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IN ENVIRONMENTAL POLLUTION, MEASURES TO REDUCE THE HARMFUL EFFECTS OF EMISSIONS FROM CARS

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Abstract
The vehicle as a result of the harmful effects human body and outlined recommendations to reduce the harmful effects of diseases are expressed in this article.

Introduction

The beginning of the third millennium is assessed by two significant trends. First, the current civilization faced global environmental problems (climate change, ozone layer degradation, freshwater shortages and pollution, land and forest degradation, biodiversity destruction, the problem of excessive waste generation and their disposal, etc.). Secondly, the world is changing at an accelerated pace. The general problem of the formation of a system of knowledge about the state of human and Environmental Protection and the laws and interaction of the dangerous impact of the polluted environment, as well as the creation of a single and complex system of ensuring environmental safety, has arisen. Therefore, it is impossible to objectively assess the current situation with yesterday's criteria, not to mention the determination of future prospects. [1]

One of the sources of environmental pollution is road transport. More than half of all harmful substances released into the atmosphere correspond to cars. The amount of this share is even greater in the city of Tashkent and in the major cities of our Republic. The reasons for this are a large increase in traffic flow, the fact that the technical condition of vehicles does not meet the requirements of ecology, the poor roads. On large highways, the amount of carbon and nitrogen oxides, hydrocarbons and other harmful substances released into the atmosphere increases by 5-10 times the permissible limit amounts.

Currently, among the cars in operation, those that violate the established standards of adhesion and toxicity account for an average of 25 percent, and in some regions this figure reaches 40 percent. The reasons for this are the neglect of standards on adhesion and toxicity at gas stations and maintenance stations for the production of leaded gasoline, lack of quality control of the fuel sold, neglect to convert cars to less toxic fuel, insufficient regulatory framework, lack of a production base that makes up the control and adjustment points.

Currently, road transport has a negative impact not only on the environment, but also on the human body, causing various diseases. Depending on the effect on the human body, the substances included in the exhaust gases are divided into the following groups:

- toxic: carbon, aldehydes, lead compounds;
- carcinogenic (malignant, tumor-forming, benzopyrine)
- pathogens: sulfur oxides, hydrocarbons.

The effect of these substances on the human body depends on their amount in the atmosphere and the duration of exposure.

Carbon monoxide is a colorless, odorless gas. Once in the respiratory tract, it is absorbed into the blood and combines with hemoglobin to form carboxyhemoglobin, which binds 210 times faster than oxygen in this reaction, which ultimately leads to a lack of oxygen. The symptoms of this are manifested in disorders of the central nervous system, respiratory damage, and decreased vision. An increase in the average daily amount of carbon monoxide is the cause of death for people suffering from cardiovascular diseases. Depending on the amount contained in the air, inhaled may cause mild poisoning after 1 hour (0.05%) or fainting immediately after several breaths (sq1%).

Nitrogen oxides are a mixture of different oxides. The most dangerous of them is No. 2. Nitrogen oxides disrupt the functioning of the lungs and bronchi. Children and adults with cardiovascular diseases are more likely to suffer. Nitrogen oxides, depending on their content in the air, cause inflammation of the mucous membranes of the nose and eyes (sq 0.001%), cause oxygen deficiency (sq0. 002%), cause pneumonia (bloating, sq0. 008%).

Sulfur dioxide is a colorless gas with a pungent odor, highly soluble in water and forming sulfuric acid. With prolonged exposure, even in small amounts, it can increase cardiovascular insufficiency, lead to death, cause bronchitis, asthma and other respiratory diseases. Depending on the content of sulfur dioxide in the air, it inflames the mucous membranes of the eyes, causes cough (SQ 0.001%), irritates the mucous membranes of the throat (SQ 0.002%), poisons after 3 minutes (SQ 0.004%), poisons after 1 minute (SQ 0.01%).

Hydrocarbons are a group of compounds of the CxHy type, which, when applied, have an unpleasant odor, photochemically react with nitrogen oxides to form smog. Benz(O) pyrene is a polycyclic aromatic hydrocarbon (Pau) crystalline product, poorly soluble in water under normal atmospheric conditions, which accumulates in the human body and forms malignant tumors when a certain amount is reached.

Karakorum is a solid composition of exhaust gases, consisting mainly of carbon particles. It does not pose an immediate danger to humans, it only pollutes the air, absorbs carcinogenic substances (PAHs, up to 2%), and therefore causes the action of other toxic substances, for example, sulfur dioxide.

Lead compounds are formed only when tetraethyl lead (Teq) is mixed with gasoline as a detonating compound. It enters the human body through the respiratory tract, skin and food, gradually accumulating, damaging the nervous system, hematopoietic organs.[2]

The toxic substances of the exhaust gases mainly affect the driver of the car. When analyzing the air content in the cabin of vehicles, it turns out that the carbon monoxide content in them (especially in the cabin of trucks) is higher than permissible.

Currently, the carbon monoxide content in its atmosphere exceeds the permissible level by 20-30 times. It is reported that doctors consider the excess of the norm of carbon monoxide in the atmosphere to be the cause of high mortality from myocardial infarction.

In the atmosphere of cities, the content of nitrous oxide increases by 10-100 times, nitrous oxide is retained in the air for 3-4 days, under the influence of sunlight it enters into a photochemical reaction with the formation of nitrogen dioxide NO2. Together with hydrocarbons, it forms a toxic fog called smog. The shelf life of sulfur dioxide in the atmosphere is about 10 hours. SO2 gas causes acid precipitation, which destroys soil, water and the exterior coating of buildings.

The amount of carbon dioxide in the air is not normalized, SO2 remains in the atmosphere for 4 years. The increased carbon monoxide content causes an unpleasant condition called the “greenhouse effect", which increases the temperature of the Earth's surface. When lead accumulates in the body in large quantities, it causes chronic poisoning. [2]

Currently, there is an increase in the environmental impact of an increase in the number of vehicles on the territory of our republic.

It is required to solve the tasks as follows:

Determination of the causes of traffic congestion and its classifications in accordance with the classification of street and road networks of cities of our republic;

Determination of the limit of exposure to harmful and toxic substances released by cars on the streets of the cities of our republic;

Determination of the amount of emissions into the external environment during the operation of car repair and washing stations in the cities of the republic;

It is recommended to plant seedlings of ornamental trees around highways with high traffic flows, plant fruit trees, cultivate areas away from roads.

Expected results:

Requirements for the choice of parking places for vehicles in the cities of our republic, their classifications will be developed taking into account the growth in the number of cars in the near and future;

The limits of exposure to harmful and toxic substances released by cars on the streets of our republic have been determined, recommendations have been developed;

The volume of emissions into the external environment during the operation of a car wash in the republic has been determined, organizational, technical and scientifically sound recommendations for reducing damage have been developed;

Planting fruit trees and crops around highways with high traffic flows in areas far from roads reduces the harmful effects of harmful and toxic gases in the atmosphere on the human body through food and fruits.

It is advisable if, together with the Republican Department of Internal Affairs, the Department of Road Safety and all interested organizations, measures are developed to form an ecological culture of heads of motor transport enterprises, drivers and the public

in terms of reducing the negative impact of vehicles on the environment and the human body.

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