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**Shakir Aitaliev****Kazan Federal University, Kazan, Russia****E-mail: Aitaliev\_shakir@mail.ru****CHEMICAL-TACTICAL SERVICE IN THE YEARS OF THE CIVIL  
AND GREAT PATRIOTIC WARS AND ACTIVITIES OF GENERAL  
Sh. DZHEKSENBAEV**

***Annotation.** Chemical and biological weapons are the main component of weapons of mass destruction in many countries of the world. The article describes some of the international legislation and agreements related to chemical weapons, the origin and history of the development of the chemical division.*

*The article describes the study and educational institutions of the military-chemical direction in the first and second world wars. One of the specialists with a higher education in the chemical troops is the first Kazakh Major General of the Technical Troops Sh. Dzheksenbaev. The article highlights his path from an ordinary soldier to a general of the technical troops of the USSR. The article describes the military operations of military chemists during the Great Patriotic War on the Bryansk front, the Kursk Bulge, etc. and after the end of the Great Patriotic War.*

***Keywords:** Red Army; chemical weapons; Convention; laboratory; headquarters; front; poisonous gas; military chemist.*

*Introduction*

In general, the history of military conflicts of the XX century showed that chemical weapons, despite their lethality, were not sufficiently effective. The success of its use depended on the weather, and when the direction of the wind changed, the side using poisonous gases itself could suffer from them. Therefore, chemical weapons have not received wide distribution. It was used locally, under the right conditions. Nevertheless, military chemists were part of the armed forces of almost all countries that were to become opponents in the upcoming war.

The appearance on the battlefields of the First World War of tanks and aircraft forced the military leadership of the country at that time of the USSR to begin the technical re-equipment of the Red Army, using incl. latest developments in the field of chemical science.

During World War I, infantrymen fought tanks with Molotov cocktails. Weapons were rarely used correctly, and therefore their use in most cases was ineffective. It was with the help of military chemists that incendiary mixtures were improved, and subsequently used not only in a collision with enemy tanks, but also as obstacles in the way of the enemy, air bombs and weapons of ground-based flamethrower platoons [1].

One of the brightest personalities who contributed to the development of military chemistry is Major General of the Technical Troops Sh. Dzheksenbaev, in connection with the technical equipment of the Red Army and the improvement of its organization, at that time he was asked to transfer to the military chemical service.

*Materials and Methods*

In September 1930, Sh. Dzheksenbaev began to study at the courses. The Higher Military School of the Red Army was established in January 1920 on the basis of the former Moscow Soviet military gas engineering courses. The main purpose of the school was to generalize the experience of using chemicals in the First World War and use it to develop the military chemical business of



the Red Army, as well as to train specialists to manage military chemical units. In addition, the school trained commanders for anti-chemical (anti-gas) defense units.

During the American Civil War, there were also proposals to use artillery shells filled with chlorine, hydrogen cyanide (a binary system consisting of potassium cyanide and hydrochloric acid), arsenic compounds, or poisonous plant materials (for example, Capsicum, Piper, Veratrum) [2].

The memory of centuries also brings us evidence of how the inhabitants of many Russian cities, defended themselves from the attack of the Genghis Khan hordes, resorted to the help of flammable means. The Kazakh people still have legends in which smoke and incendiary means are called the "yellow indomitable snake."

In truth, the hot mixture, called by the wisdom of the people the "yellow snake", came to us from time immemorial. But in the military-chemical business as such, it arose and developed during the First World War in 1914-1918. In essence, it was intended to solve two problems: the development of methods for the combat use of various chemicals (gases and other toxic substances) in military operations to destroy and reduce the combat capability of enemy manpower, the development and use of appropriate means of protection against chemicals used for combat purposes.

Thus, the military-chemical business consists of two parts that are independent in terms of tasks, but closely interconnected in terms of technology and tactics: the use of chemical agents (chemical attack) and anti-chemical defense (chemical, anti-gas defense). At the same time, each of these units has its own special means, methods and tactics, as well as different meanings for individual branches of the military. The troops of radiation, chemical and biological protection originate from the gas defense service, created during the First World War. So, if the means of chemical attack were used during the First World War mainly by artillery and special chemical troops, then gas defense was organized and carried out by all branches of the armed forces without exception.

