

Srebrenica: a 'safe' area

Appendix III

Chemical weapons used?

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1. Reports about the use of chemical weapons during the war

A number of people who took part in the journey to Tuzla after the fall of Srebrenica thought that on the way they had been attacked with chemical weapons by the Bosnian-Serb army. In endeavouring to answer the question of whether chemical agents were used after the fall of Srebrenica and in what form, we will begin by examining what was known about the use of such agents in the period before the fall.

Throughout the war in Bosnia it was continually asserted that chemical weapons had been used. Parties accused each other of their use, although there was no evidence for the use of lethal chemical agents. Even before the war in Bosnia broke out it was asserted that poison gas had been used by the Yugoslav army (the VJ) at Osijek in Croatia on 25 September 1991. The Yugoslavs denied the claim, and American observation on site did not show that the VJ had taken protective measures.

After the war in Bosnia had started, the Western media repeatedly reported the use of chemical weapons. They based their accounts on UN, Serb, Bosnian-Serb and Bosnian sources. Dutch sources also mention a possible use of chemical agents. It was notable that the reports on the subject mainly involved North-East Bosnia and the Tuzla region. It cannot be ruled out that these early rumours stirred up the fear of possible use of chemical weapons. Such fears may possibly have led people to interpret strange phenomena on the explosion of shells observed during the journey from Srebrenica to Tuzla as the use of chemical weapons.

When discussing the possible use of chemical agents it is important to consider how they should be defined. The Chemical Weapons Convention of 1994 makes a distinction between 'munitions and devices, specifically designed to cause death or other harm' and 'Riot Control Agents', chemical agents that 'can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure'. Possession and use of lethal agents is prohibited. The convention does not prohibit the possession of Riot Control Agents, but it does forbid their use as 'a method of warfare'.

It would appear that the agents used before the fall of Srebrenica in Bosnia belong to this second category. There is no evidence that chemical agents that cause death were ever used in Bosnia. They were available on the Bosnian side, albeit in improvised form. As early as October 1992, President Izetbegovic said in Teheran that the Bosnian Muslims possessed poison gas and might find themselves forced to use it against the Bosnian Serbs. Selim Beslagic, mayor of Tuzla, declared to the NIOD that this was chlorine, the only chemical agent available in 1992. He had had preparations made at the Tuzla chlorine factory so as to be able to use chlorine in the event of a Bosnian-Serb attack. He said he was aware of the international ban on the use of chemical weapons 'but what can you do in an attack if you have no other weapons?'

The Bosnian Muslims were indeed making preparations to use chlorine gas. In July 1993 radio reporter Salih Brkic reported from Tuzla that the 2nd Corps of the ABiH (the army of the Bosnian Muslims) was preparing to use it in the Posavina Corridor near Brcko. Tanks with the gas had been brought to the area. Detailed instructions for its use had been issued by the 2nd Corps. In the event of an attack by the Bosnian Serbs, first a small quantity of chlorine gas and other 'highly dangerous gasses' would be released as a warning. Subsequently a number of barrels containing several tons would be opened. The population would be warned to evacuate. If they were to end up in the zone where the chlorine gas had been released, the Bosnian Serbs would be held responsible.

That use seemed imminent; on 10 August 1993 the 2nd Corps issued an ultimatum for the Bosnian Serbs to halt the march on Brcko. However, the Deputy Commander of the 2nd Corps, Brigadier General Andjelko Makar, said he decided not to ignite at the very last moment because the VRS (the army of the Bosnian Serbs) abandoned further action. The municipal authorities in Tuzla are also thought to have exerted pressure not to deploy the gas because such a desperate act would only provoke retaliation.

Shortly afterwards the Commander of the 126th Brigade of the ABiH told UN personnel in Tuzla that chemical shells - presumably chlorine gas - had been used against the VRS to demonstrate the capabilities of the ABiH. The Security Council was informed about this. In October 1993, the

Bosnian Serbs also reported that ABiH artillery near Zvornik in Eastern Bosnia fired chemical shells. The commander of the Zvornik garrison, Major Vinko Pandurevic, contended that over 60 shells had been fired, of which at least one-third had a charge based on chlorine gas.

