# Abstract

The stated aim of this thesis was the quantitative and qualitative analysis of relevant organic pollutants and micropollutants in Czech and Danish landfill leachate. Point sampling of liquid and solid samples (sediments) were taken from the landfill water sumps or from their vicinity. Sediments were collected only at Czech landfills. The Danish and Czech landfill leachate samples were compared with each other due to their different histories. Czech landfill leachate were found to contain higher concentrations of detected organic pollutants than in Denmark. The detected concentrations for the sum of 21 PFASs in the landfill leachate ranged from 956.5–11 011.3 ng/l for the Czech landfill leachate samples. The measured concentrations of sum 14 PFAS ranged from 414.5 to 2 589.3 ng/l for the Danish landfill leachate samples. Concentrations in Czech landfill leachate for the sum of 24 PPCPs ranged from 131.3 to 27 471.4 ng/l. For the Danish samples, concentrations ranging from 122.6 to 12 351.5 ng/l (for the sum of 11 PPCPs) were measured. PCBs were analysed in both liquid and solid samples. In all liquid samples they were below the limit of quantification, therefore they were analysed in sediment from Czech landfills, where values from LOQ–20.9 mg/kg (sum of PCBs) were determined. This work represents the first study to date that has pursue with these organic pollutants simultaneously and furthermore is the first work studying the presence of PCBs in landfill leachate sediment.



Keywords: targeted and untargeted analysis, organic pollutants, micropollutants, landfill leachates