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## CHLORIDE CONTENT OF STREET CLEANING WASTE AND ITS POTENTIAL ENVIRONMENTAL IMPACT

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### Abstract

According to the data of the Central Statistical Office for 2017, the average amount of municipal waste generated per capita is 486 kg. Poland ranks last but one in terms of the amount of municipal waste generated. About 56% of municipal waste is processed, but still about 40% is landfilled. They may contain chlorides, especially those from the winter period, resulting from the use of deicing agents. Chlorides cause salinity of surface and ground waters and soil salinity, which in turn leads to deterioration of water purity and a decrease in biodiversity of aquatic organisms, changes in the microbiological structure and increased toxicity of metals. Chlorides also damage road surfaces and bridges, corrosion of plumbing pipes. Once the chlorine-containing sweepers are deposited in a landfill, this waste may contribute to an increase in chemical aggressiveness, which is important in the design of anti-filtration barriers, and in the rehabilitation of contaminated land and soil. The level of water and soil salinity has a significant impact on the critical infrastructure, especially in terms of water supply – the risk of corrosion of pipes and their decline in species biodiversity. An important role in the critical infrastructure is played by the storage of dustmuds – the risk of failure of security measures in storage yards. Therefore, it is very important to determine the salinity level in this stored waste. The salinity level of street sweeping waste from different street locations is not commonly studied. Therefore, such a study was conducted for a mid-sized city. The study shows that the highest chloride concentrations in street and sidewalk sweeping waste are found around manholes and the lowest concentrations are found on sidewalks.

The aim of the research is to determine the amount of chlorides in sweepings in the annual cycle to determine the potential risk associated with their impact on selected aspects of the environment.

**Keywords:** Chlorides in sweepings; Environmental pollution; Disruption of ecosystems; Waste treatment.