

The Soviet Chemical Weapon Programme

by John Hart

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Khimicheskoe Vooruzhenie – Voina s Sobstvennym Narodom: Tragicheskyy Rossiiskiy Opyt [Chemical Armament – War Against One’s Own People: the Tragic Russian Experience]

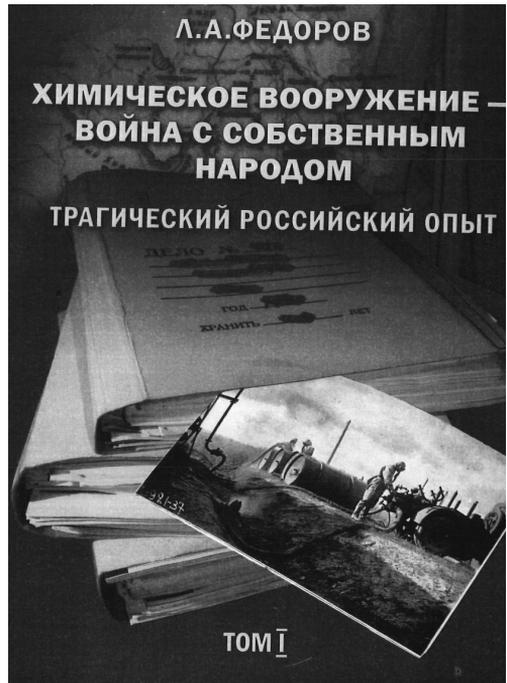
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LITTLE HAS BEEN published on the history of chemical weapons (CW) as compared to that of conventional and nuclear weapons. Furthermore, the literature on past CW programmes and activities is uneven. While much has been published (using primary archival material) on, for example, the British, German and US programmes, much remains to be clarified regarding the CW activities in the 20th century by states in Asia, Latin America and the Middle East. Although a large literature exists on the Soviet CW programme, much of it is speculative or incomplete. A comprehensive treatment of the actors, policies and activities based on Soviet and Russian archival material has been generally lacking. The scope, level of detail and authoritativeness of studies on the Soviet CW programme can therefore be developed further. Dr Lev Aleksandrovich Fedorov’s 3-volume study does much to fill



this gap. It is a fundamental work, rich in detail and many of the 1057 references are documents from the Russian state archives. Fedorov was a chemist in the Soviet chemical defence establishment and is currently the President of the Union for Chemical Safety in Moscow.

The first volume describes the origins of the Soviet CW programme, including the development of the chemical industry and expertise to support it. The second volume

provides an overview of the research and extent of the Soviet CW infrastructure. The final volume focuses on more contemporary issues, including the legacy of the programme for human health and environmental safety. Fedorov does not disguise his distaste for many of the individuals who developed the CW programme or the military and political leadership behind them, including their responsibility for poor working conditions for munitions workers and human testing. The study is disjointed partly because of periodic digressions and the insertion of extended quotations and lists.

The Soviet CW programme originated in Russia's World War I programme. The Czarist government brought in chemists, such as Vladimir Nikolaiyevich Ipatiev, to assist with the development of respirators and the redirection of the country's nascent chemical industry towards CW production. Although Russia employed chlorine, chloropicrin and phosgene, its CW capabilities were underdeveloped as compared to those of Germany. According to casualty figures provided by Gilchrist, Russia suffered more deaths from CW than any of the other belligerents: 56 000, while France had the second highest number at 8 000.¹ Russia suffered from underdeveloped production capacity, often poor gas discipline and poor integration of these weapons in its military doctrine. CW was also used during Russia's Civil War. British forces employed the irritant adamsite and Red Army units were authorized to use chlorine in 1921 against partisans hiding in forests near the city of Tambov.

Dr Yakov Fishman (b. 1887, d. 1961/2), a military chemist and the first head of the Red Army's Military Chemical Directorate, was one of the most important organizers and promoters of the Soviet CW programme. He did this partly by helping to found and

promote OSOAVIAKhim (the Union of Societies of Friends of Defence and Aviation-Chemical Construction), a volunteer society that sought to promote the development and application of chemistry for agriculture and industry and to simultaneously prepare the country against possible CW attack. It achieved the latter objective partly by organizing CW contamination avoidance drills and instructing Soviet citizens in decontamination procedures. Fishman was also a Soviet military attaché to Berlin in the 1920s and traveled to Europe for discussions on CW-related matters with German and Italian officials and specialists until he was purged (but not killed). Soviet embassies were tasked to collect CW-related information from Britain, France, Germany, Japan, Poland, Romania, Sweden and the United States. Some of this information is reflected in Soviet military journals such as *War and Technology*.²

