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MONITORING OF EMISSIONS OF HARMFUL GASES OF INDUSTRIAL OF THE REPUBLIC OF KAZAKHSTAN

Abstract. In article the main environmental problems connected with emissions of harmful substances in the atmosphere are considered. An assessment of impurity of the territory near industrial the enterprise is given. The measures promoting to reduce emission of harmful substances in the environment have been considered. In article the task of determination of content of harmful substances in soils and wood plants and carrying out monitoring is set. As a result a research volumes of pollutants have been determined.

Keywords: harmful gases, environment, industrial, monitoring.

Introduction. One of the main problems of the present is the bad ecological situation in many cities and the countries, modern production is most of all concentrated on satisfying needs of the person.

One of the ecological factors showing the most expressed impact on human health – air deterioration. The harmful blowouts proceeding from production objects and also automobile means have negative impact on air quality. Despite small volumes, they are special danger to the environment and the person as have toxicity which concentration let and in insignificant volume can lead to bad consequences.

One of exits of this situation such actions as gardening of the territory and increase in vegetation in the urbanized cities, reduction of volumes of emissions of harmful substances – a main objective of green production can. If in the twentieth century it was difficult to present use of innovative ways and use of alternative energy sources, then now it is difficult to present a situation without them.

As it was mentioned above, industrial facilities are one of the main sources of emissions of harmful substances in the atmosphere and need of carrying out monitoring of emissions of harmful gases, studying of a condition of air quality in this or that territory and also use of new alternative approaches for the purpose of reduction of volumes of toxic substances in the atmosphere takes place to be.

The purpose of work is the analysis of content of heavy metals in the soil, such as aluminum, iron and fluorine.

The danger of pollution of the soil as risk factor for health of the population is defined by its functional use. In the cities this problem is connected generally with pollution of soils heavy metals. Hygienic researches established quantitative connection between the content of heavy metals in atmospheric air and their loss in the territory of the cities that is fixed by soil anomalies. The soil has high sorption and heat-sink ability, accumulates and violates the geochemical information put by the nature

Methods. Methods of a research of content of harmful substances in the atmosphere and also the content of heavy metals in soils and leaves a plant have a wide range.

Actions for protection of atmospheric air are carried out on a basis widely put research works devoted to studying of quantitative concentration of the pollution getting in atmosphere, and ranges of their distribution. It is established that from the general the number of pollution of 27% 24.3% – arrive from power plants, from the enterprises of ferrous metallurgy, 10.5% – from color, 15.5% – from oil production and petrochemistry, 13.1% – from transport, 8.5% – from the industries of building materials and 1.5% – from other sources.

The main method of a research was by sampling of soils in the city and also in industrial regions of the city.

Figure 1 – The process of sampling of the soil for commission of analyses

Research results. As a result of a research these maintenance of the following basic elements in industrial regions of the city of Pavlodar was received.

The maintenance of such element as aluminum exceeds maximum allowable concentration value. The gross maintenance of this element in the soil makes 8-15%.

The average content of chrome in the industrial region much more exceeds background contents and is in limits of 1-1.34 mg/kg.

One of the following elements is fluorine as we know it a lithophile element and its bigger exceeded contents it was noticed in areas near industrial facilities and makes – 21-23 mg/kg.

Ratio of content of elements in industrial raona of the city to the background maintenance of elements

Name of an element	The average content of an element in city (mg/kg)	The average content of an element in industrial zones (mg/kg)
Chrome	0,33-0,4	1-1.34
Fluorine	11-13	21-23
Iron	90-110	190-230