A team of UN observers was instructed to carry out an investigation and to take samples. However, tests of remnants of the shells showed that they were smoke shells. The only other shells that could be categorized as chemical shells were CS shells (ortho-chlorobenzyl-malonitrile). This gas is not lethal and was often used by soldiers to test gas masks. Moreover, the small quantity of chlorine gas that a shell could hold would make its use relatively ineffective, unless it exploded in a confined space. UNPROFOR knew that threats about exploding barrels of chlorine had been made in the Tuzla region, but that they were probably meant to terrify and were not to be taken literally. UNPROFOR saw no evidence that such threats would be carried out.

At an earlier stage, mid-1993, there were reports from the other side that shells fired by the VRS at the positions of the ABiH near Sarajevo included some shells with riot-control gas (CS gas). UN observers had seen shells that produced white smoke. Shots by Reuters television of a UN observer wearing a gas mask and photographing an unexploded 122 mm shell increased the fear among the public that chemical weapons had been used. However, a UN spokesman declared that there was no evidence that either of the parties had used warfare gasses. At the same time in Belgrade, Cedric Thornberry, deputy head of the UN mission there, declared that the UN would investigate what the contents of the shells had been and who had fired them. Earlier the British government had declared that all three parties in the Bosnian war possessed improvised shells with riot-control gas.

In late 1993 it was the turn of the Bosnian prime minister Silajdzic to send a letter to the Chairman of the Security Council accusing the Bosnian Serbs of firing 2000 shells with toxic gas during an attack on the region Teocak, near Tuzla. In Washington, also in late 1993, Marshall Harris, former Chief Desk Officer for Bosnia at the State Department, suggested that Bosnia was on the brink of a chemical war. Harris referred to the threats by ABiH commanders about using chemical weapons against the Bosnian Serbs and 'credible evidence' of traces of chemical weapons on artillery shells around Sarajevo. Through the ambassador in Sarajevo, Washington warned the Bosnian government that this would constitute a violation of the Geneva Protocol of 1925, which banned the use of chlorine gas and other lethal gasses. However, the Bosnian government denied the possession or use of chemical weapons and the Yugoslav government in Belgrade denied having supplied chemical weapons to the Bosnian Serbs.

Subsequently, from the Croatian side came allegations that the ABiH had used chemical weapons on 22 December 1993 in Krcevena near Nova Bila in Central Bosnia. The Croatian ambassador brought the allegations during consultations in Geneva attended by the UN Secretary-General and the Undersecretary-General Marrack Goulding. The complaint was accompanied by a toxicological report from a Franciscan hospital indicating that intoxication of a girl had been caused by an unspecified 'chemical warfare agent'. With the message that, on the basis of a resolution by the General Assembly, the Secretary-General had to respond as soon as possible to a complaint by a member state that chemical, biological or toxic weapons had been used, New York searched the reports of UNPROFOR and newspaper cuttings. Nothing was found there.

The British battalion in Vitez started a further investigation. The incident had not been reported to them, though the British did know about three other reports during the period November 1994 - January 1995. A 120 mm mortar shell manufactured by the Bosnian Muslims was alleged to have contained chlorine. However, test results were negative. Responding to a subsequent report, the British could not find any traces of chemical weapons with what is known as NBC detection equipment (the abbreviation for Nuclear, Biological and Chemical weapons). Reported symptoms matched those after breathing in cordite released during explosions. Once again, despite efforts by the British and the UN, no evidence had been revealed for the use of chemical weapons.

In June 1994 new reports appeared about the use of toxic gas. During attacks by the ABiH south of Doboj in Western Bosnia, sources within the VRS claimed that gas shells were used. It was alleged that a patient had died in Doboj hospital of the effects of such an attack and that a second was in recovery. During the same period there were also reports that the VRS were using toxic gas in the eastern enclaves. British Joint Commission Observers (JCOs) reported that the VRS had used gas

during an attack on Gorazde. The reports did not speak of CS gas, but an unspecified suffocating gas, which had nevertheless not caused any fatalities. In Zepa a girl was overcome by breathing in what was presumably CS gas. She recovered after a few hours. Mother and child were playing a ball game with something that looked like a tennis ball, but in fact was a remnant of the air raid on Zepa at the start of the war. Residents said that at the time explosives had been used which had produced strange red and white hazes. Reports about such hazes would appear again later.

