

DESCRIPTION FOR THE GENERAL PUBLIC

The development of the chemical industry gave the possibility to produce chemical warfare agents (CWAs), which could kill enemies in a massive way. The training ground for this new, very dangerous weapon, were the battlefields of the World War I (WWI). All sides of the conflict realized very fast how devastating are the chemical warfare agents. Therefore, during the Second World War (WWII) the chemical warfare agents were not used in the massive way. The CWAs became a global threat and all countries prepared their armies for a possible chemical attack so the factories were producing hundred thousands tons of new CWAs like tabun or sarin. After the WWII, the Allied decided to destroy the unused CWAs arsenals of the Third Reich. The fastest and cheapest method of both destruction and partially neutralization of the German CWAs was their dumping in the Baltic Sea. The following four chemical compounds constitute to 99% out of the 55 000 tons of the dumped CWAs:

- bis(2-chloroethyl) sulfide – SM,
- diphenylchlorarsine – DA,
- diphenylaminechlorarsine – DM,
- 2-chloroacetophenone – CN.

Nowadays, there is no doubt about a serious biohazard to the entire Baltic ecosystem [1]. The proposed project is a common initiative of the team of experimentalists and theorists and focuses on the nature of the fundamental interactions, between the molecules of chemical warfare agents (CWA) and water, present in the Baltic Sea. The main objective is the description of intermolecular interactions, which lead to understanding of the neutralization process of dumped chemical warfare agents after the World War II.

[1] *CHEMSEA findings. Results from the CHEMSEA project - chemical munitions search and assessment.* Institute of Oceanology of the Polish Academy of Sciences, 2014.