

THE PRACTICE OF ENVIRONMENTAL PROTECTION FROM THE NEGATIVE IMPACT OF THE TECHNOSPHERE

<https://doi.org/10.5281/zenodo.7743411>



ELSEVIER



Received: 16-03-2023

Accepted: 17-03-2023

Published: 22-03-2023

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Abstract: Today it is typical for large cities, industrial complexes and large enterprises. Today, the problem of environmental pollution is global. The atmosphere and hydrosphere are polluted with technogenic toxic substances. Chemical phenomena in technological processes often develop under the influence of external conditions (pressure, volume, temperature, etc.) in which the process is carried out.

Keywords: Technosphere, pollution, atmosphere, ecosystem, hydrosphere, chemical influence.

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INTRODUCTION. It is known that the technosphere has a negative impact on the environment and causes the following changes in it: climate change, ozone depletion, acid rain, negative impact on ecosystems in general, negative impact on humans, and the formation of photochemical smog.

The state of the environment around the world is complex, and in some places it can be called critical. This is typical for large cities, industrial complexes and large enterprises. Today, the problem of environmental pollution is global. The atmosphere and hydrosphere are polluted with technogenic toxic substances. Millions of species of living beings, mostly protozoa, have already disappeared from the face of the Earth. The reserves of natural resources are depleted, the ecological mechanisms of our planet are unbalanced. The life of our civilization depends on the ability of people to find a way out of this situation. Therefore, environmental protection is more relevant today than ever[3].

The concept of sustainable development of the technosphere cannot be implemented without the development of clear action programs to prevent environmental pollution, including organizational, technical and technological ones for the development of resource, energy-saving and low-waste technologies, pollution reduction, gaseous waste and liquid waste, processing and disposal of household waste, reduction of energy impact on the environment, improvement and use of environmental protection means. Organizational and technical methods of environmental protection can be divided into active and passive methods. Active

methods of environmental protection are technological solutions for the creation of resource-saving and low-waste technologies.

Passive methods of environmental protection are divided into two subgroups: rational placement of pollution sources, localization of pollution sources. Rational location implies territoriality. Reasonable location of economic facilities, reducing the burden on the environment and localization is essentially a means of phlegmatizing pollution sources and reducing their emissions. Localization is carried out through the use of various environmental technologies, technical systems and devices. Many environmental protection technologies are based on physical and chemical changes. In physical processes, only the shape, size, state of aggregation and other physical properties of substances change. Their structure and chemical composition are preserved. When crushing, grinding, processing by pressure, drying and other similar cases of minerals, physical processes predominate [2].

Chemical processes change the physical properties of raw materials and their chemical composition. With their help, metals, alcohols, fertilizers, sugar, etc. are obtained, which are not found in their pure form in raw materials. Chemical processes form the basis of production in metallurgy, the chemical industry, the building materials industry, the pulp and paper industry, and many other sectors of the national economy. Chemical phenomena in technological processes often develop under the influence of external conditions (pressure, volume, temperature, etc.) in which the process is carried out. In this case, some substances pass into non-stoichiometric substances, their surface, intermediate properties and a number of other mixed (physico-chemical) phenomena occur.

The sum of interrelated chemical and physical processes occurring in a material substance is called the boundary between physicochemical, physical and chemical. Physical and chemical processes are widely used in mineral processing, metallurgy, basic chemical industry, organic synthesis, energy, but especially in environmental technologies (dust and gas collection, wastewater treatment, etc.). A special group is made up of biochemical processes - chemical changes that occur with the participation of living organisms. Biochemical processes form the basis of the life of all living organisms of the plant and animal world. An important part of agricultural production and the food industry, as well as biotechnology, is based on their use [1]. The products of biotechnological changes involving microorganisms are inanimate substances. Based on the general laws of physical and colloidal chemistry, thermodynamics, hydro- and aerodynamics in the theoretical foundations of environmental technologies, the main processes of eco-bio-protective technologies are studied. Such a systematic approach to ecological processes makes it possible to generalize the theory of such processes and apply a

unified methodological approach to them. According to the main laws that describe the course of environmental processes, the latter are divided into the following groups: mechanical, hydromechanical, mass transfer, chemical, physicochemical, thermal processes, biochemical, processes complicated by chemical reactions. Energy protection processes based on the principles of reflection and absorption of excess energy of the main technological processes of nature management are singled out as a separate group [4].

This classification is not fixed and unchanging. In reality, many processes are complicated by the occurrence of adjacent-parallel processes. For example, mass transfer and chemical processes are often accompanied by thermal processes. Thus, rectification, drying and crystallization can be attributed to the combined processes of heat and mass exchange. Absorption, adsorption processes are often accompanied by chemical changes. The chemical processes of neutralization and oxidation can be considered as simultaneous mass transfer processes. Biochemical processes are accompanied by simultaneous heat transfer and mass exchange, while physicochemical processes are accompanied by mass transfer processes. Industrial production is developing, along with it, the emission of waste is developing - environmental pollution. Therefore, the struggle should be carried out with the introduction of innovations in production by the above methods. However, innovative methods of environmental protection require the presence of many factors, which, unfortunately, cannot satisfy every company. Therefore, enabling enterprises to create and innovate in environmental protection methods should be a priority for industrial enterprises.

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