

SOCIAL AND HYGIENIC ASPECTS OF HEALTH PROTECTION OF EMPLOYEES AT ENTERPRISES OF THE CHEMICAL AND PHARMACEUTICAL INDUSTRY

Karieva Manzura

Senior lecturer of the Department of Medical and Biological Sciences, Pharmaceutical medical institute, Uzbekistan

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Abstract. *Depending on the quantitative characteristic and duration of action, individual production factors can become dangerous. A dangerous labor factor is a factor in the environment and labor process, which can be the cause of injury, acute illness or sudden sharp deterioration in health, death. Diseases that arise exclusively or predominantly as a result of exposure to production factors are called occupational. These include diseases such as vibration disease, radiation disease, various pneumoconioses (lung diseases as a result of dust exposure). Some of these diseases can be very difficult with a disorder of vital functions, as a result of which disability can occur.*

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Relevance. In the process of labor activity, a person is exposed to various factors of the production environment (physical and chemical nature), which, with insufficient effectiveness of preventive measures, have an adverse and even harmful effect on performance and health. Such factors are commonly called production harms. Depending on their origin, they can be divided into two groups. The first includes those of them that are associated with the incorrect organization of the labor process: violation of the labor regime, incorrect work posture, excessive physical or neuropsychiatric stress. The second group is due to the impact of production process factors. These include unfavorable microclimatic conditions (overheating, cooling), high and low atmospheric pressure, excessive noise and vibration, various types of electromagnetic radiation (thermal, visible, ultraviolet, ionizing, etc.), industrial ardor. In addition, workers may be exposed to hazards caused by unfavorable general sanitary working conditions (insufficient lighting, drafts, lack of necessary living conditions, unsatisfactory layout, etc.). With prolonged exposure to occupational factors, performance decreases, susceptibility to infections increases, resistance to various environmental factors decreases, exacerbations of chronic diseases occur more often, etc. Hygienic standards of working conditions - MPC, PDA establish such levels of harmful production factors that during daily (except days off) work, but not more than 40 hours a week during the entire working experience, should not cause diseases or deviations in the state of health detected by modern research methods during work or in the distant life of this or subsequent generations. Safe working conditions are understood as such working conditions, with co.

- class 1 - optimal working conditions;
- class 2 - permissible working conditions that can cause functional deviations, but after a regulated rest, the human body returns to its normal state;

- class 3 - harmful working conditions, characterized by the presence of harmful production factors that exceed hygienic standards. They have an adverse effect on the worker and may adversely affect offspring;

- class 4 - dangerous (extreme) working conditions.

Characterized by such levels of production factors, the impact of which during the work shift (or part of it) poses a threat to life, a high risk of severe forms of acute occupational injuries. The tension of individual organs and systems of the body during work Mechanization and automation of technological operations and processes are increasingly reducing the share of manual labor. At the same time, in a number of industries there is such an organization of labor processes in which workers are in a forced, uncomfortable position. At the same time, muscle overstrain, dysfunction of individual organs and systems are noted. Overvoltage can cause a number of occupational diseases. So, work associated with a pronounced overstrain of the musculoskeletal system can lead to joint deformity, chronic arthritis, tendovaginitis. Simultaneously with these changes, myalgia, myositis, neuralgia and neuritis can develop. Neuritis of the upper and lower extremities is often accompanied by a weakening of muscle strength, a decrease in muscle tone and a disorder of sensitivity. Prolonged work sitting leads to overstrain of certain muscle groups of the body, which is the cause of the curvature of the spine. Standing work often leads to the development of flat feet. This disease is most common among counter workers (40% of men and 73% of women), textile workers, porters, waiters, hairdressers. Work performed while standing and accompanied by significant physical effort causes an increase in intra-abdominal pressure, which can lead to the development of abdominal hernias or inguinal hernias. In women, displacement of the pelvic organs and complications during childbirth are possible. The consequences of a forced sitting position are also hemorrhoids, menstrual irregularities in women, digestive disorders in the form of colitis and chronic constipation. The atmosphere and indoor air always contain some amount of dust. The sources of its formation can be production processes associated with crushing or grinding, weighing and screening bulk materials, tableting, packaging and many other operations. In addition, aerosols can occur during combustion, melting, welding, and a number of other processes. Depending on the method of formation, dust (aerosol) of disintegration and condensation is distinguished. The disintegration aerosol is formed during the destruction and grinding of solid materials and the transportation of bulk substances. Condensation aerosol is most often formed during cooling and condensation of vapors of metals and nonmetals. The presence of dust in the air in a suspended state depends on the size of dust particles (dispersion), air mobility, electric charge, humidity and other factors. The smaller the size of dust particles, the longer they stay in the air, large particles settle much faster. Classification and properties of dust. Industrial dust is classified according to the method of formation, origin and dispersion (particle size). According to the method of formation, as noted above, dust is divided into disintegration aerosol and condensation aerosol. The hardness of dust particles practically has little effect on biological activity. The industrial site must meet certain requirements regarding insolation and natural ventilation. One of the most important requirements for the location of the site is the observance of the sanitary protection zone, i.e. the area separating the residential area from the industrial area. The size of the sanitary protection zone is determined by the production capacity and the nature of the emitted hazards. The building density of the territory of industrial sites can vary depending on the nature of production from 20 to 65%. The distance between buildings must be at least one height of the tallest building. When setting up an enterprise, sanitary

requirements for the layout of industrial and auxiliary buildings should be taken into account. The layout of industrial premises should be carried out taking into account the sanitary characteristics of technological processes, compliance with the norms of usable area and cubic capacity for workers, as well as the norms of areas for placing equipment and passages that ensure safe operation and ease of maintenance. So, according to existing standards, the volume of industrial premises for each worker should be at least 13 m³ with an area of at least 4 m² and a height of 3.2 m. Sanitary facilities are of great importance for the improvement of working conditions. They can organize and carry out preventive measures to eliminate psycho-functional changes in the body (rest room) caused by production factors. Depending on the characteristics of the work performed, occupational hazards, the number of employees and other factors, sanitary facilities may include dressing rooms, washbasins, showers, women's personal hygiene rooms, infant feeding rooms, and health centers. In a number of industries, special premises and devices are allocated for drying and dedusting, chemical cleaning, decontamination of work clothes and shoes, inhalers, footbaths, etc. Industrial lighting and ventilation are of particular hygienic importance in the improvement of industrial enterprises.

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