ON THE IMPLEMENTATION BY ROSPOTREBNADZOR (THE FEDERAL SERVICE FOR THE OVERSIGHT OF CONSUMER PROTECTION AND WELFARE) COMMON PRINCIPLES AND RULES OF TECHNICAL REGULATION WITHIN THE AGREEMENT OF THE CUSTOMS UNION

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In accordance with the Agreement of the Customs Union on sanitary measures between the Government of the Russian Federation, the Republic of Belarus and the Republic of Kazakhstan in the customs territory of the Customs Union the Uniform sanitary and epidemiological and hygienic requirements for goods subject to sanitary-epidemiological control are applied. Common sanitary requirements are binding for executive authorities of the Member States of the Customs union, local authorities, legal persons, whatever legal form, individual entrepreneurs, individuals. Currently, out of 47 planned to take priority technical regulations of the Customs Union 31 regulation, including the safety of railway rolling stock, production of perfumery and cosmetics, toys and products for children and teenagers, food products, grain, and other furniture products was adopted.

Key words: technical regulation, the Customs Union, Common sanitary requirements

CHEMICAL SAFETY AS A PROBLEM OF EPIDEMIOLOGY OF NON INFECTIOUS DISEASES

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Based on the analysis of adopted in sanitary science methodology for the study and evaluation of the biological action and hygienic significance of environmental factors there was shown the need for the use of laws and methodology of classical epidemiology to ensure the chemical safety in the recognition and elimination of the group of diseases of chemical etiology, outbreaks of similar non infectious diseases. It is stated that individually small "non-toxic" doses of chemicals, but "loading" a large population and forming a large collective dose apparently can be implemented in a stochastic population health damage, detectable only on the basis of large-scale epidemiological studies to assess the risk. These approaches are presented to be especially important for agents in the environment, optimal for which is not absence, but the presence for provision of necessary target effect (pesticides, disinfectants and other household products, etc.). The main task of the epidemiological analysis of local toxic "bursts" and large-scale "epidemics" of this kind is an optimization of the complex of measures implemented by an adequate assessment of their medical, social and economic performance.

Key words: chemical safety, epidemiology, population studies, stochastic effects.

ANALYSIS OF RADIATION-HYGienic AND MEDICAL CONSEQUENCES OF THE CHERNOBYL ACCIDENT

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Since the day of "the Chernobyl accident" in 1986 more than 25 years have been past. Radioactively contaminated areas 14 subjects of the Russian Federation with a total area of more than 50 thousand km2, where 1.5 million people now reside were exposed to radioactive contamination. Currently, a system of comprehensive evaluation of radiation doses of the population affected by the "Chernobyl accidents",
including 11 guidance documents has been created. There are methodically provided works on the assessment of average annual, accumulated and predicted radiation doses of population and its critical groups, as well as doses to the thyroid gland. The relevance of the analysis of the consequences of the "Chernobyl accident" is demonstrated by the events in Japan, at nuclear power Fukushima-1. In 2011 - 2012 there were carried out comprehensive maritime expeditions under the auspices of the Russian Geographical Society with the participation of relevant ministries and agencies, leading academic institutions in Russia. In 2012, work was carried out on radiation protection of the population from the potential transboundary impact of the accident at the Japanese nuclear power plant Fukushima-1. The results provide a basis for the favorable outlook for the radiation environment in our Far East and the Pacific coast of Russia.

Key words: "Chernobyl accident", the radiation dose of the population, the accident in Japan

GS-1304-019
CURRENT PROBLEMS IN THE SYSTEM OF STATE REGULATION OF CHEMICAL SAFETY
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In the paper the analysis of the problems of chemical safety abroad and in Russian Federation is presented, possible ways for their solutions, including the need for legal and scientific-methodical support for population health risk assessment are considered

Key words: chemical safety, risk assessment, environment.

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ECOLOGICAL PROBLEMS OF REPRODUCTIVE HEALTH
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In the article there are presented the current literature data on environmentally determined reproductive pathology. Ecology dependent pathological processes cause the reduction in fertility, the increase of the risk of gestational complications, the risk of low birth weight infants, miscarriage. In a situation of ecological trouble maintenance the health of the female as reproductive potential of nation, is possible only with identification, quantitative parameterization of risks for reproductive health and regional specification of programmes for the social and hygienic monitoring and preventive measures.

Key words: environmental problems, reproductive health.