On 11 November 1994 during an offensive in the Majeвица Hills in the area of Velika Jelica the VRS allegedly fired shells at the 2nd Corps of the ABiH, where every second shell caused a yellow cloud. At the request of the 2nd Corps, officers of the Scandinavian battalion accompanied by the staff physician and the NBC officer of the 2nd Corps visited the field hospital in Rainci where 17 soldiers had been admitted with symptoms such as red faces, perspiration and fatigue. Three hours later, after drinking milk, most of them had recovered. It was concluded that the symptoms were probably caused by a strong type of tear gas.

Because the contagion had taken place only ten kilometres from the Dutchbat A Company in Simin Han, this last event caught the attention of the Royal Netherlands Army Crisis Staff. On top of that, a few days later a Dutchbat physician went to visit the hospital in Tuzla after a report from an interpreter that three patients had been admitted who had been in contact with warfare gasses. The patients in question were soldiers with respiratory problems and irritated mucous membranes. One patient had transient paralysis symptoms in the lower body. The symptoms disappeared after three hours. From the symptoms, the Dutch medical officer was unable to conclude what gas was involved. In view of the transient nature of the complaints, nerve gas seemed unlikely.

Two separate debriefing statements by Dutch soldiers describe similar and possibly the same events. A first report indicated that during the fighting near Visoko and in the Sapna Thumb (where A Company was stationed) the VRS had carried out attacks with chemical weapons. It was a yellow gas. Some 40 ABiH soldiers suffered eye complaints, collapsed lungs and nervous system failure. After five hours they had recovered. According to the UN the gas used was comparable to pepper spray. However, a Dutch Medical Officer who visited the Tuzla hospital thought it was a stronger type of gas. A second report indicated that the commander of the 2nd Corps of the ABiH, General Sead Delic, had called the A Company of Dutchbat in Simin Han to tell them that the VRS had used chemical weapons. Delic appeared horrified and said that the victims had been transferred to a field hospital at Rainci Gornji but that they had recovered after a few hours. It was asserted that the VRS had used a strong type of tear gas. In addition, the Dutchbat company heard from the ABiH that they had been shot at with shells that emitted yellow smoke. Subsequently, the ABiH had handed out atropine injectors to their own soldiers as a countermeasure. Because the chemical agents had not been used on a large scale, Dutchbat did not expect any problems. Questions about the type of agents possibly used by the VRS were posed to The Hague.

The Engineering Training Centre investigated these reports but was unable to reach a conclusion without further information about effects, texts on unexploded shells and samples. The symptoms were not really typical of a tear gas attack. Nevertheless, the presence of such agents in the former Yugoslavia made it likely that such an attack was the case. Yellow smoke could be an indication of chlorine compounds. However, under the NATO doctrines the use of such compounds did not mean that the chemical threshold had been crossed. According to Dutch manuals tear gas (ortho-chlorobenzyl-malononitrile (CS)), chloroacetophenone (CN) and also sneezing gas, chlorodihydrophenarsazine (DM), are used for training purposes to simulate chemical warfare agents and to control riots. They could also be used to hinder the enemy by forcing him to wear a gas mask. Exposure to high doses could, in addition to the usual irritation of eyes, mucous membranes and skin, cause nausea and paralysis symptoms. Usually the effects of CS disappear in 5 to 10 minutes, the effects of high concentrations CN in a few hours and of DM in high concentrations after about three hours. The Royal Netherlands Army Crisis Staff concluded that the warring factions had apparently used tear gas and CS gas. These agents are not prohibited chemical warfare agents.

In early 1995, the fear suddenly increased that the war would escalate through the use of chemical weapons. In an ABiH training area north of Maglaj, a British battalion observed an exercise by soldiers in protective clothing with decontamination equipment. The local battalion commander

refused to answer the question whether the ABiH had the capacity for chemical warfare. For the British, this confirmed the existence of chemical weapons and the will to use them.

