

**RUSSIAN FEDERATION****AIDE MEMOIRE
ON ENHANCEMENT OF THE CHEMICAL WEAPONS CONVENTION****1. On The Preparation and Implementation of the Chemical Weapons Convention (CWC) by the Russian Federation**

In connection to the continuing hysteria of the Western states, first and foremost the United States and the United Kingdom, around the “Skripal case” and accusations against Russia of the alleged use of chemical weapons, we note the following.

Russia has not produced and has not had any production facilities of any toxic agents apart from those which were declared by Russia to the Chemical Weapons Convention (CWC) in 1997. All of the stockpiles were declared by the Russian Federation, checked by the corresponding representatives of the OPCW Technical Secretariat, destroyed under the control of the TS inspectors, which monitored the destruction process on regular basis. Correspondingly, at the present time, there are no toxic agents in the stockpiles.

Given the “lapses” in memory of the main initiators of the abovementioned unfounded accusation of Russia, we would also like to highlight that the Soviet Union came forward with a number of initiatives on revealing its chemical warfare potential long before the CWC was opened for signature.

In April 1987, in Prague, the Soviet Union declared that the production of chemical weapons had been stopped (the United States produced binary chemical weapons until 1993). The USSR does not have chemical weapons outside its borders.

In October 1987, the participants of the negotiations at the Disarmament Conference in Geneva initiated a demonstration of samples of the Soviet chemical weapons. Based on this demonstration at the Disarmament Conference in Geneva, the Soviet Union distributed an official document with information on chemical munitions.

In May 1989, it was also declared that the USSR did not assist any country in development and production of chemical weapons, in construction or exploitation of facilities for its production or storage, did not supply chemical weapons abroad,

¹ English version – unofficial translation.



strictly abided by the policy of non-deployment of chemical weapons outside of its territory. Nevertheless, following the initiative of a number of Western states, in 1990-1991 the storage sites of the artillery munitions of a group of Soviet troops in Germany and Poland were inspected for chemical weapons. Based on the results of the visits, it was established that, indeed, there were no chemical munitions. At the same time, Russia knew about the presence of the chemical weapons arsenal of the United States in Europe. However, on the assumption of good faith of the relations, Russia did not file a request.

In September 1989, the Soviet-American Wyoming Memorandum was signed as a measure of preparation for the CWC and of confidence in that both key states equally understand and commit to comply with the future Convention.

Under the Memorandum, there was a bilateral exchange of data on stockpiles of chemical weapons and storage sites of such weapons. In 1990-1992, right until the Convention was opened for signature in January 1993, in Paris, there was a series of visits to the Soviet (Russian) and American facilities.

There were no questions regarding the presence of any kind of undeclared stockpiles of chemical weapons and production facilities.

Russia was among the first to sign the Convention on January 13, 1993, thus committing, in accordance with the Vienna Convention on the Law of Treaties of May 23, 1969 (Article 18), to “refrain from acts which would defeat the object and purpose of a treaty”.

2. Questions Started to Arise after V.Mirzayanov Migrated to the United States

In the early 1990s, when the USSR collapsed and the Russian economy started experiencing difficulties, in Russia, there was a term coined – the “brain drain” towards the West, when certain scientists who had achieved well-known results in science went to other countries to improve their financial situation. V. Mirzayanov decided to do the same, but not by means of his own intellectual potential, but by means of “playing” on the supposed knowledge of the chemical warfare. It has been noted that his first publications did not contain any formulae connected to toxic substances. His first big monograph was published in Russian in the early 2000s. This publication contained a historical overview of his life. It also did not contain any formulae whatsoever, there were no methods of synthesis of toxic substances. This confirmed that Mirzayanov did not possess any real knowledge because at the scientific organization his responsibilities covered technical support of the work conducted. At the same time, in the early 1990s, a number of chemicals which could be placed within the category which Mirzayanov started mentioning later on were already known.

The following examples could also be mentioned. In the Czech Republic, scientists, professors J. Matousek and I. Macek in particular, were working on protection of the population in the conditions of a possible use of chemical weapons. These are the scientists that deserve respect. In their publications in 1994, they pointed out the existence of a whole range of chemicals precisely as potential threats from the point of view of protection against chemical weapons. The scientists demonstrated several dozens of such chemicals. The data regarding the chemicals is presented in the

publications without any relation to Russia and all that is now happening in the Organization for the Prohibition of Chemical Weapons. The materials include data concerning the toxicology of these chemicals, correspondingly large structural formulae and other information.

