

## AIR POLLUTION IN THE CITY OF NAVOI

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**Abstract:** A large chemical industry enterprise in Uzbekistan. Within the state-joint-stock company "Uzkimyosanoat". It is located in the city of Navoi. The main types of products produced by the enterprise: mineral fertilizers, nitron fiber, acetic acid, thiourea, chlorine and chlorine products, caustic soda. In addition, more than 70 types of products, organic and inorganic chemical products are produced. It was built as an enterprise specializing in the processing of natural gas for the production of mineral fertilizers, various organic synthesis products and acrylic fiber (nitron).

**Key words:** Atmospheric air, Wastewater plant, polyvinyl chloride (PVC), caustic soda and methanol, meteorological conditions, hydrochloric acid, aggregates.

### **Introduction:**

It serves as raw materials for natural gas, air, caustic soda, table salt and other main production. It was launched in 1964 under the name of Navoi Chemical Plant. [2] In the same year, unit 1 was put into operation at the enterprise for the production of weak nitric acid. In 1965, the ammonia enterprise began to operate in

full scale. As a result of the complex use of raw materials, a factory for the production of nitron - "artificial wool" fiber was built in the enterprise, and in 1971, the first product was obtained. Since then, "artificial wool" has been produced, which is considered very important for textile, light and other industries. In 1965-75, the 1st-2nd-3rd stages of production of ammonia and mineral fertilizers were put into operation. In 2001, the production of chlorine, caustic soda, hydrochloric acid and sodium hypochlorite, built with the participation of the German company "Lurgi Hemnitz GmbH" and equipped with the most modern equipment, was launched. [4] In the association, work is being carried out on the project of construction of the 2nd line workshop for the production of caustic soda by recycling chlorine into polyvinyl chloride."N." a.j. products are exported to Russia, Iran, Tajikistan, Ukraine, Great Britain, Netherlands, Kazakhstan, Kyrgyzstan, USA, Bulgaria. In 1975, the Navoi chemical plant was transformed into the "Navoiyazot" production association, and in 2002 into the "Navoiyazot" open joint-stock company. About 11,000 engineers and technicians and workers work at the enterprise.[1]

### **Materials and Methods:**

Navoi Region Department of Ecology and Environmental Protection reported that the Department received many complaints about the harmful gases and unpleasant odors emitted from JSC "Navoiyazot". Appropriate measures are being taken regarding the issue. In particular, the sanitary laboratory of the plant collects analysis samples from the sanitary protection zone of the society, the territory of the "Ayronchi" neighborhood of the Karmana district, near the building of the regional hokimat, based on the schedule, day and night. 8 different ingredients will be sampled and analyzed at three designated posts during the hour. The results of the analysis are presented to the department for continuous control. When unfavorable meteorological conditions occur in the weather, that is, when the air is

calm (calm), when the wind changes its direction towards the city, the atmospheric air contains inorganic dust, nitrogen oxides and the presence of ammonia substances was observed. In order to preserve the natural composition of atmospheric air, the production shops of "Navoiyazot" JSC are alerted and switched to modes I-II-III based on the established procedure in unfavorable meteorological conditions. Action plans to be implemented in adverse meteorological conditions were drawn up and agreed with the management. Also, the information given by the management stated that on July 19 of this year, when samples were taken and analyzed from the atmospheric air of the factory area by employees of the sanitary laboratory of "Navoiyazot" JSC, chlorine was found. Although the permissible concentration is set to be 1 mg/m<sup>3</sup>, in practice it is 2 mg/m<sup>3</sup>, which is 2 times higher than the established norm. When samples were taken from the area of the 107th section of the plant and analyzed, the amount of hydrochloric acid was 5 mg/m<sup>3</sup> Although mg/m<sup>3</sup> is set, in practice it is 8 mg/m<sup>3</sup>, which is 1.6 times higher than the set standards. On the same day, when air samples were taken and analyzed at the observation posts by the atmospheric air monitoring laboratory (LMZAV) of the Hydrometeorological Department of Navoi city, the amount of nitrogen oxides was 0.09 mg/m<sup>3</sup> (norm-0.04 mg/m<sup>3</sup>). 2.25 times higher than the established standards, the amount of ammonia was 0.08 mg/m<sup>3</sup> (norm-0.04 mg/m<sup>3</sup>) and it was 2 times higher. A similar situation was recorded at post 3 (observation post on Kizilkum Street), i.e., the amount of nitrogen oxides was found to be 0.10 mg/m<sup>3</sup> or 2.5 times higher than the norm (0.04 mg/m<sup>3</sup>). In these cases, the concentration of pollutants in residential areas is higher than the established norms. [5] Management experts say that such a negative situation is caused by a sharp rise in air temperature, and the difficulty of spreading harmful gases due to low wind speed. It is known that spare parts required for cleaning and trapping harmful gases were not replaced on time by the enterprise. Orders for the

purchase of spare parts from abroad were sent to "UZKIMYOIMPEKS" LLC in the prescribed manner.

### **Results and Discussions:**

However, equipment and spare parts such as valve-regulators, gas combustion granulation equipment VVG-500, AVK-10 catalysts, which ensure a sharp reduction of harmful substances in the atmosphere, were not brought. In the substation 140 belonging to "Navoiyazot" JSC, the temperature rose and the transformer stopped in an emergency state. As a result, the fans and pumps failed, and the 107th, which is a complex for the production of hazardous liquid chlorine, chlorine products and caustic soda of the 1st category of the plant a pipe in the workshop had a crack, causing a spill of hydrochloric acid. Chloric acid vapors continued to be released into the atmosphere for some time. In order to prevent the release of hydrochloric acid vapors into the atmosphere, the accident was neutralized with water and lime. It is precisely because of the above negative conditions that the air is polluted, causing many inconveniences to the population and causing their rightful objections. In July 2019, due to the warming of the days, in order to reduce the harmful gases released into the atmosphere, according to the agreement of the management and "Navoiyazot" JSC, taking into account the high temperature and the wind will stop altogether from July 18, 2019, in the morning From 4:00 to 9:00, some production processes in the shops are completely stopped. We asked S. Nurnazarov, the responsible employee of "Navoiyazot" JSC, for an explanation regarding the residents' objections. "It has been many years since the factory was built. Technologies are outdated. These aspects cause air pollution. At present, large-scale investment projects for the introduction of new technologies are being implemented at JSC "Navoiyazot" based on the decisions of the President. At the same time, more than 8 thousand workers are working at JSC "Navoiyazot". Well, since the harmful gases coming out of the factory are causing so much

trouble to the population, how much attention has been paid to the health protection of the workers? Experts say that the workers are provided with the necessary protective equipment. The food they eat is also based on their health protection. Milk products are provided continuously. Health recovery and treatment of employees is under constant attention and they undergo medical examination once a year.

### **Conclusion:**

As can be seen from the above cases, the residents' objections are justified. Due to the toxic gases and unpleasant odors coming out of "Navoiyazot" JSC, residents are having trouble breathing. Especially on hot days, this situation is unbearable. The official of the enterprise emphasizes that these problems will be eliminated as soon as new projects are launched.

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