

## WAR IN UKRAINE

### *A legacy of 'secrecy and deception': Why Russia clings to an outlawed chemical arsenal*

*Joby Warrick - The Washington Post*



*Firefighters extinguish a fire at an apartment after a Russian rocket attack in Kharkiv, Ukraine's second-largest city, on March 14. (Pavel Dorogoy/AP)*

*On July 12, 2018, British scientists gathered at a restricted military base for a first look at the weapon used in a bizarre murder attempt a few weeks before. The device was a perfume bottle, tossed away by the assailants as they fled the country, and containing less than a tablespoon of a liquid so deadly that it could only be handled with heavy rubber gloves and hazmat gear.*

*Investigators already suspected that the weapon was of Russian origin — the intended victim was a Russian ex-spy living in England, and the attackers were identified as military intelligence operatives from Moscow. The surprise, as the examination unfolded, was the sheer potency of the oily fluid inside the vial. It was enough poison, the scientists calculated, to wipe out a small town: the equivalent of thousands of lethal doses.*

*This was Novichok, a powerful nerve agent invented by Russia. Just a year earlier, in 2017, Russian President Vladimir Putin had declared to the world that his country no longer possessed such chemical weapons. U.S. and British intelligence officials believed at the time that Putin was lying, and here, in a laboratory in southern England, was tangible proof. Russia had secretly preserved at least some of its arsenal of poisons, and it clearly was willing to use them — including on foreign soil.*

*Four years later, insights from the probe into the attempted assassination of defector Sergei Skripal in Salisbury, England, are helping to fuel worries that Russian*

*chemical weapons could soon turn up in yet another country, with far graver consequences.*

*The Biden administration has repeatedly warned that Russia, frustrated with the faltering progress of its 3-week-old invasion of Ukraine, may be preparing to use chemical weapons against Ukrainian troops, political leaders or even ordinary civilians in an effort to regain momentum and seize control of key cities.*

*While the nature of those preparations is not publicly known, current and former U.S. and NATO officials say Russia has long possessed an array of chemical weapons, which it retains in defiance of international treaties and despite years of Russian promises and pronouncements.*

*Moreover, senior Russian leaders appear to regard chemical weapons as a legitimate tool for achieving a variety of goals, from eliminating political foes to subduing armed opponents, officials and weapons experts say. Russia denies possessing chemical weapons, and the Kremlin has accused Kyiv and Washington of plotting to use chemical or biological weapons in Ukraine.*

*The Russian Embassy in Washington did not respond to a request for comment.*

*“The Skripal case was the smoking gun,” said Andrew C. Weber, a top nonproliferation official for the Pentagon during the Obama administration and an expert on Russia’s weapons of mass destruction programs.*

*“Russia used chemical weapons, in peacetime, in a foreign country. The thought that they might now use chemical weapons in Ukraine is entirely rational.”  
Russia had been laying the groundwork for such operations for decades, current and former U.S. officials said in interviews.*

*After the dissolution of the Soviet Union, Russia joined the United States and 191 other countries in signing the [Chemical Weapon Convention](#), which outlaws the stockpiling and use of substances such as Novichok.*

*Beginning in the early 2000s, Moscow destroyed 40,000 metric tons of chemical munitions — ostensibly its entire arsenal — in special incinerators built with help from U.S. taxpayers.*

*But not everything was destroyed, U.S. officials and analysts say. Military laboratories that produced nerve agents such as Novichok and [sarin](#) continue to function, and Russian weapons scientists have been allowed to pursue new weapons research under a treaty loophole that permits the production of small amounts of chemical weapons for defensive purposes, such as calibrating detection equipment.*

*Russia continued to work on Novichok after the Cold War, an effort that accelerated in the 2010s and culminated with the use of an enhanced variant of the same nerve agent in assassination attempts against two Kremlin foes — Skripal, in 2018, and [Russian opposition leader Alexei Navalny](#) in 2020 — and likely against at least three other opposition figures inside Russia, current and former intelligence officials say.*