The Convention was presented for signature by the states already in January of 1993. The Convention stipulates the procedures for introducing changes regarding the scheduled chemicals. However, any changes introduced into the Convention on that stage could have led to a delay of the start of its implementation. It was precisely for this reason that no action was taken by any state that had knowledge of such new chemicals.

3. The Name of the Set of “Novichok” Compounds was in Wide Access after the Publication of the Report by the Henry L. Stimson Center in 1995, in the U.S.

The information about the structure of the family of organophosphorous compounds, which the author united under the name “Novichoks”, were first presented in the second edition of the Handbook of Chemical and Biological Warfare Agents by D. Hank Ellison, the United States. The handbook presents the structures of around sixty compounds which, according to the author, are related to the “Novichok” group. For every compound he provided an index in the American Society Chemical Abstract System classification, which demonstrates that they had been synthesized and registered in CAS database. In certain editions, some of the compounds did not have a registration in CAS.

The Spectra Database of the American Institute of Standards (NIST) in the 1998 version (NIST 98) included the information on the structure and mass-spectra of the representatives of the “Novichok” family, which, according to the report of the OPCW Technical Secretariat of April 12, 2018, was identified in the samples collected on the site of the incident in Salisbury. The database contained the affiliation, pointing to the fact that the spectrum of this compound was presented by the Edgewood Chemical Biological Center of the U.S. Army Research Development and Engineering Command. It should be noted that this fact also unambiguously indicates that this substance had been synthesized and subjected to a wide range of analyses.

The need to improve his financial situation forced V. Mirzayanov to cooperate with the abovementioned arsenal and prepare and release in 2008 a new publication (State Secrets, in English). It was precisely in connection with this book that the main question arose. In this book, for the first time after the 12 years of migration to the United States appeared a formula of a substance that fully corresponded to the spectral data presented by the Edgewood arsenal in 1998. Naturally, from the political point of view (otherwise he would not receive the dividends) V. Mirzayanov tied such a chemical to Russia. A legitimate question arises: if he knew all of that, why had not he written before? The answer is obvious: working only in technical support of research, he did not have the knowledge in the field of the real research. The data was provided to him by the Edgewood arsenal.

In 2009, this book was directed by the United States to the OPCW Technical Secretariat. The Scientific Advisory Board of this Organization studied this issue very

closely. As a result, the Scientific Advisory Board came to the corresponding conclusion. It noted that “the topic of new toxic compounds that are not included in the schedules of chemicals... has been attracting increasing attention in the recent years, particularly among non-governmental organizations (NGOs). Although very little information has appeared in the public domain, there have been claims that a new class of nerve agents, known as “Novichoks”, has been developed. In December 2008, a former defence scientist...claimed that the toxicity of certain “Novichok” agents may exceed that of VX”². But at the same time, it was reported that there was no reliable data confirming that these new chemicals existed. This conclusion was not tied to any State Party to the Convention.

At the same time, the Scientific Advisory Board declared that every state has the right to come forward with an initiative if it has all of the necessary data to create a database of chemicals and introduce it into the CWC.

In the future, the materials of the Scientific Advisory Board were studied at the Review Conference of the Organization. No decision has been made.

4. It is Exactly Here Where Comes the Key Moment, Which Could be Called “the Moment of Truth”.

Subsequently, after V. Mirzayanov’s book saw the light, in conjunction to it, in the publicly available scientific literature (by authors from the United States, Czech Republic, Italy, etc.) appeared numerous publications dedicated to research of the compounds belonging to the “Novichoks” family (the list of the publications on toxic organophosphorous chemicals, which do not fall within the scope of the CWC, is enclosed). What has to be taken into account is the circumstance that in order to conduct the research it was necessary to synthesize real samples of the substances.

The states conducting the research could have provided the necessary materials for introducing amendments to the Convention regarding the schedules of toxic chemicals and their precursors based on the Article XV. However, not a single state conducting the corresponding research has done it. Yet the list of sources continues to grow.

The question arises – why? Not interested in enhancing the Convention and the OPCW in general? In this connection, we would like the states whose specialists participate in such development to explain based on which Article of the Convention are they presently conducting such work?