Russia's principal scientific research and test facility for protection against CW is located at Shikhany in the Volsk region (Saratov oblast'). The establishment of the Shikhany Central Military Chemical Proving Ground was the most lasting result of the German-Soviet cooperation in the field of CW. Tomka (or 'Tomko') was the name of the village that once existed at the site where a field test facility was established in 1926 adjacent to the Shikhany military chemical establishment during secret German-Soviet CW cooperation within the framework of the 1922 Treaty of Rapallo. Fedorov describes, using material from Fishman's personal papers located at the Russian State Military Archive in Moscow, the Soviet Union's cooperation with Italy on CW. A 1934 technical mission headed by Fishman was received by Mussolini at a reception in which a toast was raised to future cooperation in this area. Italy and the Soviet Union agreed

a 19-point programme of cooperation that included the exchange of samples of the irritant and 'mask breaker' diphenylchloroarsine (100 kg), and the blister agent sulphur mustard (350 kg). The two sides discussed how to lower the freezing temperature of sulphur mustard, to produce higher-purity sulphur mustard and methods of rubber (including synthetic) production. Stalin was kept apprised of the Italian-Soviet contacts.

Fedorov also reveals that the Soviet Union engaged in technical cooperation with China, Czechoslovakia, Hungary, Poland and Romania. For example, he describes how the Soviet Union transferred sulphur mustard produced at Dzerzhinsk to China in the late 1950s.

He also expands the previously narrow base of literature on Soviet CW preparedness during World War II. Analysts have debated whether the Soviets possessed large-scale stocks of CW and CW production capacity during the war. Two factors informing this discussion are the fact that German forces did not capture appreciable quantities of CW and a general lack of information. If the Soviets possessed large stocks of CW in the theatre-of-operations, then they were very successful in removing them before they could be captured. Part of the lack of such stocks can be explained by dumping operations in the Black Sea. Fedorov provides locations of pre-World War II CW stocks, including 121 artillery storage sites where CW was stored prior to the war. There is ambiguity between production capacities and 5-year plan goals versus actual production. Much of the Soviet Union's World War II CW production seems to have consisted of sulphur mustard and lewisite (mainly air bombs, artillery shells and

mines). The cumulative tonnage for these agents for 1941-45 is over 2 million metric tonnes (this possibly includes the weight of the munition bodies). It would be useful to compare Fedorov's information for these years against a 1951 declassified report prepared by the Austrian chemist and German Army officer Walther Hirsch for the United States following the war.³ The Hirsch Report was perhaps the main source of substantive information in this area for the NATO allies during the early years of the Cold War.

Fedorov reproduces extracts of primary documents which both give a feeling of the period and reflect Fedorov's sometimes strong personal convictions that the Soviet CW establishment abused its authority through secrecy and held the Soviet people and environment in disregard. The Soviet Union often changed names of cities, regions and facilities. Fedorov's work helps to clarify these name changes. The 1993 Chemical Weapons Convention (CWC) has served as an informal trigger for the release of information on past CW programmes partly because it requires states to submit declarations on past activities. To date, 13 parties to the CWC have declared 70 chemical weapon production facilities since 1 January 1946.⁴ Fedorov's study helps to put past Soviet activities into the context of present-day international arms control and disarmament. He provides some administrative details of novichok ('newcomer') agents, a class of CW agents developed by the Soviet Union and published by Dr Vil Mirzayanov in 2009.⁵ Fedorov's study is indispensable reading.

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Notes

1. All World War I casualty statistics should be treated with caution. Gilchrist, H. L.: *A Comparative Study of World War Casualties from Gas and Other Weapons*, US Chemical Warfare School, Edgewood Arsenal, Maryland, 1928, p. 7.
2. 'Voенно-khimicheskoe delo, k voprosu o "zaprishchenii khimicheskoi voiny"' [Military-chemical matters, towards the question of the prohibition of chemical warfare], *Voina I Tekhnika* [War and Technology], no. 1 1928, pp. 58-62. This article summarizes CW activities in other countries largely on the basis of information published in a 1927 French journal *Chemical Industry*. While the provenance of this article is not certain, Soviet embassies routinely collected such literature.
3. Hirsch, W: *Soviet BW and CW Capabilities* ('The Hirsch Report'), declassified US Army Chemical Intelligence Branch Washington, DC, 1951.
4. The states that have declared having one or more chemical weapon production facilities since 1 January 1946 are: Bosnia and Herzegovina, China, France, India, Iran, Japan, Libya, Russia, Serbia, South Korea, the United Kingdom and the United States. These facilities must be verifiably destroyed or converted to peaceful purposes under the supervision of the Organisation for the Prohibition of Chemical Weapons (OPCW), the body based in The Hague which implements the CWC. As of May 2010 all but 8 of these facilities had been destroyed or converted. As of the same date, 188 states had acceded to or ratified the CWC. The states that have signed, but not ratified the convention were: Israel and Myanmar. The states that had not signed the convention were: Angola, Egypt, North Korea, Somalia and Syria.
5. Mirzjanov, V.: *State Secrets: An Insider's Chronicle of the Russian Chemical Weapons Program*, Outskirts Press, Inc. Denver, Co., 2009.