

CHEMICAL POLLUTION OF WATER RESOURCES IN UKRAINE

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Chemical pollution of water resources is one of the most pressing environmental problems in Ukraine. It poses a direct danger to both natural ecosystems and human life, requiring immediate scientific attention and practical solutions. Given the serious threats to ecological stability and public health, this article focuses on analyzing the main sources and types of water pollution, its harmful effects on ecosystems and human health, as well as possible ways to reduce the chlorine content in it.

It is clear that the main sources of the problem are industrial wastewater, which carries heavy metals (copper, lead, mercury), phenols and petroleum products into rivers and groundwater. Metallurgical, mining and chemical enterprises make a particularly large contribution. It is obvious that agriculture, using fertilizers and pesticides, as well as domestic wastewater saturated with phosphates from detergents, is constantly degrading water quality. Unfortunately, the consequences of pollution are truly dire: from the destruction of tooth enamel (due to excess fluoride) to the increased risk of cancer caused by heavy metals and chlorine (Investigative

monitoring of the Dnieper River Basin, 2021).

Comprehensive and decisive actions are needed to fundamentally improve the situation. First, the industry should immediately implement the most advanced wastewater treatment methods, such as coagulation, sorption, and electrolysis. These technologies will help effectively remove toxic organic and inorganic substances. Secondly, it is necessary to strengthen environmental supervision and develop a clear Concept for the Development of Water Management with water management and environmental zoning, which will help determine priority areas for investments in water protection measures. Everyone must do their part: not throw toxic household waste (e.g. paint) down the drain, use less detergent, and minimize the consumption of plastic, which becomes a source of microplastics in water. The government should also encourage businesses to develop and implement processes that minimize wastewater generation and reduce freshwater consumption, and in agriculture, actively support organic farming to reduce chemical emissions into soil and water (Investigative monitoring of the Dnieper River Basin, 2021).

Therefore, only through joint efforts of scientific, technological and social approaches we will be able not only to stop the degradation of water resources, but also to ensure their restoration and the availability of high-quality water for future generations of Ukraine.

Reference:

1. Investigative monitoring of the Dnieper River Basin. (2021, February).

https://euneighbourseast.eu/wp-content/uploads/2021/07/ua_dnieper_river_basin_screeningfinalreport-eng.pdf