



Executive Summary

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CONTEMPORARY CHEMICAL WEAPONS USE IN SYRIA AND IRAQ BY THE ASSAD REGIME AND THE ISLAMIC STATE

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Chemical weapons remain a component of the 21st-century battlefield even though the international community has attempted to ban them from the arsenals of both state and nonstate actors. They have been referred to as the poor man's atomic bomb, as have biological weapons, another form of nonnuclear weapons of mass destruction. While chemical weapons do not have the destructive power of strategic – or even tactical – nuclear warheads, they are far easier to acquire or produce and are able to generate a terror factor even when their use is merely threatened.

Chemical weapons also possess inherent military functions in that they can be used to kill and degrade opposing troop formations and for area- and materiel-denial purposes (e.g., persistent agents), have anti-materiel uses (e.g., corrosive agents), and can even cause aircrews to be grounded due to the effects of myopia (e.g., nerve agents). The ongoing threat of chemical agent attacks can also have psychological effects on military units and potentially force military personnel to operate in mission-oriented protective posture gear and/or buttoned up in armored fighting vehicles (relying upon their filtration units) for extended periods of time, inhibiting battlefield performance.

Concerns related to the chemical targeting of U.S. military forces are not without recent incident precedent. On September 21, 2016, a shell containing sulfur mustard landed in the Qayara West Air Base in Northern Iraq, which housed hundreds of U.S. troops, with no injuries reported. Then, on April 16, 2017, U.S. advisors in an Iraqi outpost in Western Mosul, Iraq, were subjected to an Islamic State (IS) sulfur mustard munitions attack in which 25 Iraqi soldiers required medical attention. Thus, the known North Korean and suspected Iranian arsenals, as well as Hezbollah weapons transfer and use potentials, a Syrian wild-card use scenario, and recent IS incidents directed at U.S. military forces, together suggest that chemical weapons represent a very real battlefield threat. As a

result, the U.S. Army must—at a minimum—be prepared to operate in environments contaminated by chemical weapons, as well as be involved in related activities such as mitigating their effects on friendly forces and civilian populations, deterring their initial use, and facilitating the elimination of agent stockpiles and production capabilities in coordination with the Joint Force and the National Command Authority.

To address these concerns related to U.S. Army operations, this monograph focuses on two case studies related to contemporary chemical weapons use in Syria and Iraq by the Assad regime and the IS. The document provides an overview of the chemical warfare capabilities of these two entities; discusses selected incidents of chemical weapons use each has perpetrated; provides analysis and lessons learned concerning these chemical weapons incidents, their programs, and the capabilities of the Assad regime and the IS; and presents U.S. Army policy and planning considerations on this topical area of focus.

The two case studies provide quite a few valuable insights for U.S. Army operational planning as well as higher-level ancillary strategic considerations. Lessons learned concerning the Assad regime's program and use of chemical agents in Syria are:

- The Assad regime has and will continue to view chemical weapons as a strategic resource.
- Assad regime survival is more important than its chemical weapons program or engaging in chemical warfare.
- To protect the Assad regime's chemical weapons program and ability to use chemical weapons, deception and outright lies have been actively utilized by the regime on an ongoing basis.
- The Assad regime continues to engage in brinkmanship when utilizing chemical warfare attacks on its enemies within Syria.

- Some chemical weapons are more favored than others for battlefield use by the Assad regime.

Lessons learned concerning the IS's program and their use of chemical agents in Iraq and Syria are:

- The IS approached chemical weapons use with an operationally and tactically focused thought process.
- The IS weaponized chemical agents as it could and utilized them as soon as feasible.
- The chemical weapons sophistication achieved by the IS never matured past a moderate level of chemistry with a weaker form of sulfur mustard being the deadliest agent produced.
- The development of the IS's chemical weapons program was hindered by ongoing U.S. and coalition subject matter expert and facilities targeting operations.
- The IS's chemical weapons program never developed to the point that it supported combined arms operations or was integrated with the IS's unmanned aerial systems or armored vehicle-borne improvised explosive device (VBIED) programs.

The U.S. Army counter-chemical warfare policy and planning guidance proposed in this monograph, decoupled from the present Department of Defense countering weapons of mass destruction approach, is:

- Support joint and interagency intelligence collection and analysis of the state or nonstate chemical warfare program of concern.
- Recognize the context within which the state or nonstate chemical warfare program exists.
- Support the Joint Force in implementing National Command Authority guidance concerning preconflict removal and elimination of the state or nonstate chemical warfare program.
- Prepare to support the Joint Force to implement National Command Authority guidance related to deterrence and chemical warfare use response protocols.
- Support the Joint Force to implement National Command Authority guidance concerning preemptive strike options against the state or nonstate chemical warfare program.
- Train, equip, and organize the force for operations in the projected environment contaminated by chemical weapons that may emerge.
- Extend chemical warfare defense planning to rear area basing, coalition force, and civilian

populations in the areas of responsibility of the Army Landpower force.

- Prepare for the trans-conflict targeting of the state or nonstate chemical warfare program.
- Develop a strategic counternarrative plan against the expected propaganda campaign that will be utilized by the state or nonstate entity possessing the chemical warfare program.

Additional considerations in support of the above focus on a number of elements. First, red teaming and wargaming should be utilized in support of the guidance discussed above. Such analytic techniques offer a cost-effective and proven method of validating potential counter-chemical warfare policies. Second, leadership development in counter-chemical weapons expertise beyond the operational level should be fostered. Chemical weapons have strategic impact potentials—especially when ballistic missiles with nerve agent payloads are pointed at U.S. allies. Finally, research and writing pertaining to Army chemical weapons defense policy should be encouraged at the War College level. This area is very much an understudied field at the strategic Landpower studies level, with little to no work being carried out on it. Given the very real 21st-century threat potentials chemical weapons use represents, more professional consideration by Army strategic leaders will be required.

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