The inadmissibility of the use of weapons of mass destruction was mentioned in the St. Petersburg Declaration of 1868, the Declaration of the Brussels Conference of 1874, as well as in the Hague Conventions and Declarations of 1899 and 1907, respectively. It is appropriate to note here that the representatives of the United States and Great Britain, who actively spoke in favor of the 1899 convention, did not actually sign it, and the representative of the United States did not sign the 1907 convention either. Kaiser Germany signing the conventions of 1899 and 1907 on the non-use of chemical weapons in war, and then the first to use chemical weapons.

The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (CWC) was signed in Paris on 13 January 1993 after difficult negotiations. The Convention entered into force on April 29, 1997, and so far 190 countries have participated in the Convention. It has been signed but not yet ratified by two countries (Israel, Myanmar); and four countries have not yet signed the Convention (Angola, Egypt, South Sudan, Democratic People's Republic of Korea).

Under Article I of the Convention, each contracting country undertakes not to develop, produce, otherwise acquire, stockpile, stockpile or transfer chemical weapons under any circumstances. The contracting country undertakes not to use chemical weapons, not to conduct any preparation for their use for military purposes and to destroy its own chemical weapons and their production facilities under its jurisdiction and control. It also undertakes the destruction of all chemical weapons remaining on the territory of another contracting country [3].

The Germans' confidence in victory with the help of chemical weapons was also strengthened by the knowledge of the weakness of the enemy's industry: "Through a very subtle trade policy," Dzheksenbayev stated, "Germany, trying all the time to keep the chemical initiative in its hands, managed even before the war, if not to strangle, then to a significant extent to delay the development of the organic chemical industry in other countries."



And a powerful production base allowed Germany to establish mass production of chemical warfare agents: "In total, up to 50,000 tons of deadly gases were produced by only three large plants."

The industrial success of the French should also be noted because the Germans did not allow the thought that any of the allies would be able to establish the production of mustard gas.

The USSR chemical industry also achieved significant success, managing in a short time to organize the production of all the substances necessary for the production of poisonous gases.

Officially, the chemical service of the Red Army was formalized by order of the Revolutionary Military Council of the Republic of November 13, 1918, according to which its main task was to organize anti-chemical protection of troops. Later, it was also tasked with the use of flamethrower-incendiary substances and neutral masking smoke.

Over 1,300,000 people were gassed in World War I between 1914-1918, and over 90,000 of them died, as a result of the use of phosgene and hydrogen cyanide. In the First World War in the same years, flamethrowers first appeared in everyday life. USSR engineers were the first to invent a high-explosive flamethrower. Thanks to the inventions of USSR engineers and scientists, the Red army in 1914-1918 in equipping with incendiary means, it was much superior to foreign armies, including the German one.

After the end of the civil war, the government took all measures to prohibit chemical weapons. In 1922, at the Genoa Conference, representatives of our country put forward a project to ban the use of poisonous substances and other means of mass extermination, but met with opposition from the delegations of the imperialist states. As you know, in 1925 in Geneva, several European states drew up a protocol in 1928, United States of America - only in 1975. In 1929, a Soviet delegation submitted to the League of Nations disarmament commission a draft ban on the manufacture of poisonous substances, but it was rejected by representatives of the imperialist countries.

By 1931, the chemical service of the Red Army was headed by the military chemical department, headed by Ya. M. Fishman. In military districts, armies, rifle and cavalry corps, divisions and regiments, the positions of chiefs of the chemical service were introduced, whose duties included the organization of anti-chemical protection of troops and chemical training.

So, gradually, step by step, Sh. Dzheksenbaev learned the features of the military chemical business. But in addition to this discipline, general education was also intensively studied, with an emphasis on chemistry; organic, inorganic and analytical chemistry, and also studied physics, mathematics, Russian language. Of course, in order to master all this, a great return, hard work was required.

The Nazis hatched plans for a blitzkrieg, and feverish preparations were underway for it. And at the same time, a lot of space was given to the use of chemical weapons. Now, from the documents seized at the beginning of the war by units of the Red Army, it is reliably known that German fascism, in terms of one of the options for a "blitzkrieg", provided for the widespread use of poisonous substances.

To this end, in fascist Germany, on the basis of the chemical giant IG Farbenindustrie, a powerful highly developed industry was created to improve old and develop new fast-acting, highly toxic substances, such as tabun, sarin, soman. At the same time, large stocks of these nerve agents were created [4].

