United States Assessment of the Assad Regime’s Chemical Weapons Use

Key Takeaway
The United States assesses with confidence that the Syrian regime used chemical weapons in the eastern Damascus suburb of Duma on April 7, 2018, killing dozens of men, women, and children, and severely injuring hundreds more. This conclusion is based on descriptions of the attack in multiple media sources, the reported symptoms experienced by victims, videos and images showing two assessed barrel bombs from the attack, and reliable information indicating coordination between Syrian military officials before the attack. A significant body of information points to the regime using chlorine in its bombardment of Duma, while some additional information points to the regime also using the nerve agent sarin. This is not an isolated incident—the Syrian regime has a clear history of using chemical weapons even after pledging that it had given up its chemical weapons program.

Chemical Weapons Use on April 7, 2018
A large body of information indicates that the Syrian regime used chemical weapons in the Duma area of East Ghutah, near Damascus, on April 7, 2018. Our information is consistent and corroborated by multiple sources. These chemical weapons were used as part of a weeks-long offensive against this densely populated opposition-held enclave. This assault has killed and wounded thousands of innocent civilians.

On April 7, social media users, non-governmental organizations, and other open-source outlets reported a chemical weapons bombardment in Duma. Videos and images show the remnants of at least two chlorine barrel bombs from the attacks with features consistent with chlorine barrel bombs from past attacks. In addition, a large volume of high-resolution, reliable photos and video from Duma clearly documents victims suffering from asphyxiation and foaming at the mouth, with no visible signs of external wounds. The World Health Organization (WHO) issued a statement about its concern over suspected chemical attacks in Syria, noting that victims showed symptoms consistent with exposure to toxic chemicals.

Multiple government helicopters were observed over Duma on April 7, with witnesses specifically reporting a Mi-8 helicopter, known to have taken off from the Syrian regime’s nearby Dumayr airfield, circling over Duma during the attack. Numerous eyewitnesses corroborate that barrel bombs were dropped from these helicopters, a tactic used to target civilians indiscriminately throughout the war. Photos of barrel bombs dropped in Duma closely match those used previously by the regime. These barrel bombs were likely used in the chemical attack. Reliable intelligence also indicates that Syrian military officials coordinated what appears to be the use of chlorine in Duma on April 7. Following these barrel bomb attacks, doctors and aid organizations on the ground in Duma reported the strong smell of chlorine and described symptoms consistent with exposure to sarin.

The symptoms described in reporting from media, non-governmental organizations (NGOs), and other open sources—such as the WHO—include miosis (constricted pupils), convulsions, and disruption to central nervous systems. These symptoms, in addition to the dozens of deaths and hundreds of injuries reported, suggest that the regime also used sarin in its attacks on April 7.
The Assad regime chooses to deploy chemical weapons to terrorize and subdue both opposition fighters and the civilian population. It seeks to minimize regime casualties, in part because its military lacks the strength needed to otherwise prevail. Because the regime’s intent is to terrorize, it makes no effort to discriminate between military and civilian targets. By using these banned weapons and wantonly bombarding civilian neighborhoods with conventional munitions and crude barrel bombs, Assad is collectively punishing his own people as a warning against further rebellion. Further, Assad uses chemical weapons in a manner to maximize suffering, such as against families huddled in underground shelters, as was seen in Duma—a population that was already negotiating for surrender and evacuation.

The regime’s continued use of chemical weapons threatens to desensitize the world to their use and proliferation, weaken prohibitions against their use, and increase the likelihood that additional states will acquire and use these weapons. To underscore this point, not only has Russia shielded the Assad regime from accountability for its chemical weapons use, but on March 4, 2018, Russia used a nerve agent in an attempted assassination in the United Kingdom, showing an uncommonly brazen disregard for the taboo against chemical weapons.