In 1995 there were more reports about the possible use of chemical weapons. Eighty ABiH soldiers had been taken to the hospital in Tuzla to be treated for the effects of the use of gas shells during the fighting around the Stolice tower east of Tuzla. However, the gas turned out to be tear gas. Reports that on 7 June 1995 first one and later 21 French UN soldiers in Sarajevo had been admitted to hospital possibly as a consequence of chemical weapons, also appeared to be incorrect: only one soldier had been admitted after he had been exposed to the smoke of what was probably a phosphorus shell. Once again no lethal weapons were involved. From UN and Dutch sources no further reports are known about the use of chemical warfare agents in Bosnia.

2. Chemical weapons used against the column on the way to Tuzla?

After the fall of Srebrenica and after the arrival of the column of fleeing men in Tuzla (see Chapter 1 of Part IV of the main report), the possible use of chemical weapons came up again. Human Rights Watch investigated this possibility. The focus was on the possible use of BZ gas (tri-quinuclidinyl benzilate) that was available in the arsenals of the former JNA (the Yugoslav army), among other things in the form of 82 and 120 mm mortar shells. The new Yugoslavia had not acceded to the Chemical Weapons Convention and it appeared that old stocks had not been destroyed, which fuelled fears of a possible use of BZ by the Bosnian Serbs.

According to the Dutch NBC Defence Manual, BZ is categorized as an incapacitant. It is a smokeless agent that in summer has a contagion duration of one to ten minutes and a slow rate of effect (between one and four hours). The gas enters the body through respiration and the gastrointestinal tract. Symptoms are a rapid pulse, dry mouth, restlessness, memory loss and delusion. Use of a gas mask offers sufficient protection; protective clothing is not required.

A JNA doctrine from 1981 indicates that BZ is highly suitable for disorienting armed groups in an ambush in such a manner that they can no longer operate as combat unit, making it easier to kill or capture them. After one hour BZ causes mental confusion that can continue for several hours or even days. Particularly in parts of the area with few possibilities for escape, such as the wooded and rough terrain on the route from Srebrenica to Tuzla, the use of BZ could be effective, more so because BZ could also lead to fighting within a group, screaming, shooting at random and leaving hiding places.

Human Rights Watch concluded that the use of BZ could not be excluded, but that there was no solid evidence. It was impossible to test the clothing of victims for traces of BZ. A Finnish investigation, the results of which were published in July 1997, could not identify traces of BZ in clothing that had been found on a mountain where heavy shelling had taken place.

Human Rights Watch was aware of the limitations of the investigation. Most witnesses had been in the front part of the column, which had been less exposed to shelling than the rear section. That was where most of the casualties had been, which made it harder to find witnesses.

Human Rights Watch also noted that recollections of the journey to Tuzla should be handled with due care. The journey had been one long terrifying experience and the traumas suffered were extensive. People were intent on survival rather than observing special events in detail. The observations could also have been influenced by the fact that those who made the journey knew there were chemical weapons in the Yugoslav arsenal and therefore in that of the Bosnian-Serbs. A number of witnesses suspected in advance that chemical weapons would be used. Such reports had already appeared in Bosnian newspapers before the investigation by Human Rights Watch and they have been described above. In an interview with the magazine *Ljiljan* the authority Avdo Hasanovic, managing director of the hospital in Srebrenica, declared that during the journey to Tuzla toxic shells had been fired and also that the water wells used by the fleeing people had been poisoned. As a result, people started to hallucinate and imagined that they were suddenly face-to-face with the Bosnian Serbs; they supposedly reacted by shooting at people they knew or by committing suicide to avoid having to surrender. Hasanovic himself said he had experienced such influences after drinking water, but also confirmed that the effects were also partly caused by lack of food, fatigue, insomnia and the continuous pressure applied by the Bosnian Serbs.

Mainly as ways of explaining the hallucinations, these last elements caught the attention of one of the Human Rights Watch investigators, Britain's Alistair Hay of the Leeds School of Medicine. He published an article of his own in *Medicine, Conflict and Survival*. Although these studies partly overlap, it seems very much as if Human Rights Watch was very keen to demonstrate the use of chemical weapons, while on the basis of the same witnesses, Hay was trying to find a psychological explanation for the phenomena that were observed.

