Chemical Reaction: How the United States Should Deal with Assad

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Articles & Testimony

U.S. warnings about chemical weapons need to be sharpened with credible threats of force if a potential humanitarian disaster is to be averted.

The increasingly bloody civil war in Syria has raised concerns that the regime of Bashar al-Assad will eventually use its stockpile of chemical weapons (CW) against armed oppositionists and civilians or that insurgents and terrorists will get their hands on them. Indeed, in light of recent opposition gains, unless the United States reaffirms and strengthens its previous deterrent warnings, the Assad regime is liable to use CW against its own people, with catastrophic results for Syria and its neighbors.

Syria's CW arsenal is believed to be the largest in the region. It has reportedly produced artillery rockets filled with the blister agent mustard, as well as aerial bombs and missile warheads filled with the nerve agents sarin and perhaps VX. Despite the reputed size and sophistication of this stockpile, it is unclear at this point that the Assad regime could kill many more insurgents or civilians with CW than it is already killing by conventional military means -- though CW has the potential to sicken or injure many thousands and to induce new, even larger refugee flows.

Iraq's use of CW during the Iran-Iraq War showed that large concentrations of agent are generally required to cause heavy loss of life, though even small amounts can injure thousands. Some 10,000 Iranians, half of them civilians, were killed by CW during eight years of war (around 5 percent of the total number of Iranians killed during that conflict), and another 50,000 suffered moderate to severe injuries. More than 45,000 Iranians continue to suffer the long-term health effects of exposure to chemical agents, including skin, eye, and respiratory ailments, birth defects, cancer, and post-traumatic stress.

Two of the best-known Iraqi chemical attacks on civilian targets are the bombings of the Iranian town of Sardasht in June 1987 and the Iraqi Kurdish town of Halabja in March 1988. In Sardasht, Iraqi aircraft dropped seven 250-

kilogram bombs filled with mustard, killing about 100 people and injuring 4,500. In Halabja, more than 50 aircraft dropped some 200 bombs filled with mustard and nerve agents, killing some 5,000 immediately and injuring thousands more.

It took Iraq several years of trial and error before it was able to effectively employ chemical weapons on the battlefield, and its successes were due in part to the fact it used them against human wave attacks and troop concentrations -- ideal targets for chemical weapons. Syria lacks this experience, and the armed opposition tends to operate in relatively small, dispersed formations. Moreover, Syria may lack sufficient artillery and air power to deliver the type of concentrated, sustained bombardments that produce the kind of mass casualties experienced in Halabja and during combat in the Iran-Iraq War. (For instance, Syrian government airstrikes rarely involve more than a lone aircraft against a single target.) And it may initially use CW in a measured fashion, in ways that could be difficult to verify, in order not to provoke an American military response.

Thus, Syria could probably kill many scores of people in individual chemical strikes -- about as many as it has killed in recent conventional airstrikes on gas stations and bakeries -- and produce thousands of casualties that would need immediate medical attention as well as long-term care. While such strikes are unlikely, in the long run, to fundamentally alter the military balance between the Assad regime and the armed opposition, their psychological impact could be devastating, leading to mass refugee flows into neighboring countries and a humanitarian crisis of massive proportions.

For these reasons, the United States has an overriding interest in deterring the use of chemical weapons by the Assad regime. Accordingly, U.S. warnings of unspecified "consequences" in response to the use of CW need to be sharpened with a threat to use force, backed by the deployment to the region of additional strike aircraft to make this threat credible. Should deterrence fail and should the United States want to disrupt the regime's use of CW (or prevent its diversion by others), it has a number of military options. It could seek to deny access to CW stockpiles by collapsing the structures where they are stored -- or rubbling their entrances -- using reduced-yield bombs, such as the BLU-126/B, and then seeding the area with antipersonnel bomblets or mines. Or it could create a low-grade contamination hazard around CW storage sites by destroying a few munitions using the nonexplosive CBU-107 passive attack weapon (which disperses thousands of tungsten penetrator rods that could punch small holes in bulk storage containers or munitions), thereby hindering access to the area. Or it could use agent-defeat munitions, such as the BLU-119/B, to incinerate CW agents.

It is far from clear, however, that a strike against Syrian CW would succeed. None of the aforementioned munitions has ever been used for that purpose. Moreover, target intelligence may be less than adequate. U.S. intelligence regarding weapons of mass destruction has not always been up to snuff (think Iraq and Libya), and reports that the regime has consolidated its chemical stockpiles in a number of secure locations to prevent their capture may make it harder to figure out exactly where they are. And if the United States were to act, the regime might well use CW against its own population and blame the casualties on a U.S. strike that had gone awry.

Moreover, as the United States learned after the 1991 Gulf War, most munitions would likely survive a strike, buried under layers of rubble, though they would probably be inaccessible to anyone not equipped with protective gear. (Even properly equipped individuals might find the task too risky; U.N. weapons inspectors in Iraq dealt with some bombed-out CW bunkers by entombing them in concrete.) And it is not clear how much agent would be released into the air, posing a threat to nearby civilians. U.S. government studies determined that most agent released as a result of airstrikes on CW bunkers during the Gulf War was absorbed by the soil, contained by storage crates and facilities, or incinerated in the explosions; only a small amount was dispersed into the air.

It is not clear whether such conditions would pertain in the event of strikes on Syria's CW, though steps can be taken to limit the impact of any agent release by striking when atmospheric and weather conditions are favorable. Windy

conditions would hasten the dissipation of any released agent, while rain (it is currently the rainy season in Syria) could preclude the formation of a toxic plume, though it might also create a ground contamination hazard.

Finally, at least some of Syria's sarin munitions are binary weapons, which consist of two precursor chemicals that are stored separately and that become highly lethal only when combined. If targeted prior to mixing, any precursors released into the air would likely have little effect on nearby populations. In this way, some of Syria's most lethal chemical arms could be disposed of before they cause greater harm, if the United States has the intelligence needed for such a strike. However, media reports that the regime has already prepared some binary-type munitions for use add an additional layer of complexity to the targeting challenge, as it may now be more difficult to distinguish those sarin munitions that can be safely targeted from those that cannot.

The United States has made clear that it is likely to act only in the aftermath of a chemical attack. Even then, Washington must be willing to act on the basis of ambiguous reports, in circumstances fraught with uncertainty, if it is to prevent additional use of CW. As experience in Iraq and elsewhere has shown, it can take weeks or months to verify allegations of chemical weapons use. By then, much of the damage will be done. Accordingly, the United States should be prepared to gather, with great urgency, forensic and epidemiological evidence in response to future claims of CW use.

The international community, moreover, must prepare for the worst. Medical supplies sufficient for several mass-casualty events involving chemical weapons should be prepositioned in the region -- if this has not been done already. Arabic- and Kurdish-language guidelines for reacting to a chemical attack (move upwind and seek high ground if in the open; move indoors and create a sealed room using wet rags, plastic sheeting, or other improvised means; and do not use water stored in open containers) should be readied for dissemination by radio, satellite TV, and the Internet.

Through its reluctance to take even modest steps to bolster deterrence and to prepare for the aftermath of a CW attack, Washington risks signaling Damascus that it is free to act as it wishes. And this only increases the likelihood of a humanitarian disaster that will be remembered by the Syrian people and haunt U.S. policy toward the region for many years to come.

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