In the current situation, the Government of the United Kingdom, without conducting any investigation, a priori accused Russia. In order to prevent the Russian specialists from having access to Sergey and Yulia Skripal, the British medical workers, as it is understood, put the Skripal father and daughter into an artificially induced coma, which made it possible to collect biochemical samples and manipulate the state of their health without ever consulting them.

²

Paragraph 11.1 Report of the sixteenth session of the Scientific Advisory Board (document SAB-16/1 of April 6, 2011).

It appears that the abovementioned accusations by the United Kingdom were based on the results of the work carried out, among others, by the Joint Chemical, Biological, Radiological and Nuclear Defence Center of Excellence, created in the Czech Republic.

In this center, specialists from the United States, France, the United Kingdom, Germany, Poland and a number of other countries under the cover of the NATO block are conducting on the territory of the Czech Republic research and development of new toxic chemicals, which might be connected to the "Skripal case". In this context, the Russian Federation welcomes the decision of the President of the Czech Republic Mr. Milos Zeman to conduct a thorough investigation of the nature of the works conducted on the Czech soil.

Taking into account the presented facts, one can make the unequivocal conclusion that since the mid-1990s, the agents which a number of authors put into the category of chemicals under the name "Novichoks" became widespread in the Western countries and accessible to many foreign laboratories. In this connection, the statements by the United Kingdom and the United States regarding attributing these toxicants to the Russian Federation as the origin of their production appear to contradict the real substance of this problem.

According to a number of experts, disposing of the structural formulae and the synthesis schemes, any modern chemical laboratory with the necessary special equipment, level of protection, correspondingly qualified personnel can synthesize and conduct research into the "Novichok"-type substances. There can be no unique markers which could unequivocally point to the country that had produced the substance used against the Skripals.

In any case, such works constitute a gross violation of the Article 1 of the CWC, according to which it is prohibited to develop, acquire chemical weapons. The statements of the United Kingdom saying that the Skripals were subject to an attack with the use of a chemical warfare agent confirm the abovementioned violation. It is precisely why in the abovementioned report of April 12, 2018, the Technical Secretariat called the compound a "toxic chemical".

Moreover, the Article I of the Convention clearly states that every State Party to this Convention undertakes to never under any circumstances to transfer, directly or indirectly, chemical weapons to anyone. The publication of the Mirzayanov's book, as well as the publications by the Center in the Czech Republic facilitate transfer of knowledge about chemical weapons, and this is indirect transfer of chemical weapons.

Questions arise: why did the Government of the United States, in gross violation of the Convention, decide to publish this book? It would be interesting to know who will answer this question. We suppose that no one will because this is a clear and gross violation of the Article 1 of the CWC.

We remember the biological terrorist attack in the United States when active strains of anthrax were sent around in 2001.

Then, the United States immediately, although in a milder form, claimed there was a "Russian footprint". In the end, based on the results of the internal investigation, the

United States established that the terrorist attack was carried out by a scientist of one of the military scientific institutions of the United States.

It is noteworthy that it was in 2001 when the OPCW Executive Council adopted the corresponding decision to join the efforts of the states in the fight against terrorist manifestations.

Considering the indicated facts of the development of toxic chemical substances in the world, as well as the suppression of evidence of the investigation by the United Kingdom, denial of consular access to the affected Russian citizens, the Russian Federation believes that the Russian citizens have been subjected to actions which in their nature resemble a terrorist attack with use of a toxic chemical substance. In connection to this, we believe it is necessary to conduct an investigation in accordance with the existing decisions of the OPCW Executive Council and the report of the Third Review Conference of the States Parties.

The United Kingdom, however, continues to unfoundedly accuse Russia of a gross violation of the Convention – illegal use of chemical weapons on the British territory. For such cases the Article IX of the CWC stipulates a clear algorithm of procedures related to consultations, cooperation and fact finding. During the 57th extraordinary session of the OPCW Executive Council on April 4 of this year, the Russian delegation proposed to the British side exactly this approach.

It is evident that there is a vital need to establish cooperation between Russia and the United Kingdom, as well as the OPCW TS in order to clarify the circumstances of this truly serious incident. Russia approaches with maximum sense of responsibility the matter of organizing the work in strict compliance with the CWC requirements.

Russia supports conducting a joint investigation, especially given that this case concerns the sphere of competence of the OPCW, and not just the interests of the United Kingdom. Such an investigation must be based on irrefutable facts and evidence in compliance with all of the existing international legal procedures and with the obligatory participation of the Russian side in this matter.