GS-1304-029
JUSTIFICATION OF THE SIGNIFICANCE OF PSEUDOMONAS AERUGINOSA INDEX IN ASSESSING THE QUALITY OF DRINKING WATER
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The analysis of literature data was carried out and performed research justifying the epidemic value of detection in water P. aeruginosa in drinking and domestic water use. The were revealed features of the vital activity of P. aeruginosa in water bodies as opposed to conventional microbiological indicators. It was shown that the coliform group indices can not guarantee the epidemic safety of drinking water use in
relation to P. aeruginosa. The data obtained justify the need for the introduction of P. aeruginosa as an additional index in monitoring the water quality of centralized and decentralized water supply.

Key words: bacteria index, regulation, Pseudomonos aeruginosa, features of vital activity, auxiliary indicator of the quality of drinking water.

GS-1304-033

CYTOMORPHOLOGICAL ASSESSMENT OF CELLS OF THE MUCOUS MEMBRANE OF THE NASAL CAVITY IN THE POPULATION OF URBAN AREAS

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There presented results of cytomorphological studies of the mucous membrane of the nasal cavity in children 6-7 years old, 14-15 years old adolescents and adults of all ages (from 20 to 59 years) living in Ekibastuz and the settlement Solnechnyy. Significant unidirectional subatrophic changes in nasal mucosal epithelium were found in 20.6 to 52.63%. Out of 180 examined children and adults in Ekibastuz and the settlement Solnechnyy 42.0% showed an increased number of apoptotic cells. At the same time in 20.9% out of the 110 examined adults in Ekibastuz in nasal epithelium a large number of binuclear and trinuclear cells was revealed, that indicating a high chemical load.

Key words: population of urban areas, the mucous membrane of the nasal cavity, degenerated epithelial cells, karyological performance.

GS-1304-036

EVALUATION OF THE CONTENT OF HARMFUL SUBSTANCES IN THE AIR OF SEWAGE TREATMENT FACILITIES OF ASTRAKHAN GAS PROCESSING PLANT

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Despite the fact that the progress in regard to the degree of processing of natural gas and condensate in the Astrakhan gas processing plant is significant, necessary hygienic normalization of working environment on the part of the content of harmful substances in the air of working areas is still unable. Harmful substances were detected in the breathing zone of workers of sewage treatment plant almost constantly. In this connection there is a need in the further joint work hygienists, designers and manufacturers for the development and justification of new, more effective decisions - both on the part of as well technology as hardware design - with the purpose of improvement of working conditions.

Key words: labor protection, sewage treatment plants, aerial environment, pollutants.

GS-1304-040

THE DEPENDENCE OF THE PREVALENCE OF HYPERTENSION ON THE SEVERITY OF THE PROFESSIONAL AGING

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On the example of 5437 employees of enterprises and institutions of the Kemerovo region, compiled into 14 occupational groups, an analysis of the relationship between age structure and the frequency of arterial hypertension due to the working conditions has been performed. At high levels of hardness of employment and the impact of physical factors, a shift in the age structure toward younger age is seen, which is considered as a demographic consequence of professional ageing. In turn, expressed professional ageing causes the reduction in the prevalence of hypertension, which is, probably is implemented by the effect of "healthy worker".

Key words: working conditions, age, professional aging, hypertension.
THE ROLE OF GENETIC FACTORS IN THE DEVELOPMENT OF CHRONIC DUST BRONCHITIS IN WORKERS OF COAL MINING ENTERPRISES OF KUZBASS

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The distribution of genotypes of HP, GC, EsD, AsP and polymorphisms GSTT1 (GST-1.1) and GSTM1 (GST-1.1) and NOS3 (polymorphism VNTR4) in miners with chronic dust bronchitis, and in those without this occupational disease has been studied. The carriers of genotypes of genotypes EsD 1-2, AsP bb were shown to be more prone to develop chronic dust bronchitis. Endogenous factors of resistance to the disease are the genotypes GC 1-1, EsD 1-1, AsP bc.

Key words: genetic markers, genotype, genetic predisposition, resistance.

THE DEVELOPMENT OF A COMPREHENSIVE ASSESSMENT OF OCCUPATIONAL RISK BY TAKING INTO ACCOUNT THE TOTAL HAZARD OF WORKING CONDITIONS

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In the paper the methodological problems of establishing a general class of working conditions on the results of certification of workplaces are analyzed. There is proposed the use of an additional parameter - the index of harm, characterizing the degree of correspondence of the general level of harmful occupational factors to applicable health standards with taking into account the nonequivalence of their display. The recommendations for the use of hazard index as the main criterion for a priori evaluation of the category of suspected occupational risk and the tool to establish by the correlation methods cause-and-effect relations between indices of health status and the impact of occupational factors are presented. As exemplified by real working conditions the possibilities of the use the index of harm as an indicator describing the hazard probability are considered with comprehensive assessment of occupational risk of health problems on the basis of the matrix method with the use of the table of vectors and nomograms “probability of harm - the severity of the consequences”. The use of index of harm will permit to increase the objectivity of the assessment and the efficacy of management of occupational hazards in the workplaces.