*Meanwhile, Moscow also became heavily invested in protecting Syria, its closest Middle East ally, after the Syrian army used chemical weapons against opposition-held towns and villages in that country's civil war.*

*Despite initially supporting international efforts to eliminate Syria's vast arsenal of nerve agents in 2013, Putin repeatedly blocked efforts to punish Syrian President Bashar al-Assad when he switched to using chlorine — the common industrial chemical used to clean drinking water — in deadly gas attacks against the rebels.*

*In Syria, chlorine gas became Assad's go-to weapon for clearing rebels out of their urban strongholds. Because chlorine is widely available, Syria frequently blamed the rebels themselves, accusing them of gassing their own neighborhoods in "false-flag" attacks to win sympathy and support from the West. The claims were repeated and amplified by Russian officials in social media and before world bodies, including the United Nations.*

*The tactic was denounced at the time as cruel and cynical, but it at least partly succeeded. Syria has largely prevailed against the rebels, and Russia's false-flags claims gained credence among Moscow's allies and sowed confusion elsewhere.*

*Years later, Assad still has avoided any accountability for his actions, and Russia has absorbed a powerful lesson on how chemical weapons can be used to defeat even a highly motivated, heavily entrenched urban foe, said [Hamish de Bretton-Gordon](#), a retired British military officer who commanded NATO's rapid-reaction battalion for defense against chemical, biological and nuclear weapons.*

*"If you have no morals or scruples, you would use chemicals, because they can be a morbidly great weapon, as we saw in Syria," de Bretton-Gordon said. "When you're fighting amid rubble, bombs and bullets have a limited affect. But gas is a different story."*

### ***A steward of Russia's chemical weapons program***

*The center of Russia's chemical-weapons universe — past and present — is an industrial complex in Shikhany, a small town on the west bank of the Volga River, just upstream from the city of Saratov. In Soviet times, Shikhany was a "closed" military city, sealed off from foreign visitors because of the highly secretive nature of the research that occurred there.*

*A network of labs and factories in Shikhany once produced much of the Soviet Union's vast chemical-weapons arsenal, including sarin and VX, another nerve agent, as well as an experimental compound called Novichok, Russian for "new fellow."*

*During the final years of communist rule, the complex was directed by Lt. Gen. Anatoly Kuntsevich, an owlish man who critics colorfully dubbed "General Gas."*

*In later years, Kuntsevich would work with Americans in dismantling parts of the Soviet Union's chemical weapons complex, while also — according to Russian prosecutors — providing advice and equipment to Syrian officials who were secretly constructing chemical-weapons factories of their own.*

*Kuntsevich oversaw what was then the world's largest stockpile of chemicals, building on a military program that dated back to the Czarist era and underwent a massive upgrade at the start of the Cold War.*

*When Soviet occupying forces in Germany discovered that the Nazis had invented new types of chemical weapons called nerve agents, the Russians dismantled entire German chemical factories and reassembled them in places like Shikhany.*

*In the Cold War arms race, Moscow and Washington sought to out-compete one another in building the biggest and best arsenals of nuclear, biological and chemical weapons. But as the conflict ended, both countries agreed to limit their nuclear stockpiles and to begin the costly process of scrapping their biological and chemical weapons and production centers altogether.*

*The CIA would later conclude that Russia's self-reported inventory of chemical weapons was incomplete, with several known types of munitions omitted from the list.*

*The invention of sarin was an accident. A German scientist was trying to kill bugs.*

*The destruction of Russia's declared chemical arsenal officially ended in 2017, with Putin himself [presiding over the ceremonial destruction](#) of the last chemical warhead by remote video link. Putin seized on the moment to chide the United States, where a decades-long, multibillion-dollar destruction program was slowed by regulatory delays. The last U.S. weapons are set to be destroyed next year.*

*"We expect that Russia's efforts ... will serve as an example for other countries," Putin said in remarks at the ceremony. He accused Washington of "not carrying out its obligations when it comes to the time frame of destroying chemical weapons."*