Considering the significant number of the scientific publications on toxic chemicals which pose a threat to the objectives of the CWC that have appeared over the last 20 years, the Russian Federation believes it is necessary to recommend the following: for the purposes of taking measures to enhance the CWC, the Director-General of the OPCW TS should prepare and introduce at the soonest OPCW Executive Council meeting, in accordance with the paragraph 5 of the Article XV of the Convention, a draft decision providing for the development of changes to the Annex on the schedules of chemicals.

**LIST OF PUBLICATIONS
ON TOXIC ORGANOPHOSPHOROUS CHEMICALS
WHICH DO NOT FALL WITHIN THE SCOPE OF THE CWC
(THE LIST IS NOT EXHAUSTIVE)**

The analysis of the available scientific literature made it possible to establish that in foreign countries, after 1997, that is after the adoption of the Chemical Weapons Convention, the research into the highly toxic substances which do not fall within the scope of the schedules of chemicals of the Convention continues. It should be noted that the work concerns not just research of the substances but also development of means of their delivery. The list of the foreign publications in this field is provided below. This list is not exhaustive because more publications are being discovered and new publications continue to appear.

	Country	Year of publication	Publisher, city	Name of the publication, imprint	Comments
1.	Czech Republic	2011	Monthly peer-reviewed chemical journal published by Czech Chemical Society	Halámek E, Kobliha Z. POTENCIÁLNÍ BOJOVÉ CHEMICKÉ LÁTKY. Chemické Listy 2011; 105(5): p.323-333 “Potential Chemical Warfare”	The sections 12, 13 of this article present information concerning the research carried out in the USSR under the “Foliant” programme. Thus, the section 13 (p. 330-331) contains a number of organophosphorous structures and their synthesis schemes (scheme 9,10).
2.	Czech Republic	2014	Scientific journal published by Multidisciplinary digital publishing institute (MDPI)	Pitschmann Vladimír, “Overall View of Chemical and Biochemical Weapons”, Toxins, 2014, 6 (6), pp. 1761–1784, doi:10.3390/toxins6061761	The scientific article provides a brief overview of the chemical war which reached its peak by the time the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction was signed. The pages 1765, 1769, 1770, 1773 of the article contain the information concerning the “Foliant” programme and the development of organophosphorous substances under this programme. The page 1769 contains the reference numbers of the substances and their chemical names.
3.	USA	2015	Academic Press is an imprint of Elsevier,	Gupta, Ramesh C., ed. (2015), Handbook of Toxicology of Chemical Warfare	The pages 21, 339-340, 463, 524-526, 528, 1071, 1107 of the book contain the information concerning the

	Country	Year of publication	Publisher, city	Name of the publication, imprint	Comments
			(225 Wyman Street, Waltham, MA 02451, USA)	Agents, Cambridge, MA: Academic Press, ISBN 978-0-128-00494-4	“Foliant” programme and the development of organophosphorous substances under this programme. In particular, the page 340 contains various code names of substances and their possible chemical structures. The book (p. 463) looks into the possibility of using the substances developed under the “Foliant” programme as binary compositions. The material on p. 528, referencing literary sources, provides the information that the new substances developed in the USSR are 5-10 times more toxic than VX.
4.	USA	2004	Westview Press	Birstein, Vadim J. (2004), The Perversion Of Knowledge: The True Story of Soviet Science, Westview Press, ISBN 0-8133-4280-5	The book contains a brief overview of the development and creation of the “Novichok” substance, last names of the direct implementers, site of the research and development activity and other data. All of the information presented on this topic references Vil Mirzoyanov.
5.	USA	2007	Springer Science+Business Media, LLC, 233 Spring Street, New York, NY 10013, USA	Hoenig, Steven L. (2007), Compendium of Chemical Warfare Agents, Springer, ISBN 978-0-387-34626-7	The book focuses on the history of the development and creation of chemical weapons. The pages 78-88 of the book contain a whole range of organophosphorous compounds, their possible synthesis schemes, the presumed code names of the compounds and the data on their possible biological activity.
6.	USA	2006	Anchor Books, New York	Tucker, Jonathon B. (2006), War of Nerves, New York: Anchor Books, ISBN 978-0-375-42229-4	The book focuses on the history of the creation and development of chemical weapons. The pages 184-185, 198-200, 214-216, 226-233 and 269-270 of the book contain the information

