

Syria's Chemical Weapons: Continuing Challenges

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Since 2014, when the Organization for the Prohibition of Chemical Weapons (OPCW) announced completion of the destruction of Syria's declared chemical weapons (CW), questions have persisted on the extent of Damascus's undeclared CW and production capacity. [International](#) investigators have confirmed repeated chemical weapons attacks in Syria, including chlorine gas attacks attributed to the Asad regime, as well as an April 4, 2017, [attack](#) using sarin nerve agent.

In 2017, two air strikes were carried out against chemical weapons-related facilities in Syria: one by the United States on April 6 against the Syrian Al Shayrat airfield, where chemical weapons used in the April 4 attack were allegedly based, and one [reportedly](#) by Israel on September 7 against an alleged CW and missile-related laboratory, the Scientific Studies and Research Center (SSRC) near Masyaf. In April, President Trump said, "It is in the vital national security interest of the United States to prevent and deter the spread and use of deadly chemical weapons," and Secretary of State Rex Tillerson [said](#) the U.S. strike was aimed at reestablishing the norm against chemical weapons use. The United States had placed [sanctions](#) on the SSRC—both as an entity and designations against individual employees—as well as on other Syrian entities and individuals associated with chemical weapons.

Destruction of Syria's Declared Chemical Weapons

Syria's CW program began in the 1970s with help from the Soviet Union and Egypt, primarily as a hedge against Israel. As part of a diplomatic deal after the Obama Administration [threatened military action](#) against Syria following a large-scale CW attack against civilians on August 21, 2013, Syria joined the CWC, which required it to destroy all chemical weapons stocks and production facilities under [international supervision](#). Consequently, in September 2013, Syria declared 1,300 metric tons of [chemical warfare agents](#) and precursor chemicals, including several hundred metric tons of the nerve agents sarin and VX, as well as mustard agent in ready-to-use form. From January through June 2014, all 1,300 tons of Syria's declared chemical weapons agents were moved out of the war-torn country in a dangerous and unprecedented international effort. The United States provided mobile destruction units for the most deadly agents aboard the U.S. Maritime Vessel *Cape Ray*, [completing](#) the neutralization of about 600 metric tons of "priority 1" chemicals by August 2014, the first time chemical weapons had been destroyed at sea. The remaining 700 metric tons of chemicals were successfully delivered for processing to commercial facilities in Riihimäki, Finland; Ellesmere Port, UK; and Port Arthur, TX.

The destruction of declared facilities is still underway. As of August 2017, the OPCW [reported](#) that 25 of the 27 declared chemical weapons production facilities (CWPFs) had been destroyed.

Undeclared CW Stocks

For years, the United States, the OPCW Director General, and other governments have [raised questions](#) over whether Syria declared all of its chemical weapons stocks as was required. As of September 2017, the OPCW has been unable to verify the completeness of the Syrian declaration, and its Declaration Assessment Team (DAT) continues to investigate "gaps, inconsistencies and discrepancies" through interviews and lab analysis of samples from site visits. The cooperation of the Syrian government has been limited, according to [OPCW Executive Council reports](#). The OPCW is scheduled to hold consultations with Syrian authorities in mid-September.

Some [analysts](#) point to past examples of Iraq and Libya as cautionary tales on the difficulty of verifying the completeness of any declaration, and argue that 100% certainty is unlikely. Libya's Qadhafi regime hid part of its CW stockpile, which was found years later and still today requires [ongoing](#) attention. Furthermore, international inspectors in Syria must operate amid the country's ongoing civil war, making site access dangerous at best. However, the use of sarin nerve gas as a battlefield weapon by Syrian forces points to a continued capacity.

CW Use

Chemical weapons and/or toxic chemicals reportedly have been used in dozens of attacks by the Syrian regime and in a handful of cases by the Islamic State. Any use of a toxic chemical in warfare is illegal under the CWC, so although a CWC State Party is not required to declare chlorine or destroy it under the CWC because of its many civilian purposes, any use of chlorine (or any other toxic chemical) in warfare is illegal under the convention. Repeated reports of the Syrian air force using chlorine in aerial munitions in 2014 led the OPCW to establish a Fact Finding Mission (FFM) to investigate incidents and determine whether (and what) chemicals were used. In Resolution 2235 (2015), the UN Security Council created the U.N.-OPCW Joint Investigative Mechanism (JIM), which has responsibility for attributing the incidents where possible. Although it is to be given access anywhere in Syria, the JIM's mission has been complicated by the country's overall security situation.

The reported use of the nerve agent sarin by aerial bombardment on April 4, 2017, in the town of Khan Sheikhoun in rebel-held Idlib province killed an estimated 80 to 100 people. [U.S.](#) and [French](#) government reports say that the Syrian air force also used the nerve agent sarin in two other attacks—on March 25 and 30. This was reportedly the first reported use of sarin since August 2013, and was followed by a U.S. airstrike on a Syrian airbase. The [FFM](#), as well as the U.N. Human Rights Council's Independent International [Commission](#) of Inquiry on the Syrian Arab Republic, concluded that the April 4 attack used sarin, and on September 6, UN investigators issued a report attributing that use to the Syrian military. The Syrian government, with Russia's support, continues to deny categorically that it has used chemical weapons or toxic chemicals, while accusing opposition forces of doing so and calling UN and OPCW investigations into question.

In the past, the United States has worked to [extend](#) the JIM, in order to "send a clear message that the use of chemical weapons will not be tolerated." The JIM's mandate expires in November 2017, and it is unclear at this time whether it will be renewed.