It is true that the Human Rights Watch report also mentions other explanations for the hallucinations than chemical weapons, but Hay concentrates on psychological causes. To Hay it appeared that the phenomena observed during the journey to Tuzla were mainly the result of stress,

exhaustion, drinking polluted water, and the continuous threat of the VRS. According to him one or two per cent of all individuals run the risk of becoming schizophrenic under normal conditions, and these people are especially likely to become psychotic when placed under great strain. If chemical ammunition had been used, many more people and groups would have shown psychotic symptoms or strange and aggressive behaviour. Although Hay did not exclude its use as cause of hallucinations, in his opinion it was more feasible to regard them as psychological symptoms exhibited by individuals. According to the Bosnian physician Ilijaz Pilav quoted in the magazine, the number of hallucinations increased after every VRS attack. Many of these people lost their sense of direction and surrendered. Suicides on the way also seemed to be a consequence of the enormous stress. Scientific literature supports Hay's assumption that there were other causes for aberrant behaviour than BZ. According to him, there was no conclusive evidence for the use of chemical weapons. The head of the intelligence section of the 24th Division of the ABiH in Zivinice, Major Semsudin Muminovic, told Human Rights Watch:

We followed everything that happened during the days of the march with our monitoring equipment. We gained most information by listening to Serb radio communications. We learned from their messages that in Konjevic Polje, Nova Kasaba, Udrc and Kamenica the VRS used tear gas and psychochemical agents in ambushes. According to the information we received the purpose of the VRS was to break up the column into smaller groups.

However, transcriptions made available by the ABiH to the NIOD do not report the use of tear gas or chemical agents. According to Major Muminovic the tapes had been transcribed and subsequently reused, wiping out the information in the process.

The content of these messages could not therefore be verified. It seems less likely that the VRS used rifle shells or hand grenades filled with BZ – these were also reportedly available in the Yugoslav arsenals – because of the very short distance at which such weapons are used; it would have been noticed, and nobody saw VRS soldiers wearing gas masks. Moreover, during the days of the fall of Srebrenica the weather forecast warned of thunderstorms with gusting winds. Consequently, use of the agent would not have been entirely without risk for the VRS's own troops and would certainly have been less effective.

Interviews did not offer Human Rights Watch enough of a basis on which to demonstrate the use of BZ. The various witnesses mainly spoke of the use of smoke shells, and they had noticed shells with blue-green, green, red, purple, grey and yellow smoke. However, such smoke shells may also have been used to mark impacts in wooded areas or to indicate the position of the column.

Situation reports by the Zvornik Brigade of the VRS did indeed state the use of smoke shells. For instance, on 14 July they fired 20 155 mm smoke shells at the column on its way to Tuzla. No information is available about the preceding days. However, for the following days the reports make no more mention of the firing of smoke shells.

In the interviews held by the NIOD little of substance surfaced about the possible use of toxic gas either. Yet there were widespread stories about its use. In addition to the alleged use of toxic gas, other mysterious phenomena were described. Stories were told that on the roads along the route bottles with honey-coloured water had been left. The contents of those bottles could only have been produced in Serbia. People who drank from it went berserk and started shooting at each other.

One interviewee, Hamdija Fejzic, deputy mayor of Srebrenica, said that although he had not noticed any shelling with chemical shells, he did see small bags with unknown content in rivers. However, no effect from these could be identified. People also drank mud and polluted water. Some men who became hysterical could be brought to their senses by slapping them in the face. Others went insane and blew themselves up. A 30-year-old deaf-and-dumb man went insane just before reaching Muslim territory, ran away and could not be caught by anybody. Fejzic thought that the heat and the lack of water were more likely causes of the insanity. Everybody was afraid, even those who had previous combat experience and who had behaved bravely.

The journey from Zepa to the area of the Muslim-Croat Federation, two weeks later, also caught the attention of Human Rights Watch. It offered starting points for comparison. During that

march the men experienced similar circumstances: lack of food, water and sleep. Again the VRS were a continuous threat. Yet there was less shelling and people did not move in one large column, but in small groups. But the breakout from Zepa and the journey of the men to Tuzla also brought hardship: they broke through the VRS lines in an unorganized manner while in fact there were hardly any VRS soldiers. They shot at each other while the VRS were 30 metres further on. This journey too was a horrific ordeal.