	Country	Year of publication	Publisher, city	Name of the publication, imprint	Comments
					concerning the work conducted in the USSR under the “Foliant” programme. The pp. 184-185, 197 contain materials concerning the development of the Novichok-type substances, presumed developers, enterprises that took part in the development process, possible code names of the substances obtained and the enterprises that produced these substances and their semi-products.
7.	USA	2008	CRC Press	Ellison, D. Hank (2008), Chemical and Biological Warfare Agents, (Second ed.), CRC Press, ISBN 978-0-849-31434-6	The book focuses on various classes of chemical and biological weapons. In particular, a large section of the book is devoted to the development of new organophosphorous substances under the “Foliant” program in the USSR. The pages 4-15, 37-42 of the book contain large volumes of information concerning the Novichok-series substances, hypothesize about the possible structure of these compounds, their toxicity and physical and chemical characteristics.
8.	USA	2008	CRC Press	Kendall, Ronald J.; Presley, Steven M.; Austin, Galen P.; Smith, Philip N. (2008), Advances in Biological and Chemical Terrorism	The book focuses on various classes of chemical and biological weapons and the threat of their use for the purposes of terrorism. The pages 135-137 contain a brief section on the “Foliant” programme and the Novichok-series substances, without providing any chemical structures or names.
9.	USA	2015	CRC Press	Harry Salem, Sidney A. Katz, (2015), Inhalation Toxicology, (Third ed.)	The pages 493-499 of the book provide the data on the Novichok-series substances, studying their possible toxicity and presenting

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					presumed structural formulae.
10.	USA	1998		Analytical base NIST 1998	Provides the structure of the substance A-234 and its mass-spectrum.
11.	UK	2014	Springer-Verlag London	Mahdi Balali-Mood, Basic and Clinical Toxicology of Organophosphorus Compounds, Springer-Verlag London, 2014,	The pages 14-16 provide the structural formulae under the code name "Novichok agents", the p. 17-18 present the mechanism of biological interaction.
12.	USA	2008	Outskirts Press: Parker, CO, USA	Mirzayanov, V.S. State Secrets: An Insider's Chronicle of the Russian Chemical Weapons Program.	The pages 142-145, 449-450 present the possible structural formulae and their code names
13.	Switzerland	2002	Journal of Fluorine Chemistry, a scientific journal	Cristopher M. Timperley, Journal of fluorine chemistry, 113 (2002) 65-78	The pages 65-78 present the data on the synthesis of bis(fluoralkyl) chlorophosphates of high purity, shows the possibility of using them in the synthesis of the corresponding fluorophosphonates.
14.	Switzerland	2005	Journal of Fluorine Chemistry, a scientific journal	Cristopher M. Timperley, Journal of fluorine chemistry 1) 96, 1999, 95-100; 2) 104, 2000, 215-223; 3) 106, 2000, 43-52; 4) 106, 2000, 153-161; 5) 107, 2001, 155-158; 6) 109, 2001, 103-111; 7) 113, 2002, 111-122; 8) 119, 2003, 161-171; 9) 126, 2005, 892-901; 10) 126 (2005) 902-906.	The works focus on the synthesis of the fluoro-substituted OPCs of various structural types: phosphates, phosphonates, amidophosphates, halophosphates, as well as certain fluoridated phosphorothiolates, describing over 40 compounds.
15.	Czech Republic	1992	Collect. Chech. Chem. Commun., a scientific journal	Halamek E., Koblíha Z., Collect. Chech. Chem. Commun. 57 (1992), 56-63.	The work focuses on the research of GV-type OPCs
16.	UK	2004	Phosphorus, Sulfur and Silicon and the Related Elements, a	Halámek E, Koblíha Z, Hrabal R. Identification of the isomeric transformation product	The page 51 contains the structure of the compound 2-(dimethylamino) ethyl-(dimethyl phosphoramido)fluoridate

	Country	Year of publication	Publisher, city	Name of the publication, imprint	Comments
			scientific journal	from 2-(dimethylamino) ethyl-(dimethyl phosphoramido)fluorid ate Phosphorus, Sulfur and Silicon and the Related Elements, 179: 49-53, 2004	and the degradation products.
17.	USA	2015	US patent, in 2014, an application was made for a patent in the Russian Federation (RU 2014143420A)	Darren Rubin, US 9,200,877 B1	A new biologically active bullet for delivering biologically active substances and chemical weapons, including various toxic agents and Novichok-type agents