

Many Belgraders who could not open the window and ventilate the room at 38 degrees on Sunday until the evening hours, laymen determined that the air was not good, but they did not know what exactly could be dangerous, or how to protect themselves if they went outside.

Due to the fire that engulfed five hectares of the landfill in Vinča, which has been smoldering since Saturday night, smoke and an unbearable stench covered several municipalities in the capital of Serbia.

Officials claimed that he was “under control” and that there was no reason to panic.

However, the question is whether we can save ourselves in such situations, which are not classic fires, warns pulmonologist Tatjana Radosavljević.

“When a landfill burns, we first have a problem with smoke, and an even bigger problem is the burning of plastic and everything that is there.

“Combustion leads to the release of very toxic and carcinogenic substances such as dioxins and furans”, Radosavljević told the BBC in Serbian.

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Whether and how much of these substances were in the air is still unknown.

The city’s Institute of Public Health is not responsible for measuring the levels of these substances, the BBC was told from this institution.

And the information whether this is done by some companies for the needs of the Agency or the Ministry of Environmental Protection – the BBC did not receive until the publication of this text.

## **What are dioxins and furans?**

These are integral parts of war poisons, says Dr. Tatjana Radosavljević.

“Their carcinogenicity has been proven, which does not mean that one exposure to that matter will lead to that, but the problem is that we do not know how much we are exposed to,” Radosavljević states.

Dioxins and furans also occur when tires are ignited.

The masks partially protect from these toxins, but not completely, adds the doctor, a specialist in lung diseases.

That is why it is best not to open the windows and not to go out as much as possible, advises Radosavljević.

Dioxins and furans are abbreviated names for a group of chemicals with similar levels of

toxicity.

Environmental organizations rank dioxins among the most dangerous toxins that increase the chance of developing cancer, experts told the BBC earlier.

These chemicals can occur during the incineration of household waste, but also in the process of bleaching cellulose and paper with chlorine, as well as in the production and processing of certain types of chemicals, such as pesticides.

They can also occur in nature during volcanic eruptions and forest fires, according to the American Center for Disease Control and Prevention.

### **How do they affect humans?**

The World Health Organization states that experiments have shown that these very toxic substances can damage numerous organs in the body.

Short-term exposure to high levels of dioxins can lead to skin lesions, such as chloracne and blemishes, but also to changes in liver function.

Long-term exposure has been linked to damage to the immune system, the development of the nervous system, the endocrine system and reproductive functions.

When dioxins enter the body, they last a long time due to their chemical stability and ability to be absorbed into adipose tissue, where they are stored in the body.

They can stay in the body between seven and 11 years, according to the WHO.

In the environment, dioxins accumulate in the food chain.

The higher the level of the food chain in animals, the higher the concentration of dioxins.

### **Were these poisons in Belgrade?**

Milenko Jovanović from the National Ecological Association also wrote about dioxins and furans on Twitter.

“Vinca is a dump where there is communal, plastic waste, everything and everything.

“When it ignites, it is certainly emitted during such a fire, in addition to standard pollutants such as sulfur dioxin and PM particles, they also emit other toxic compounds,” Jovanovic told the BBC.

In such incidents, the concentration of those substances that could be determined by accredited laboratories would have to be measured, he says, but that, as far as is known, has not been done.

“We can never know how dangerous this was and how dangerous it will be, because it has calmed down, and there are no retroactive measurements.

“The procedure was not respected, because local and state monitoring does not measure such substances,” Jovanovic points out for the BBC.

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The level of PM particles, which pollute the air anyway, was measured, but they are not the most dangerous in such situations, he adds.

### **The cause must be resolved**

Dr. Vesna Slepčević from the City Institute for Public Health confirms for the BBC that this institution, in accordance with the law and European regulations, is not authorized to measure the level of dioxins and furans.

The Institute monitors the concentration of pollutants in the air, but is not authorized to measure at the source of pollution.

"Dioxins and furans are carcinogenic, so in the case of long-term exposure, they can be harmful to health.

"In order for people to protect themselves, the cause must be solved and remedied, and that will prevent fires at the landfill", says Dr. Slepčević in a written answer.

The Beoeko site offers recommendations for the behavior of residents depending on air quality.

When the air is polluted, it is recommended that the stay outside be as short as possible, especially for vulnerable groups such as the elderly, children, people with heart and lung diseases.

### **What did the officials say about the fire?**

In short, that everything was quickly under control.

"Although the citizens will be able to see the smoke of this fire in the next few days, I assure them that there is no room for fear and panic," said the mayor of Belgrade, Zoran Radojicic, on Sunday.

The city's Institute for Public Health told the citizens of Belgrade that as long as they can smell the smoke, they keep the windows closed and do not go outside unnecessarily.

### **A decades-long problem**

The landfill in Vinča is, by the way, a decades-long problem, and it has been used since the 1970s.

One of the largest landfills in the city, it covers 42 hectares.

In this landfill, in addition to household and bulky waste, construction debris, earth, sheet metal were deposited - from 13 of the 17 Belgrade municipalities.

Fires at this landfill are not uncommon.

The situation was similar in 2017, when the fire was smoldering for a whole month. And during 2019, there was smoke, although according to the officials, there was no fire then.

“Such situations appear every day due to subsidence and, unfortunately, landslide of the landfill towards the Danube.

“Cavities are opened within the landfills, and then due to the contact of methane with the air, smoke is created,” said Marko Popadić, director of “Gradske čistoće” two years ago. According to the announcements, a new modern landfill should start operating in Vinča this August, where waste, for the first time in history, would be sorted and used to make electricity, Politika wrote.

Source: Danas