From Zepa they took roughly the same route as the one that had been followed earlier from Srebrenica to Tuzla. One man who made the journey declared: 'all the way from Zepa to Tuzla I had nothing to eat.' Around Konjevic Polje there were a large number of dead bodies, which had started to emit a cadaverous smell because of the hot weather. On 18 July near Konjevic Polje there were 200 VRS soldiers with dogs who tried to surround the men and steer them to the road. However, none of the men interviewed by Human Rights Watch were aware of hallucinations or aberrant behaviour.

So although Human Rights Watch did not produce any evidence, the organization did point out that during the summer of 1996 American military personnel had interviewed survivors of Srebrenica and that those results had supported the suspicion of a 'chemical incapacitant'. In addition, a more extensive American military investigation was reportedly carried out in late 1996 and early 1997. Information about it was not released, but it may be assumed that if there had been any reasonable suspicion of the use of chemical weapons, the United States government would have made it public.

After publication of the Human Rights Watch report the US government denied knowing anything about the use of toxic gasses against fleeing Muslims. It did admit that tear gas had apparently been used. Several teams of investigators had investigated the use of chemical weapons, but had found no evidence of the use of weapons classified under the Chemical Weapons Convention of 1993.

In the opinion of the Prins Maurits Laboratory the Bosnian Serbs did have BZ, but there were only rumours about the use of this gas in Bosnia and the investigation had not revealed any facts.

In the Netherlands the report by Human Rights Watch prompted parliamentary questions. The Dutch government took the position that so far it had not been made clear that chemical weapons had been deployed in Bosnia or that supplies of the former JNA had been used. Nor did the Organization for the Prohibition of Chemical Weapons (OPCW) based in The Hague appear to have any clues to this effect. In reply to the question of whether a further investigation was being carried out, the Dutch government referred to the 'comprehensive report' about the Safe Area Srebrenica that had been announced by the UN. However, the UN report, published in November 1999, did not address this issue.

3. Conclusion

Though the Bosnian Muslims had chlorine gas and threatened to use it, there is no evidence whatsoever that it was used. There are no indications that the Bosnian Serbs had combat gasses. During the war in Bosnia there were widespread stories about possible use of chemical agents, but in so far as these were used it never involved lethal agents, but rather tear gas and smoke. It is understandable that rumours and reports in the media about the use of chemical weapons led people to think that their use was possible and understandable that symptoms that could point to the use of a chemical weapon were readily identified as such. For instance the War President of Opstina (municipality of) Srebrenica, Osman Suljic, thought that the VRS had already used chemical weapons in their offensive against Srebrenica.

In particular in the column fleeing to Tuzla, strange symptoms were linked to the use of chemical weapons. The Bosnian Serbs fired heavy smoke shells at the column, which may have given rise to the idea that chemical agents were being used. Discolorations in water courses that were difficult to account for also contributed to this notion. Along the route followed by the column there were no substances, like bauxite for example, which could have coloured the water. Mention was made of the possibility that the yellow coloration of the water could have been caused by clay that had been stirred up by passing people.

Consequently, the explanation for the alleged use of chemical weapons should rather be sought in the circumstances under which the journey to Tuzla took place. Fear, confrontation with death, insufficient rest, lack of food and water and not being able to explain phenomena such as coloured smoke may have led to the conclusion that chemical weapons were involved here. The fact that some people were hallucinating supported this opinion. However, this supposition does not withstand the scrutiny of thorough investigation.

Finally it should be pointed out that there were major differences between the men fleeing from Srebrenica and those who fled from Zepa to Tuzla. Though their numbers were smaller, there were considerably fewer casualties in the group exfiltrating from Zepa. Almost all ABiH soldiers managed to escape and they arrived in Tuzla in better condition. The commander of the 2nd Corps, Sead Delic, attributed this to the fact that the situation in Zepa was much better than in Srebrenica. Moreover, the journey from Zepa had been better organized and people had covered the terrain in small groups.

Yet in terms of the horrors that had to be faced there was little difference. Here too men had to face death, hunger and the VRS in hot pursuit. Still it was notable that, unlike the column from Srebrenica, no hallucinations and other phenomena were reported that could be interpreted as the consequence of the use of chemical weapons by the VRS.