

## CADMIUM (Cd) DISTRIBUTION IN TUZLA TOPSOIL

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*The paper presents the results of geoecological-pedological researches of cadmium (Cd) concentrations in the topsoil of Tuzla. The main goal of the research was to determine the extent to which the area of the city of Tuzla is contaminated with cadmium and to determine the origin of pollutants. The terrain investigations were based on collecting 264 soil samples, covering an area of 303 km<sup>2</sup>. The cadmium concentrations in soil samples was determined by mass spectrometry (ICP-MS) with a detection range of 0.02 – 4,000ppm. Exceedance of the maximum permitted concentrations of cadmium, defined by the Ordinance of the determination of permitted amounts of harmful and dangerous substances in soil and methods of their testing, was recorded in soil samples number: 66, 87, 106, 109, 115, 116, 120, 121, 179, 220 and 252a .*

*The range of exceeded cadmium concentrations is <0.02 - 4.62 ppm, and the average value is 0.515ppm. The highest concentration of cadmium was recorded in sample 116 (4.62 ppm), which was collected in the immediate vicinity of the city landfill. Higher concentrations of cadmium were recorded near the slag and municipal waste landfill, main roads, open mine pit "Dubrave" and on certain areas used for agricultural purposes, which shows that the sources of contamination with these element are a result of human activity in the researched area.*

**Key words:** *cadmium (Cd), pollution, soil, Tuzla.*