On July 22, 1941, the Pravda newspaper transmitted an evening message from the Soviet Information Bureau, which said: "On July 15, in the battles west of Sitnya, east of Pskov, during the retreat of German units, our troops captured secret documents and chemical property of the 2nd battalion 52 enemy mortar chemical regiment. One of the captured packages contained the secret instruction ND No. 199 "Shooting with chemical projectiles and mines" of the 1940 edition and secret additions to the instruction sent to the troops on July 11 of this year.



These documents contain carefully elaborated instructions on the technique and tactics of using poisonous substances on a large scale. In addition to the instruction, it is indicated that the chemical troops will receive new mortars of the “40” sample, 10 cm caliber and “C” sample, as well as new chemical mines.

The German secret documents seized by the Red Army units exhaustively prove that German fascism, foreseeing the inevitable collapse of the "blitzkrieg" tactics, is secretly preparing a new monstrous atrocity - the widespread use of poisonous agents. The active German troops have special chemical units for poisonous substances.

Stationary front-line chemical testing laboratory did a great deal of work to create more effective flamethrower-incendiary recipes for high-explosive flamethrowers. For example, a new formulation has been developed that provides a long range of the fire “jet”, the duration of exposure and a high combustion temperature.

Regular gatherings of specialists from army laboratories were held. They discussed the work carried out, current tasks, studied samples of captured chemical property, and introduced new methods of analysis. It should be noted that the front-line chemical laboratory maintained constant contact with the Moscow Research Institute. Laboratory employees were sent to the institute every year for consultations, familiarization with new methods, and for obtaining equipment and reagents.

The front-line chemical laboratory throughout the war functioned skillfully, competently and efficiently, providing the front headquarters with the necessary information.

There is a proverb among the Kazakhs: in the hands of a craftsman, the snow will catch fire. And now, from the 13th Army, joyful news reached the headquarters. She was sent 2,800 incendiary bottles and 550 gas mask bags, and, as was clear from the reports, not by chance. The fighters of this army used incendiary bottles wherever possible, destroyed tanks and vehicles of the Nazis with them, threw them at bunkers and houses where the enemy was located, and resourcefully used them in reconnaissance.

The military exploits of Shakir Dzheksenbaev are well documented in the memoirs of the direct participants in the events. So, for example, the writer Vladimir Uspensky, publishing the memoirs of Nikolai Lukashov "Privy Advisor to the Leader", wrote the following: “Once they came across a captured van and Sh. Dzheksenbaev immediately converted it into a stationary front-line chemical testing laboratory and, together with his subordinates, developed recipes for high-explosive flamethrowers with a long burning time, as well as mines, ampoules aviation incendiary ampoules, remote incendiary ampoules and grenades, aviation bombs with granular phosphorus, signal and smoke bombs. Subsequently, they were extremely effectively used to destroy enemy manpower and equipment. They released thousands, this is a whole arsenal of effective ammunition in such a difficult wartime! Of course, this turned out to be, by the way, “after all, our significant strategic reserves were either destroyed during the retreat, or went to the enemy, and the industry, which moved to the east, only settled down in new lands. Well, just fight with your bare hands...” [5].

With the direct participation of Shakir Dzheksenbaev during the offensive operation of the Battle of Kursk in the second half of July 1942, Molotov cocktails were supplied to the 3rd, 38th, 48th, 50th armies. Viscous sticky, burns with high temperature. Enemy tanks burned like firewood. Bottles with fire mixture - against tanks?! Our fighters managed to defend their positions, they felt protected: incendiary bottles destroyed pillboxes, bunkers, tanks, vehicles, ammunition depots, enemy gas storage facilities, warehouses, airfields were on fire, aircraft, this sowed panic in the enemy's battle formations, the enemy suffered losses in manpower and equipment.

In the hands of a brave fighter, an incendiary bottle is a formidable weapon. It was at this time that Sh. Dzheksenbaev's talent as a military specialist with creative thinking manifested itself, he held meetings of specialists from different army units, at which achievements and experience were discussed.



In his memoirs “And the smoke of war is bitter,” S. Dzheksenbaev recalled: “In battles, the 15th Air Army from U-2 and IL-2 aircraft widely used throwing ampoules of AJ-2 filled with granular phosphorus. So, on August 25, 1942, under the cover of fighters, they bombed enemy airfields in Kursk. On the ground, 16 enemy planes burned down, a gas depot was blown up, hangars, separate utility buildings of the air town were set on fire, 9 points of anti-aircraft artillery were suppressed, 10 enemy planes were damaged” [6].