Key words: certification of workplaces on working conditions, occupational hazard factor, index of harm, professional health risk.

METHODOLOGICAL APPROACHES TO THE DEVELOPMENT OF ENVIRONMENTALLY BENIGN TECHNOLOGY FOR THE USE OF SOLID WASTE IN IRON AND STEEL INDUSTRY

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On the basis of the life cycle of materials, containing wastes of iron and steel industry, new methodological approaches to the assessment of technologies of the secondary use of wastes are developed. A complex criteria for selection of the technology for the use of resource potential of solid waste of iron and steel industry are developed with taking into account environmental, technological and economic indices. The technology of the use of wastes of ferrovanadium industry as bulk solid materials at the solid waste landfill is shown.

Key words: criterion of choice of technology, recycling of wastes of ferrous metallurgy.
**THE CONCEPT OF "PSYCHOLOGICAL RISK" IN THE PROFESSIONAL ACTIVITY OF EMPLOYEES IN WATCH-BASED METHOD OF LABOR ORGANIZATION ON THE EXAMPLE OF OIL AND GAS COMPANIES IN THE FAR NORTH**

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Professional work in shift team in the Far North contributes to the formation of unfavorable functional states and the development of destructive personality traits of employees, which lead to a decrease in the level of mental health, productivity and work efficiency. With the aim to predict the professional efficiency of the rotational personnel it is necessary to determine the probability of negative psychological states, properties and qualities that will prevent its implementation, i.e., the psychological risks in professional activities. Psychological risk in the professional activity is the probability of occurrence of a professional personal destructions and the formation of unfavorable functional states of employees when performing job functions due to the prolonged negative impact of social-household and occupational factors in the lack of personal and environmental resource.

Key words: shift work, psychological risk in professional activity, adaptive strategy.

**FACTORS OF ANXIETY AND VEGETATIVE TONUS IN SENIOR PRESCHOOL CHILDREN FROM MAGNITOGORSK**

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In the paper there are presented the results of a study of anxiety and balance of parts of autonomous nervous system in healthy children 5-7 years old, residing in different parts of Magnitogorsk. It is shown that state of heightened and high alert was shown to be more common among children living on the left bank of the Urals river around the Magnitogorsk Metallurgical Integrated Plant. In these children an imbalance in the work of the parts of the autonomic nervous system was detected more frequently, at that shifts were observed mainly in the direction to ergotropic tone. At the same time balanced work of the parts of the autonomic nervous system was observed more frequently in children living on the right bank of the Urals river. Discovered psychosomatic features of examined children turned out to be associated with both the social characteristics of family lifestyle and the emotional stress of parents, and the contents of some organic compounds in total snow samples collected in the territories of kindergartens which they attended. One of the most significant results of the work we consider the detection of a correlation relationship between emotional stress of parents and activity of key enzymes in their children, reflecting the protective and adaptive reactions of the organism. On the basis of these and previously obtained data, we suggest that social and psychological factors of the family are not only a potential source of maladaptation of the child, but, probably, can have an impact on the stability and sensitivity of the genome of children.

Key words: anxiety, balance of parts of the autonomic nervous system, socio-economic status and emotional stress in the family.
Carcinogenic and Mutagenic Activity of Chrysotile, Processed with Iron Chloride (III)

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This work is devoted to the study of the role of iron ions in the carcinogenic and mutagenic activity of chrysotile. For this aim natural chrysotile was treated with ferric chloride (III), washed, crushed and intratracheally introduced into Wistar rats. When administered to rats intact chrysotile induced mesotheliomas in 27,9 ± 4,6% of cases, and chrysotile modified with ferric chloride - in 1,3 ± 1,3%. Mutagenicity of the same samples was studied in the micronucleus test when administered intraperitoneally to mice F1 (CBA x S57Bl6). Polychromatic erythrocytes in the bone marrow were investigated 24 hours after intraperitoneal administration. The frequency of polychromatic erythrocytes with micronuclei was decreased from 7,4 ± 0,18 by 1000 due to the action of chrysotile, from 2,8 ± 0,42 for 1000 after the introduction of a modified sample. It is hypothesized that the ferric chloride modifies the surface of asbestos fibers that reduces the induction of free radicals which are the primary cause of and carcinogenic effects of chrysotile.

Key words: chrysotile asbestos, carcinogenicity, mutagenicity in vivo