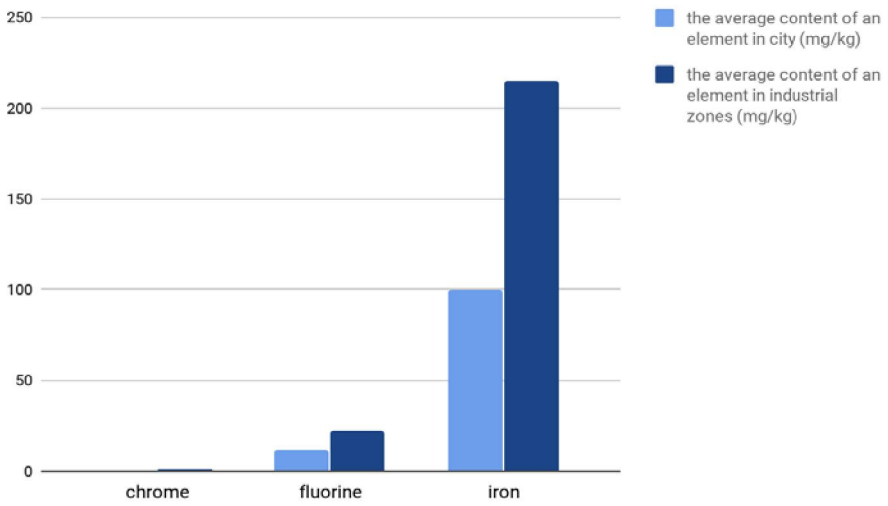

Figure 2 – Ratio of content of elements

Near the industrial zone, also around the airport the maintenance of the following element as iron reached point of 190-230 mg/kg. As far as we know, iron one of enough widespread elements in the nature.

Conclusion. As a result of a research it was revealed that territories, adjacent to the industrial enterprises have bad quality atmospheric air as in the contents have in bigger volume components of heavy metals.

Sources of pollutants are various, also numerous types of waste and nature of their impact on biosphere components. Biosphere becomes soiled solid waste, gas emissions and sewage steel, metalworking and engineering plants.

The high content of toxic elements in the soil and the atmosphere has negative impact on human health and therefore the question of reduction of volumes of harmful substances is always relevant.

Measures for prevention of air pollution are such as:

- establishment of filters for production objects;
- the translation of cars from gasoline on gas;
- use of alternative energy sources;
- sorting of waste, etc.

With increase in population on the planet grows energy consumption. Therefore studying of a question of technogenic loading on the urbanized territories is relevant at all times.

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ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ӨНДІРІСТІК АЙМАҚТАРЫНЫНАН ШЫҚҚАН ЗИЯНДЫ ГАЗДАР ШЫҒАРЫНДЫЛАРЫНЫҢ МОНИТОРИНГІ

Аннотация. Мақала зиянды заттардың атмосфераға шығарылуына байланысты негізгі экологиялық мәселелерді талқылайды. Өнеркәсіп кәсіпорындарының аумағының ластануына баға берілді. Қоршаған ортаға зиянды заттардың шығарылуын азайту шаралары қарастырылды. Мақалада топырақ пен ағаш өсімдіктеріндегі зиянды заттардың мазмұнын анықтау және мониторинг жүргізу міндеті қойылған. Зерттеу нәтижесінде ластаушы заттардың саны анықталды.

Түйін сөздер: зиянды газдар, қоршаған орта, өндіріс, мониторинг.

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МОНИТОРИНГ ВЫБРОСОВ ВРЕДНЫХ ГАЗОВ ПРОМЫШЛЕННЫХ ПРЕДПРИЯТИЙ РЕСПУБЛИКИ КАЗАХСТАН

Аннотация. В статье рассматриваются основные экологические проблемы, связанные с выбросами вредных веществ в атмосферу. Дана оценка загрязненности территории близ промышленных предприятий. Были рассмотрены меры, способствующие уменьшить выброс вредных веществ в окружающую среду. В статье ставится задача определения содержания вредных веществ в почвах и древесных растениях и проведения мониторинга. В результате исследований были определены объемы загрязняющих веществ.

Ключевые слова: вредные газы, окружающая среда, производство, мониторинг.

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