### *Results and Discussion*

Thus, the Great Patriotic War of 1941-1945. ended with the Great Victory of the Soviet people over Nazi Germany.

After the war, Major General Sh. Dzheksenbaev learned about the experiments of the Nazis in the development of effective chemical and biological toxic substances. For such work, special polygons were built. General Sh. Dzheksenbaev saw such premises: giant boxes stretching for hundreds of meters, each of which was designed to be exposed to a certain poisonous substance. In such a box, the Nazis brought people without a gas mask and let a gas jet. Gas vapors acted asphyxiating and in a few minutes not a single prisoner of war was left alive.

Although the reduction of the Armed Forces of the USSR was carried out, not everything was calm in the world. The atomic bombs dropped on the orders of the US government on Hiroshima and Nagasaki simply served as the beginning of the so-called "cold war" against the Soviet Union and the people's democracies.

The interests of national security, as well as high-quality training of command personnel, require the development of the best traditions of the armed forces of the Motherland at the present time. Their spokesmen and bearers have always been commanders and military leaders distinguished by their strong spirit, patriotism, deep strategic and operational thinking. Their life and deeds are not only an edification to posterity, but also an example to follow. Like all people, modern officers differ from each other in character, mindset, physical data, and upbringing. Because of this, for each of them, any hero of past years close to him in spirit can become a life example.

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### **Айталиев Шакир**

## **ХИМИКО-ТАКТИЧЕСКАЯ СЛУЖБА В ГОДЫ ГРАЖДАНСКОЙ И ВЕЛИКОЙ ОТЕЧЕСТВЕННОЙ ВОЙН И ДЕЯТЕЛЬНОСТЬ ГЕНЕРАЛА Ш. ДЖЕКСЕНБАЕВА**

**Аннотация.** Химическая и биологическая оружия основная составляющая часть оружия массового поражения во многих странах мира. В статье описаны некоторые международные законодательства и соглашения, относящиеся химическому оружия, возникновения и история развития химических подразделении. В статье излагается учеба и



учебные заведения военно-химического направления в первой и второй мировых войн. Одним из специалистов с высшим образованием химических войск является первый казахский генерал майор технических войск СССР Ш.Джексенбаев. В статье освещена его путь от рядового бойца до генерала технических войск СССР. В статье изложены боевые действия военных химиков в годы Великой Отечественной Войны на Брянском фронте, Курской дуге и т.д. и после окончания Великой Отечественной Войны.

**Ключевые слова:** Красная армия; химическое оружие; Конвенция; лаборатория; штаб; фронт; ядовитый газ; военный химик.

**Айталиев Шакир**

### **АЗАМАТТЫҚ ЖӘНЕ ҰЛЫ ОТАН СОҒЫСЫ ЖЫЛДАРЫНДАҒЫ ХИМИЯЛЫҚ-ТАКТИКАЛЫҚ САЛАСЫ ЖӘНЕ ГЕНЕРАЛ Ш. ЖЕКСЕНБАЕВТЫҢ ҚЫЗМЕТІ**

**Аңдатпа.** Көптеген елдерде химиялық және бактериологиялық қару жаппай қыру құралының негізі болып саналады. Мақалада химиялық бөлімдерінің даму тарихы, халықаралық келісімдер мен заңнамалық негіздері келтіріледі.

Сонымен қатар бірінші және екінші дүниежүзілік соғыс кезіндегі әскери-химиялық бағыттағы оқу орындары мен оқу процестері баяндалады. Жоғарғы білімі бар химиялық қару маманы болып КСРО көлемінде қазақтың тұңғыш генералы Ш.Жексенбаев екені анықталды. Мақалада оның қатардағы жауынгерден, КСРО техника әскерінің генералына дейінгі әскери жолы баяндалады.

Мақалада әскери химиктердің Ұлы Отан соғысы кезіндегі Брянск майданындағы, Курск доғасындағы және т.б., және Ұлы Отан соғысынан кейінгі жауынгерлік әрекеттері баяндалады.

**Кілт сөздері:** Қызыл армия; химиялық қару; Конвенция; лаборатория; штаб; майдан; улы газ; әскери химик.