*Yet, even as he spoke, U.S. intelligence agencies assessed that Russian scientists were continuing research into new chemical weapons. In August 2020, the Trump administration imposed economic "blacklist" sanctions against three Russian research facilities because of what it said was ongoing work on chemical weapons. Among them was Russia's 33rd Central Research and Testing Institute, the main military laboratory at Shikhany.*

*The Biden administration added new sanctions in 2021, and expanded the list to include additional facilities in Moscow and St. Petersburg. The White House also named individual Russians, including military and intelligence officials, as having connections to the assassination attempts against Skripal and Navalny.*

*"Russia has been in longtime noncompliance with the Chemical Weapons Convention," a senior State Department official said, repeating the essential conclusion reached by multiple U.S. agencies with insight into ongoing work at Shikhany and other research facilities. "Russia's noncompliance is manifest in far more than just Novichok use."*

*The official, like other U.S. and NATO officials interviewed, spoke on the condition of anonymity to discuss U.S. assessments of Russia's weapons programs. Other U.S.*

*officials and diplomats described ongoing research, production and testing activities by Russia, including at Shikhany.*

*Whether Russia possesses a standing arsenal of battlefield-ready chemical munitions is not publicly known, but such stockpiles are no longer necessary, given Russia's capacity to manufacture significant amounts of chemical weapons quickly, if they decide to, the officials said. Key weapons facilities have been reconfigured over the past decade for production-on-demand, they said.*

*"They can make hundreds of kilograms of nerve agent fairly quickly," said John Gilbert, who oversaw U.S. inspection teams in Russia under a Defense Department program that helped Moscow dismantle its Cold War chemical arsenal. "It could happen in a matter of double-digit days."*

*The facilities at Shikhany have traditionally lacked the technical sophistication and safety systems common to industrial chemical plants in the West. The Pentagon's teams visited poorly guarded Russian storage buildings in which huge quantities of nerve agents were kept in rail cars with their wheels removed. The task of periodically checking the liquids was typically carried out by a young Russian who climbed on top of the tanks with a dipstick.*

*Yet, the Soviet Union's chemical engineers knew their craft, and some clearly were unhappy to see the fruits of decades of labor reduced to incinerator soot, Gilbert said. "There was a lot of hesitation, just as there was among Army chemical corps troops in this country," Gilbert said. "To some, it was as if their whole life was being invalidated. And they didn't like it."*

### ***'Gray warfare'***

*Ultimately, it was Novichok that served as a bridge between the old Soviet chemical weapon program and the Kremlin's evolving, 21st century ambitions. Developed at Shikhany in the waning years of the Soviet empire, it was Russia's deadliest nerve agent, and a carefully guarded state secret.*

*Novichok's distinctive chemical formula differed from that of other known nerve agents, and because of this, Novichok was initially omitted from the Chemical Weapons Convention's list of banned substances.*

*Russia could thus continue to tinker with the new weapon without technically violating their treaty obligations, said Gregory Koblentz, a biological and chemical weapons expert and director of the Bio-defense Graduate Program at George Mason University's Schar School of Policy and Government.*

*Kremlin officials at that time also believed that Novichok could not be detected in standard forensics tests used by Western governments. That made Novichok a perfect murder weapon: an ideal choice for use in clandestine assassination attempts by Russia's intelligence services.*

*"Russia didn't just inherit the Soviet chemical weapons arsenal; they also inherited the secrecy and deception that surrounded the program," Koblentz said.*

*After the decision to target Skripal — a turncoat spy who was particularly reviled by Putin — two military intelligence operatives were dispatched to the defector's new home in Salisbury, England, with about a third of an ounce of Novichok concealed inside a modified perfume bottle.*

*Skripal was severely stricken, along with his daughter, Yulia, and a local police officer, but all three recovered after aggressive treatment by British doctors using atropine, a nerve-agent antidote.*

