ANALYSIS OF THE ECOLOGICAL CLASS OF FUELS USED IN CARS**Akmal Muxitdinov***Doctor of Technical Sciences, Professor,
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E-mail: numanovshox@mail.ru***АНАЛИЗ ЭКОЛОГИЧЕСКОГО КЛАССА ТОПЛИВА, ИСПОЛЬЗУЕМЫХ В АВТОМОБИЛЕ****Мухитдинов Акмал Анварович***д-р техн. наук, профессор,
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Республика Узбекистан, г. Ташкент***Нумонов Мухаммадалишохрухбек Зокиржон угли***ассистент, Андижанского машиностроительного институт,
Республика Узбекистан, г. Андижан***ABSTRACT**

This article is reflected in the cars on the basis of poisonous gases coming from a trusted source. The chemical composition of gases and their negative effects on human health and the environment have been studied.

АННОТАЦИЯ

В данной статье рассматривается выбросы выхлопных газов автомобилей на основе надежных источников. Изучены химический состав газов, их негативное влияние на здоровье человека и окружающую среду.

Keywords: energy vehicle, fuel, carbon monoxide, nitrogen oxide, hydrocarbon, environmental class, toxic gases, Euro-3, Euro-6, monomethylamine.

Ключевые слова: энергия транспортного средство, топливо, окись углерода, окись азота, углеводороды, класс окружающей среды, токсичные газы, Евро-3, Евро-6, монометиламин.

It is known that the main energy source that drives a car is fuel. Today, cars produced for a variety of fuels (gasoline, diesel, gas, etc.). The power of cars depends on the heat capacity of the fuel. When using fuels, it is advisable to study their technical characteristics. The reason is that after the combustion of fuel, the exhaust gases contain toxic gases such as carbon monoxide CO, nitrogen oxide NO_x, hydrocarbons CH, which have a serious impact on the environment and human health. That is why the fuel class has been developed.

These gases are harmful to man and nature to the effect that fuel quality is setting the standard class requirements. This class of vehicle fuel standard for the environmental requirements of the class set 1-6. But the requirements of this standard have nothing to do with the octane number of gasoline. This standard fuel natural and man aimed at reducing the impact of harmful gases from car engines.

Despite the high octane content of gasoline, its harmful effect on the atmosphere is Euro-3, while this

effect of Ai-91 gasoline is similar to Euro-6, and Ai-91 (6) gasoline is environmentally friendly^[2].

We describe the environmental class of the car. The system of environmental classification of vehicles is based on research on the composition of exhaust gases. It was found that on average, 1 machine consumes about 4 tons of oxygen per year and releases the following products into the air as a result of its processing^[3].

- carbon monoxide - about 800 kg;
- carbon - 200 kg;
- nitrogen oxides - 40 kg.

Some of the sources, transport vehicles% of the greenhouse gases that pollute the surrounding environment to give^[1]:

- Cars - 83%;
- Trucks - 12%;
- Special cars - 2.8%;
- Buses - 2.2%;

At the same time, according to statistics, the number of new cars on the roads is increasing every day. The continued growth of toxic waste environmentalists concerned about the serious negative impact on the ecosystem. The maximum amount of harmful substances in exhaust gases contained in the rules on the introduction of many decisions have been made in the countries of the world. This decision is one of the "Euro".

At the beginning of 1990 has significantly decreased the purity of the atmosphere of the planet. The most harmful to the environment were cars running on gasoline and diesel engines. In 1992, road transport in Europe, to limit the amount of waste emitted into the atmosphere known as the "protocol" developed a special regulation. The first protocol called "Euro 1", Cars in the document issued by the parameters of the toxic waste was established ^[4]. This protocol is reviewed annually and is carried out by reducing the amount of greenhouse gases (Euro-1 and Euro-2 and Euro-3, Euro-4 and Euro-5 and Euro-6) and indecisive. For example, in Euro-6 gasoline;

- carbon monoxide (CO) - 1.0 g / km;
- hydrocarbon (CH) - 0.1 g / km;
- nitric oxide (NO_x) - 0.06 g / km;
- suspended particulates (RM) - 0,005 g / km;
- hydrocarbons and nitrogen oxide (CH + NO_x) - 0 g / km

At the present time, for example for fuel in Russia, K4, K5, K6 classes. They gasoline determines the amount of harmful emissions. We describe the amount of sulfur and monomethylamine. The chemical composition of GOST 32513-2013 lead added to gasoline in terms of requirements. Sulfur and monomethylamine MMA is very harmful, but Oktay additions increase the number. MMA is now banned. However, it is in the present period is also contained in some gasoline. The following are the sulfur levels belonging to the gasoline grades ^[5].

- K2- sulfur content of 1 kg to 500 mg, monomethylamine MMA does not exceed 1.3%;
- K3 - up to 150 mg / kg and 1% MMA;
- K4 - up to 50 mg / kg and 1% MMA;
- K5 - up to 10 mg / kg and complete absence of MMA.

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Consider the environmental and human health impact of greenhouse gas emissions:

Carbon Monoxide CO. Hydrocarbon fuels are not enough oxygen is formed by turns, and can also be thickened combustible composition of this gas will be used. This gas stops the activity of the active centers that produce hemoglobin. As a result, the process of oxidation in the human body (breathing) is broken, which can lead to death. When the amount of carbon monoxide in the air exceeds 0.01% by volume, the body is significantly poisoned. Poisoning causes headaches, tinnitus, difficulty breathing and weakness.

Nitric oxides. Nitric oxide is formed under the influence of free oxygen. The higher the temperature of the combustion process in the engine, the more nitric oxide is formed. Nitric oxide combines with moisture to form nitric acid. This acid absorbs lung tissue, inflames the mucous membranes of the eyes, causes irreversible diseases of the cardiovascular system.

Hydrocarbons. When an excessively thick or liquid combustible mixture burns incompletely, unburned hydrocarbons form CH. Hydrocarbons have a strong toxic effect and have a detrimental effect on the formation of new blood, the central nervous system.

Aldehydes. This oxidized hydrocarbons, small engine load and cold startup. Aldehyde is also formed in detonated combustion. Aldehydes irritate the respiratory tract and mucous membranes. Damages the central nervous system, liver and kidneys.

Lead compounds. Lead is added to petrol to increase its resistance to detonatsiyaga (tetraethyl lead) of fluids. When the mixture burns, the lead forms toxic compounds. Lead compounds are dangerous to the surrounding population, the driver of the car, and the workers who maintain the ICE. This compound leads to disruption of metabolism and blood formation processes in the body. Therefore banned the use of leaded petrol. This is a strong influence on the nature of the compound, the slow development of plants, reduces the fertility of the earth.

The following conclusions can be drawn from the scientific research. Exhaust gases from the engine have a negative impact on the environment. From year to year, a lot of scientific research is being done to reduce these toxic gases. As the number of cars increases, so does the amount of toxic gases. By changing the quality of the fuel composition, it is possible to reduce the harmful effects of exhaust gases on the environment and humans.