In this case—as with previous instances of regime chemical weapons use—United States experts considered alternative explanations beyond the Syrian regime’s culpability for chemical weapons use. Within hours of the first allegation of chemical use on April 7, Syria’s state-run news agency painted the reports as a smear campaign by the last remaining opposition group in East Ghouta, Jaysh al-Islam. We have no information to suggest that this group has ever used chemical weapons. Further, it is unlikely that the opposition could fabricate this volume of media reports on regime chemical weapons use. Such a widespread fabrication would require a highly organized and compartmented campaign to deceive multiple media outlets while evading our detection. The Syrian regime and Russia have also claimed that a terrorist group conducted the attacks or that the attacks were staged are not consistent with the existing body of credible information. The Syrian regime, conversely, has already been condemned by United Nations (UN) investigators for past and continued chemical weapons attacks. It is the only actor in Syria with both the motive and the means to deploy nerve agents. The use of helicopters further implicates the regime; no non-state group has conducted air operations in the conflict.

**Precedent of Chemical Weapons Use and Retention of Assets**

The Assad regime continues to flout international agreements to which it has assented, even after Russia agreed to act as a guarantor of the regime’s compliance and claimed that the Syrian chemical weapons program had been neutralized. The Syrian regime and Russia have also worked to undermine international inspection and accountability mechanisms. Assad used sarin in November 2017, as the UN entity for attributing chemical use in Syria expired, ensuring that no UN Security Council (UNSC)-authorized investigative body remained to determine blame for chemical attacks. Since that time, the regime has also used chlorine on multiple occasions. The U.S. assessments of these attacks are based on credible, public information showing victims with symptoms of nerve agent exposure, including pinpoint pupils, as well as munitions of a type that largely matches previously assessed regime chemical munitions.

The Syrian regime has repeatedly used chemical weapons to compensate for its lack of military manpower, to achieve battlefield goals, and to compel rebel surrender, especially when the regime believes critical infrastructure or territory in the core of the country to be at risk. The regime has also demonstrated a willingness to use chemical weapons against entrenched
opposition forces to maintain offensive momentum when as it calculates this behavior will not be detected and punished.

The Syrian regime’s chemical weapons attacks on Duma were part of an effort to recapture the city in order to eliminate the final opposition pocket in East Ghutah capable of threatening the capital. The regime also seeks to punish Duma’s civilian population, who have long resisted Assad’s domination, as a deterrent to further rebellion. The regime took advantage of Russia’s protection to use chemical weapons to advance its assault on Duma.

If not stopped, Syria has the ability to produce and use more chemical weapons. The Syrian military retains expertise from its traditional chemical weapons agent program to both use sarin and produce and deploy chlorine munitions. The United States also assesses the regime still has chemicals—specifically, sarin and chlorine—that it can use in future attacks and that the regime retains the expertise necessary to develop new weapons. The Syrian military also has a variety of chemical-capable munitions—including grenades, aerial bombs, and improvised munitions—that it can use with little to no warning.

Last fall, the Organization for the Prohibition of Chemical Weapons (OPCW)-UN Joint Investigative Mechanism (JIM) determined Syria was responsible for the sarin attack on Khan Shaykhun in April 2017. This determination was based in part on sample analysis that linked signatures from the Khan Shaykhun attack to previous samples from the Syrian regime’s sarin stockpile, making clear that Syria retained chemical weapons well past its promise that it had destroyed its stockpiles and eliminated its program.

Chlorine Use Only Weeks after Khan Shaykhun
The most recent attack in Duma represents a continuation of the Syrian regime’s pattern of chemical weapons use. Only weeks after the Syrian regime used sarin on Khan Shaykhun, it dropped chlorine barrel bombs as many as three times on opposition forces between April 29 and May 6, 2017, as regime forces attacked toward Al Lataminah, near Khan Shaykhun, where the Syrian regime used sarin in April 2017. The United States has indications of regime helicopters in the vicinity of the targets around this time, pictures of an unexploded chlorine barrel bomb consistent with munitions the regime has used in previous chemical attacks, and a video of chemicals being dispersed. This evidence is consistent with what the OPCW-UN JIM detailed in its fall 2016 reports assigning responsibility to the regime for chlorine attacks in 2014 and 2015. Since 2014, the regime has used chlorine in similar battlefronts to terrorize opponents and break their will to fight.

