

THE ROLE OF CHEMISTS IN THE STATE EMERGENCY SERVICE

Shevchenko D., NUCPU

SH - Ryzhchenko O.S., PhD, Ass.Prof., NUCPU

Chemists in the State Emergency Service of Ukraine (SES) play a crucial and complex role in ensuring national security and protecting public health. They possess specialized knowledge in chemistry and technology, which allows them to respond to emergencies related to chemical hazards quickly. Specifically, their activities include the following important aspects:

1. Diagnostics and identification of hazardous substances. Chemists in the SES monitor air, water, and soil for toxic or hazardous chemicals. They use specialized laboratories and mobile units to detect chemical threats that arise from accidents at chemical plants, the transportation of hazardous materials, or technological disasters.

2. Risk assessment and consequence forecasting. Specialists analyze how hazardous chemicals may affect the environment, public health, and surrounding areas in the event of a release or spill. They develop models to predict the spread of toxic clouds to assess potential impacts on populated areas and natural resources.

3. Development and application of neutralization and decontamination methods. One of the key tasks of chemists is to develop effective methods for neutralizing hazardous chemicals. This may include using specialized chemical agents to purify water, soil, and air, as well as employing absorption or chemical breakdown techniques for toxic substances.

4. Training and personnel preparation. Chemists conduct training and educational programs for emergency response teams, specialists working with hazardous chemicals, and the general public on safety procedures during chemical hazards. They develop guidelines for safe handling of chemicals in emergency situations.

5. Advisory activities. Chemists serve as consultants to government agencies, enterprises, and organizations dealing with chemicals, providing advice on accident prevention and minimizing consequences. They also help draft regulations governing chemical safety.

Thus, chemists in the SES play a vital role in effectively responding to chemical emergencies. Their expertise and professionalism help protect public health, prevent environmental disasters, and minimize the damage caused by chemical accidents.