituted an intentional attack on civilian populations or civilian objects, even if such use may have resulted in civilian deaths, injuries, and collateral damage to civilian property. In addition, even if the WP munitions were used against a military objective within a concentration of civilians, the after-action report from Fallujah indicated that ground forces delivered the WP munitions, which means they were not air-delivered weapons.

Protocol III also prohibits the making of "any military objective located within a concentration of civilians the object of attack by means of incendiary weapons other than air-delivered incendiary weapons, except when such military objective is clearly separated from the concentration of civilians and all feasible precautions are taken with a view to limiting the incendiary effects to the military objective and to avoiding, and in any event, minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects" (Article 2.3). The rule in customary international law is similar, according to the International Committee of the Red Cross (ICRC): When incendiary weapons are used, "particular care must be taken to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects."<sup>[14]</sup>

It is difficult to apply these rules to the U.S. assault on Fallujah. The U.S. attack produced civilian casualties and property damage, but it is not clear how much of the civilian deaths and damage to civilian property can be attributed to the use of WP munitions as opposed to other weapons employed in the attack. Also unclear is whether sections of Fallujah subject to WP munitions use were inhabited at the time of such use, given the exodus of civilians from Fallujah prior to the assault. It is, thus, hard to assess whether the U.S. use of WP munitions in Fallujah violated the rule found in Article 2.3 of Protocol III and customary international law.

The ICRC states that, under customary international law for both international and non-international armed conflict, "[t]he anti-personnel use of incendiary weapons is prohibited, unless it is not feasible to use a less harmful weapon to render a person hors de combat."<sup>[15]</sup> The "shake and bake" missions were directed at insurgent forces and thus could be considered anti-personnel use of an incendiary weapon. Such use raises questions about how U.S. military doctrine interprets international law on anti-personnel use of WP munitions. The U.S. military has claimed in the past that "[i]t is against the law of land warfare to employ WP against personnel targets."<sup>[16]</sup> The U.S. government's position in the wake of the WP controversy has been that it is permissible to use WP munitions as incendiary weapons against enemy combatants.

From the perspective of the customary rule as stated by the ICRC, it is not clear whether the WP munitions were being used to render insurgents hors de combat. The stated purpose of the anti-personnel deployment of the WP munitions was to dislodge them from trenches and spider holes and thus to expose them to high explosive ordinance. Whether less harmful weapons were on hand to achieve the stated objective is not clear. Dislodging weapons with potentially less harmful direct effects than WP munitions, such as RCAs, are banned from being used as a method of warfare by the CWC. Further investigation would be required to reach a more definitive assessment under customary international law on this issue and perhaps also to clarify U.S. military doctrine on the anti-personnel use of WP munitions.

The prohibition against using weapons indiscriminately in areas where civilians are located

International humanitarian law prohibits (1) the use of weapons that are by nature indiscriminate; and (2) indiscriminate use of other weapons.[17] Some commentary on the U.S. use of WP munitions in Fallujah asserts that U.S. military forces used these munitions, and other weapons, in indiscriminate ways that led to large-scale civilian death and suffering.[18] The United States admitted having targeted insurgents with WP munitions but denied using WP munitions indiscriminately.[19] WP munitions are not by nature indiscriminate weapons because they can be directed at specific military objectives and used in ways that minimize incidental loss of civilian life and damage to civilian property.

The extensive damage caused by the U.S. assault on Fallujah raises questions, however, about how the U.S. military used a variety of weapons. It is difficult to identify credible independent information to verify or refute allegations concerning indiscriminate use of WP munitions and other weapons by U.S. military forces. Without further information, no conclusion can be reached as to whether the U.S. violated this aspect of international humanitarian law during the assault on Fallujah.

