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Report: Cancer-causing chemicals lingered in the air days after Msunduzi landfill fire

By Kailene Pillay Aug 18, 2020

Durban - An air quality report into the recent massive fire at the Pietermaritzburg landfill site has revealed that extremely high levels of cancer-causing chemicals were in the air for at least four days after the fire was extinguished last month.

Details of the report have been released by environmental justice organisation, groundWork.

The results showed that “orders of magnitude” levels of a cancer-causing chemical, benzene, were found in the air around the dump where people lived and even higher concentrations of the chemical were found on the site where people worked.

According to groundWork’s campaign manager for Environmental Health, Rico Euripidou, the results showed that volatile organic chemicals were definitely in the smoke and in the ambient air that people were breathing on and off the site.

He said that people living in close proximity of the dump, in areas such as Ascot and Sobantu, also complained of drowsiness, fatigue, skin irritation and respiratory problems which were the main signs of benzene toxicity in the air.

Euripidou said that two samples were taken to conduct the test - one on the dump site and one from the nearby suburb where residents had complained of the toxic smoke.

He said groundWork used a special methodology called the Bucket Sampler, where they drew a sample of the air into a special container called a Tedlar Bag which was sent to Chemtech Laboratory Services in Gauteng.

“The Tedlar Bag preserves the chemicals from the air that you are breathing so the laboratory can analyse it. The bag allows for minimal leakage and when one looks at the results, it shows that if anything did get out of the bag, it would have been much worse,” he said.

The results showed that the benzene concentrations for both on- and off-site samples were elevated and above the South African national annual standard of 5 micrograms per cubic metre.

According to the results, more than 500 micrograms per cubic metre of benzene were measured in the air on-site while 13.33 micrograms per cubic metre were measured in the nearby suburbs.

According to the World Health Organization, the clinical effects of exposure to between 500 and 1500 micrograms per cubic metre of benzene for 60 minutes was serious.

“This fire burned for days. The results also found that high concentrations of other carcinogenic substances such as hexane, pentane and phenol were in the air. These chemicals fall into a similar category as benzene,” Euripidou said.

“These results solicit a health impact on anyone who breathed the air.”

The landfill site was ablaze for a week after a fire started on July 20.

The toxic smoke blanketed the city and forced the closure of schools and saw many residents flee their homes because of health warnings issued by the Msunduzi Municipality.

Following the release of the air-quality results, GroundWork has called for the closure of the site.

Euripidou said the site had “really become a dump site in the true sense of the word because of chronic mismanagement”.

“Msunduzi must progressively adopt a city-wide zero-waste approach that encourages, assists and progressively legislates that all waste must be separated at the source so that materials can be recovered more efficiently.

“If the city does this, then the New England site can be converted into a materials recovery facility (MRF) as was previously planned,” he said.

The city was allocated R21 million by the Department of Co-operative Governance and Traditional Affairs to construct an MRF at the site in 2011, but the project did not materialise and the money was returned to government.

Euripidou said the MRF could have diverted up to 60% of the recyclable waste and organic material off the site and created hundreds of jobs and many downstream opportunities.

“The main reason why this site must be closed is that it continues to pose a health risk and also it is not in compliance with the conditions of its national waste management licence to operate,” he said.

Msunduzi Municipality spokesperson Thobeka Mafumbatha said a consultant had been appointed to deploy passive samplers measuring a wide range of pollutants in the area.

In addition to data recorded at the three different Air Quality Monitoring Stations (AQMS), a detailed report on the outcome of the sampling will be provided aside from the monthly reports from the AQMS submitted to council, she said.

“In summary, it’s expected that emissions from the landfill file would have been in excess of the national air quality standards, both for persons working on the site and the receiving community.

“The municipality will be able to report imminently on grab samples taken during the fire to quantify the impact,” she said.

Mafumbatha added that the city had already started the process to identify a new site for the dump.

She said the current site had not reached its lifespan and they were “compacting and covering” as a mitigation to avoid fires. “We also encourage residents to sort out waste and put recyclables aside,” she said.

Order of magnitude is usually written as 10 to the nth power. The * represents the order of magnitude. If you raise a number by one order of magnitude, you are multiplying that number by 10. If you decrease a number by one order of magnitude, you are multiplying that number by 0.1.

The Mercury
https://www.iol.co.za/mercury/news/report-cancer-causing-chemicals-lingered-in-the-air-days-after-msunduzi-landfill-fire-24bf974c-232a-4a41-ac86-b88affae3fb8