- Photos of barrel bombs used in at least one of these attacks were consistent with regime-designed chlorine barrel bombs used throughout the conflict.

- Regime helicopters were in the vicinity around the time chemical weapons attacks occurred and in the same area where we identified public allegations. At least one public video of the attack showed footage of helicopters in the area.

- Victim accounts of these events specifically mentioned chlorine—including its distinctive odor after the attack—and symptoms consistent with chlorine exposure, including respiratory distress.
In one of the attacks, pro-opposition social media video footage showed the explosion of a munition that resulted in a yellow-green plume consistent with the dissemination of chlorine.

Chemical Weapons Attacks in Damascus Area
On November 18, 2017, the Syrian regime used sarin against opposition forces in the Damascus suburb of Harasta as part of an increased effort to recapture an opposition stronghold that had resisted Assad’s rule for several years. This attack resulted in dozens of injuries and deaths. This assessment is based on credible public information showing victims with symptoms of nerve agent exposure, including pinpoint pupils, and details on the munition type that largely match previously assessed regime chemical munitions.

- A Western NGO received patients suffering from a variety of symptoms, including constricted pupils, coughing, vomiting, and abnormally slow breathing. Some public videos referred to “nerve gas” or an “organophosphate,” which would be consistent with the victims’ accounts of constricted pupils. Social media and the press estimated varying numbers of casualties, including 19 fatalities and 37 injuries.

- The symptoms described are unlikely to have resulted from a conventional attack given the lack of other injuries associated with conventional weapons use. For instance, we have no reporting of victims experiencing the severe burns that would be expected with white phosphorus exposure.

Social media reported that regime forces conducted the attack with hand grenades containing toxic gas, which further suggests that sarin was used in the attack.

- The United States assesses that the regime has produced and used sarin-filled hand grenades since 2013 and retained them after acceding to the Chemical Weapons Convention.

- In a public statement in late April 2017, France compared the sarin it detected in samples associated with the Khan Shaykhun attack to its laboratory analysis of sarin-filled grenades the regime used in April 2013.

On January 22, 2018, the regime used at least four chlorine-filled rockets in Duma, demonstrating its willingness and capability to use multiple types of small-scale chemical munitions. A large body of social media and press reporting provided not only written accounts of the event but also images and videos that increased our confidence that a chemical was used and that the Syrian regime was responsible.

- Social media accounts note the attack resulted in tens of victims, including at least some women and children, suffering from symptoms such as asphyxiation, consistent with chlorine exposure. Several photos of the children receiving medical care after the attack were posted to such social media accounts.

- Images of munition fragments from this attack have similar design attributes to chlorine-filled rockets that the regime used in attacks in the Damascus area in early 2017. Multiple public accounts of the January 22 attack also noted that victims smelled a
chlorine odor—an indicator of chemical use that we have observed in previous regime chlorine attacks.

Given recent regime chemical use in Duma and Harasta, the continued allegations of chemical use in the Damascus area, and the regime’s use of chemicals under similar battlefield conditions, we are convinced that there have been other instances of both sarin and chlorine use in this area that we have not verified. We are also convinced the regime will continue to use such munitions.

- The regime’s likely objective was to retake the East Ghutah area. East Ghutah has been one of the last pockets of territory in the Damascus suburbs held by entrenched opposition forces. The regime sought to defeat similarly entrenched opposition forces during the Aleppo offensive in fall 2016, where it repeatedly used chlorine.

- Syria’s return to small, ground-launched munitions to deliver these toxic chemicals reflects CW tactics employed earlier in the conflict that gave regime ground forces a standoff capability to target personnel in sheltered areas such as buildings and tunnels, similar to those the Syrian regime has faced in East Ghutah.

- Since June 2017, we have identified more than 15 reports of chemical use in East Ghutah. Additionally, accounts of at least four alleged attacks in East Ghutah—including in the towns of Harasta and Jawbar—between July and November 2017 have mentioned chemical hand grenades, such as those we assess were used in Harasta.

This history clearly illustrates the Assad regime’s consistent use of chemical weapons. Such use will continue until the costs to the regime of using these weapons outweigh any idea that they may provide military advantages.

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