The prohibition on the use of weapons that cause superfluous injury or unnecessary suffering

The Italian television documentary portrayed WP munitions as particularly nasty weapons because of the way in which WP rapidly burns through skin and tissue upon contact with the human body.[20] This portrayal raises questions under international humanitarian law's prohibition on the use of weapons that cause superfluous injury or unnecessary suffering.[21]

The problem with viewing the use of WP munitions in Fallujah as violations of this prohibition is that use of such munitions for marking, illuminating, screening, and (in certain circumstances) incendiary weapons against enemy targets has long been recognized as legitimate with full knowledge of its potential effects on the human body. The prohibition against using a weapon in a manner that produced superfluous injury or unnecessary suffering might more directly apply if WP munitions were used for the specific purpose of killing or injuring enemy combatants. This reasoning overlaps with the customary prohibition on the use of incendiary munitions as anti-personnel weapons discussed above. Again, the stated purpose behind the use of WP munitions in Fallujah was to dislodge insurgent forces in order to make them vulnerable to attack with high explosive weapons. Thus, the primary intention behind the use of WP munitions appears not to have been to destroy enemy combatants through incendiary-related death and injuries.

Aftermath of the WP Munitions Controversy

The use of WP munitions by U.S. military forces in Fallujah, and the response of the U.S. government to allegations of violations of international law, raise important international legal questions, the complexity of which has been lost in the media and Internet frenzy that the Italian documentary triggered. In all likelihood, the activities of U.S. military forces in Iraq and elsewhere will face heightened scrutiny in the aftermath of the WP controversy, including perhaps calls for independent investigations of the use of WP munitions in Fallujah and clarification of U.S. military doctrine on the future use of WP munitions.

About the author

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Footnotes

[1] Sigfrido Ranucci and Maurizio Torrealta, "Fallujah: The Hidden Massacre," at [http://www.rainews24.rai.it/ran24/inchiesta/video/fallujah\\_ING.wmv](http://www.rainews24.rai.it/ran24/inchiesta/video/fallujah_ING.wmv) ([http://www.rainews24.rai.it/ran24/inchiesta/video/fallujah\\_ING.wmv](http://www.rainews24.rai.it/ran24/inchiesta/video/fallujah_ING.wmv)).

[2] U.S. Department of State, Did the U.S. Use Illegal Weapons in Fallujah?, at <http://www.globalsecurity.org/military/library/report/2005/050127-fallujah.htm> (<http://www.globalsecurity.org/military/library/report/2005/050127-fallujah.htm>).

[3] *Id.*

[4] Scott Shane, The Reach of War: Defense of Phosphorus Use Turns Into Damage Control, *New York Times*, Nov. 21, 2005, at A14.

[5] "Fallujah: The Hidden Massacre," *supra* note 1.

[6] Shane, *supra* note 4, at A14.

[7] Captain James T. Cobb, First Lieutenant Christopher A. LaCour, and Sergeant First Class William H. Hight, "TF2-2 in FSE AAR: Indirect Fires in the Battle of Fallujah," *Field Artillery*, Mar.-Apr. 2005, at 26.

[8] Shane, *supra* note 4, at A14.

[9] Peter Popham and Anne Penketh, "US Intelligence Classified White Phosphorus as 'Chemical Weapon,'" *The Independent*—London, Nov. 23, 2005, at <http://news.independent.co.uk/world/americas/article328703.ece> (<http://news.independent.co.uk/world/americas/article328703.ece>).

[10] Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 44 LNTS 65; Convention for the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, Jan. 13, 1993, 32 ILM 800 (1993).

[11] White Phosphorus, GlobalSecurity.org, at <http://www.globalsecurity.org/military/systems/munitions/wp.htm> (<http://www.globalsecurity.org/military/systems/munitions/wp.htm>).

[12] Id.

[13] Protocol III on Prohibitions or Restrictions on the Use of Incendiary Weapons to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons, Oct. 10, 1980, 1342 UNTS 171.

[14] Jean-Marie Henckaerts, "Study on Customary International Law: A Contribution to the Understanding and Respect for the Rule of Law in Armed Conflict," 87 International Review of the Red Cross 175 (No. 857, Mar. 2005), at 206.

[15] Id.

[16] U.S. Battle Book (ST 100-3), Chapter 5, Section III, 5-11(b)(4) (July 1999), at <http://www.fas.org/man/dod-101/army/docs/st100-3/c5/tocc5.htm> (<http://www.fas.org/man/dod-101/army/docs/st100-3/c5/tocc5.htm>).

[17] Henckaerts, supra note 14, at 199, 204.

[18] "Fallujah: The Hidden Massacre," supra note 1.

[19] U.S. Department of State, supra note 2.

[20] "Fallujah: The Hidden Massacre," supra note 1.

[21] Henckaerts, supra note 14, at 204.

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