*The would-be assassins carelessly discarded the perfume vial — an unthinkable blunder for professional hit men. The bottle was later found by a British man who was undergoing treatment for drug addiction. The man gave the bottle to his girlfriend, who died after dabbing a bit of the odorless liquid on her wrist.*

*Moscow denied any involvement in the attempted murder, and instead promoted false narratives claiming that others were behind the attack, including possibly Britain itself.*

*But as the investigation was underway, Dutch police [disrupted an alleged plot](#) by a different set of Russian operatives to hack into computers of the Organization for the Prohibition of Chemical Weapons, the Hague-based international watchdog that was in the process of examining samples of the poison used against Skripal.*

*Two years later, a reformulated Novichok weapon was used in another high-profile assassination attempt. This time the attack occurred inside Russia, and the target was Navalny, Putin's most vociferous political foe.*

*Navalny survived, but only after being allowed to fly to Berlin for medical treatment. Four different laboratories ultimately confirmed that Navalny had been poisoned with Novichok.*

*The Kremlin again denied any role in the attack, suggesting publicly that Germany or another Western country was responsible.*

*The question — still unsettled, and the subject of a furious debate inside the U.S. intelligence community — is whether the Kremlin believed that the use of its signature poison would be detected, or whether the two assassination attempts against prominent Putin foes were a deliberate effort to send a message.*

*In any case, the attacks revealed Putin's willingness to engage in what Weber, the former Pentagon official, describes as a kind "gray warfare" using an unconventional and highly lethal weapon.*

*"We know about battlefield use of chemical weapons, and we know the stuff that terrorists do, and now there's this: a state-sponsored, covert delivery of a weapon of mass destruction," Weber said.*

*"This is a new category, and we need to pay attention."*

*Up to now, each of Russia's known attempts to use chemical weapons have been accompanied by a public-relations offensive, of a very particular sort. After the Skripal and Navalny attacks, Moscow dispatched top Russian officials to the United*

*Nations and other prominent venues, armed with vigorous denials and concocted stories that sought to deflect blame. The false narratives were then repeated on state-run Russian media and recycled on social media platforms, including in the West.*

*Indeed, for Russia — [just as with its similarly accused ally, Syria](#) — the official denial campaigns are often as complex and elaborate as the attacks themselves. U.S. officials say a pretense of deniability appears to be important to Moscow, regardless of the strength of the evidence pointing to Russia's guilt.*



*People stand in front of damaged buildings, in the town of Douma, the site of a suspected chemical weapons attack, near Damascus, Syria, on April 16, 2018. (Hassan Ammar/AP)*

*For that reason, many officials and experts believe that Russia may try to cloak its involvement in any future chemical weapons attack in Ukraine. Rather than using signature Russian nerve agents such as Novichok, it might resort to using anhydrous ammonia or chlorine — two substances that are readily available in an industrial country such as Ukraine.*

*[Chlorine was used as chemical weapon in World War I.](#) Although far less lethal than sarin or Novichok, chlorine can be effective in driving urban defenders from their barricades, as the Assad government discovered during Syria's civil war.*

*After giving up the bulk of its sarin stockpile in 2014, Assad used chlorine bombs dozens of times, as a siege weapon against entrenched fighters, or a psychological weapon against civilians in villages sympathetic to the rebels.*

*On Thursday, Secretary of State Antony Blinken suggested that such an attack by Russia may be coming, accusing Moscow of “setting the stage to use a chemical weapon, and then falsely blame Ukraine to justify escalating its attacks on the Ukrainian people.”*

*Any chemical attack could cause hundreds of casualties and possibly alter the course of the war. But achieving a true breakthrough would probably require large quantities of chemicals, making Ukraine the venue for the first large-scale use of such weapons since World War I, Maj. Gen. Mick Ryan, an Australian army officer and adjunct scholar at the Modern War Institute at the U.S. Military Academy, said in a Twitter post.*

*“If we think the war is already horrific, we haven’t seen the worst of it,” [Ryan wrote](#).*

*If it happens, he added, “the US President and NATO will have a very hard choice to make.”*