Linnaeus ECO-TECH 2022
Kalmar, Sweden, November 21-23, 2022

HEAVY METALS AIR POLLUTION IN JELGAVA CITY LATVIA

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Abstract

Air pollution is a problem today, and it is essential to know how high it is. By increasing people's standard of living, increasing the number of factories, cars and citizens, it is helpful to know how much pollution is distributed and whether it does not exceed the standards allowed for pollution. It is necessary to investigate air pollution with heavy metals in Jelgava by identifying data from areas. In preparing the analysis, it is possible to assess whether air quality is adequate and does not exceed pollution standards. So far, Jelgava has not collected data and air quality problems, so it cannot be concluded whether air quality complies with norms. The aim of the work is to prepare an analysis of the pollution and distribution of heavy metals in the Jelgava urban environment, using the results of the study of the 2019 snow samples. Snow samples were harvested on 31 January 2019. On the day of sampling, the snow had sustained more than seven days after the first snowfall. Sampling sites were roughly distributed across all areas of the city. Three samples of snow, which are control samples, were harvested in the rural area. Samples were analyzed with induction-coupled plasma spectroscopy (ICP-OES). An analysis of pollution data shows that air pollution with heavy metals is higher in densely populated areas but less in open spaces. Air quality is significantly affected by the use of unsuitable or low-quality fuels in residential heating buildings. The highest zinc, copper, and calcium concentrations are observed in a snow sample taken in the residential area.

Keywords: urban air pollution, ICP-OES, trace elements

ISBN: 978-91-89460-85-0