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EFFECTS OF MOTOR TRANSPORT EXHAUST GASES ON THE ENVIRONMENT AND HUMAN HEALTH

Annotation. Transport in atmospheric pollution in recent years the weight of the means is increasing. Because cars, planes, locomotives, agricultural machinery, etc. in very large quantities expelling oxygen into the atmosphere (containing about 200 toxic various gases (carbon monoxide, nitrous oxide, hydrocarbons, toxic compounds of lead, dust, dry and others) and pollute it. The atmosphere of cars the world in addition to polluting the air with various toxic gases 3-4 times more oxygen than the population needs to breathe consumes oxygen. 20-30 per year for a car engine consumes the oxygen that a person breathes throughout the year.

Keywords: gas, nitrogen oxide, hydrocarbons, lead compounds, dust, dryness, smog

Introduction. There are many harmful gases and factors that are released as a result of the activities of various large industrial enterprises, plants and factories, motor vehicles, and other institutions of the national economy. Some people think that these gases that are produced will disappear by themselves. Actually it is not. Some of the ingredients of atmospheric emissions circulate in the environment for many years.

Methodology. In Uzbekistan, the annual emissions from permanent (stationary) sources into the atmosphere reach 1.3 million tons. In particular, sulfuric anhydride is 535,800 tons, hydrocarbons are 427,000 tons, nitrogen oxides are 94,100 tons, and solid particles are 317,400 tons. Due to the

complications of these harmful substances, diseases have increased 1.5 times in the cities of Uzbekistan, including: blood-related diseases 4.8 times, endocrine diseases 2.3 times, increased blood pressure 4.8 times, ischemic heart disease 2.5 times, bronchial asthma increased by 20 percent. It is observed that the power (immunity) of the children's body to fight against infectious diseases has decreased by 25-37 percent [1].

Since vehicles are one of the main factors that pollute the air in the city, any goal can be achieved by using various technological processes to reduce the toxicity of the air they pollute or to determine the total amount of waste emitted into the air. However, the failure of exhaust gas measuring devices in many motor transport enterprises and organizations of passenger transport, and the fact that they are used without passing metrological inspection on time, shows that this issue is still neglected.

Currently, the level of environmental pollution from industrial waste in developed countries has decreased by 10-15 times compared to 10-15 years ago. This is the result of work being done to protect the environment from toxic gases and fumes.

A number of successes are being achieved in our country in this regard in the fight against the factors that have a negative impact on human health. In particular, the decree of the President of the Republic of Uzbekistan "On approval of the concept of environmental protection of the Republic of Uzbekistan until 2030" of October 30, 2019, No. Resolution No. 541 of September 7, 2020, Resolution No. 95 of February 18, 2020 "On Approval of the General Technical Regulation on Environmental Safety" was issued. In them, among other issues, measures aimed at reducing the level of atmospheric air pollution of toxic gas emissions from motor vehicles are clearly defined[2,6].

Results and discussions. Let's look at the amount of toxic gases that pollute the atmospheric air of vehicles.

Internal combustion engines using gasoline and diesel fuel

toxic gases from the chimney (per 1000 liters, kg)

Composition of exhaust gases	Type of motors	
	Benzene fuel	Diesel fuel
Gas	27	7,4
Hydrocarbons	24	16
Nitrous oxide	13,5	26,4
Aldehydes	0,5	1,2
3.4benz(a)pyrene	$7{,}2 \cdot 10^{-1}$	$10{,}5 \cdot 10^{-1}$
Sulfite anhydride	1,1	4,8
Organic acids	0,5	3,7
Solid particles	1,4	13,2
Lead	0,4	-

Some of the toxic gases released into the atmosphere by this motor vehicle undergo photochemical reactions under meteorological conditions. Nitric oxide breaks down to nitric oxide, resulting in atomic oxygen (oxygen). Aldehyde and ketones generate radicals. Reactions of this type contribute to the origin of the second reactions, resulting in the formation of a complex mixture of gases and acids with a highly toxic composition. These chemicals form photochemical smogs as a result of accumulation in atmospheric air under certain meteorological conditions. Smog (a mixture of toxic substances) causes inflammation of the mucous membranes of the eyes and throat, dries up plants, makes it difficult to see, and in most cases causes unpleasant consequences[7].

According to estimates, every year 1 car takes an average of 4 tons of oxygen from the air and emits 800 kg of carbon dioxide, 40 kg of nitrogen oxides and about 200 kg of various toxic substances, including hydrocarbons. Considering that there are more than 500 million cars in the countries of the world now, we can be sure that the amount of pollutants emitted into the atmosphere is very large. Motor vehicles pollute atmospheric air by 45.7% with nitrogen oxides and 42% with hydrocarbons. 75.5 million tons or 78% of about 100 million tons of carbon dioxide emitted into the air on Earth in one year are caused by motor vehicles. 60% of urban air pollution with toxic gases is caused by automobile transport.

If we consider the effect of exhaust gas from internal combustion engines that use only gasoline or diesel fuel, it is a colorless toxic gas produced by incomplete combustion of various fuels, and it is present in large quantities in the exhaust gas of internal combustion engines. Carbon monoxide enters the body through the respiratory tract and combines with hemoglobin in red blood cells to form carboxyhemoglobin. This substance cannot bind oxygen, as a result of which there is a lack of oxygen in tissues and cells, first of all, in nerve cells. In addition, the harmful gases in the air can directly enter the respiratory tract, enter the alveoli of the lungs, blood, or combine with moisture in the mucous layer and inflame it [3,4,5].

Conclusion. There are several measures aimed at preventing artificial pollution of the atmosphere, the most important of which are:

- ✓ It is very important to reduce vehicle gases and fumes. In order to reduce the amount of toxic gas emitted from the car, it is necessary to strictly observe their technical condition and fuel flow to the engine;
- ✓ Regular monitoring of air cleanliness in cities and industrial centers is of great importance in keeping the air of cities clean;
- ✓ In order to protect the atmospheric air from motor vehicle emissions, to ensure that the city's main roads and sidewalks are in order, to establish order at the intersections, to properly change the city construction projects in order to set the traffic on the right track;
- ✓ Expansion of the area of green plants. Green plants filter dirty air, trap dust in their leaves, absorb carbon dioxide and produce oxygen. Transfer a large number of ornamental trees to the streets, such as juniper and chestnut trees (they release phytoncide from themselves and ensure the destruction of toxic microorganisms);
- ✓ It is necessary to increase the number of underground roads, especially at the junctions, to prevent traffic congestion.

✓ From the houses near the road, the low-rise ones should be in the front row, then the high-rise houses, and the kindergartens and school buildings should be placed behind them. Only then will we be able to protect people from the toxic gases of motor vehicles.

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