

## ***RECYCLING AND DISPOSAL OF CHEMICAL WASTE IN UKRAINE***

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One of the modern problems of the world is the issue of ecology, especially waste recycling. We partially know how to manage household waste, but processes of recycling and disposal of chemical waste in Ukraine are little known. Chemical waste is one of the most toxic and hazardous type of waste. In large quantities, they can be stored for many years at the warehouses, landfills, in numerous cemeteries. Waste related to of the chemical industry complex, are inert or chemical substances, sometimes their various mixtures. In any case, if the raw material is not used repeatedly, over time it should be sent for disposal.

Special services handle chemical waste disposal. An important rule for chemical waste is proper packaging and a specially prepared place where the waste will be stored before transferring it for disposal. Waste of chemical origin, which is subject to mandatory disposal, includes: laboratory waste; chemicals of various origins; bases, acids and mixtures substances; pesticides and other poisons, intended for agricultural production, enterprises; mercury, oil and substances containing; pyro materials; waste of the production, manufacture and use of chemicals for wood impregnation; waste containing chemicals that are not subject to certification or those that have lost their expiration dates (flavors, food and cosmetic products, household chemicals, fillers, etc.).

Waste is divided into 5 classes according to the level of toxicity: 4-5 classes - low-hazard waste, 3 class - sludge from cleaning structures of chemical production, waste paint and paint materials and glues, wooden sleepers impregnated with chemicals, 2 class - various acids, secondary raw materials of the oil industry, lead-type batteries with electrolyte, class 1 - the most toxic waste. The method of disposal depends on the type of waste and the degree of its harmfulness: destruction by mechanical and thermal methods; high temperature compression; demercuration (mercury); sterilization.

Untimely disposal has its consequences, among which, according to the law of Ukraine, officials and enterprises are subject to fines and may be subject to administrative penalties. The list of prohibited actions also includes incineration of chemical waste. In addition, in special cases, it is allowed to suspend the work of enterprises for a period of up to 90 days. In Ukraine, such companies as "UtilVtorProm", "UkrEkoProm", "Alfa Ecology", "Eko Utilization", "Ecosphere", SE "Bondarivka", Ecological Investments "Waste Management Services" and others are engaged in the disposal of chemical waste [1-7].

In addition to minimizing the amount of toxic waste, chemical technology sets itself the task of developing biodegradable materials. Much attention is paid to the production of polymers that can be quickly disposed of, recycled or decomposed after their use. Nowadays, there are three main methods of secondary recycling of polymers. The first is thermal decomposition using pyrolysis, which can occur both in the presence of oxygen and without it. As a result of pyrolysis, semi-finished monomers are obtained, which can later be used in synthesis. The second method is related to the decomposition of the material to the level of low molecular weight products. The resulting recycled products can be used for the production of cast plastics and easily soluble adhesives. Currently, the third method of secondary recycling of polymer materials, which is called mechanical recycling, has become the most widespread in Ukraine, as a result of which a granulate suitable for secondary production of plastics can be obtained. Currently, the creation of intermediate materials to replace traditional wood materials is considered a promising direction of polymer recycling [8].

So, we identified substances that are subject to disposal from chemical industries, considered the methods of recycling polymers, a list of companies engaged in disposal and the consequences for untimely disposal or improper storage of chemical waste is indicated.

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