

**Publication****Organometals of tin, lead and mercury compounds in landfill gases and leachates from Bavaria, Germany****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 1877795**Author(s)** Ilgen, Gunter; Glindemann, D.; Herrmann, R.; Hertel, F.; Huang, Jen-How**Author(s) at UniBasel** [Huang, Jen-How](#) ;**Year** 2008**Title** Organometals of tin, lead and mercury compounds in landfill gases and leachates from Bavaria, Germany**Journal** Waste Management**Volume** 28**Number** 9**Pages / Article-Number** 1518-27

Organo-Sn, -Pb and -Hg compounds were monitored in gases and leachates of 11 municipal waste landfills and one hazardous waste landfill from Bavaria, Germany, with the objectives to estimate the methylation of Sn, Pb and Hg and to assess the risk of their release into the adjacent environment. In the gases, tetramethyl Sn predominated (>80% of total gaseous Sn) with concentrations up to 160  $\mu\text{g Sn m}^{-3}$ . Dimethyl-Hg and tetramethyl-Pb were only occasionally detected with concentrations up to 2.9 and 2.1  $\mu\text{g m}^{-3}$  as Hg or Pb, respectively. In all leachates, trimethyl-Sn dominated with a maximum concentration of 2100 ng Sn L<sup>-1</sup>. No organo-Pb compounds were found, and monomethyl-Hg was detected in only one leachate. The concentrations of trimethyl-Sn were up to 100-fold higher in the condensate water than in leachates, and the concentrations of organo-Sn compounds were lower in the adjacent groundwater than in the corresponding leachates. The high abundance of methylated Sn species in the gases and leachates indicates Sn methylation, suggesting the landfill as a source for organo-Sn compounds. In comparison, methylation of Hg and Pb was of little importance, probably due to low Hg concentrations and low rates of Pb methylation in the landfill. The risks of organo-Sn compounds release to the adjacent air is low due to flaring of landfill gases. However, there is probable release of organo-Sn compounds, especially trimethyl-Sn, to the adjacent groundwater.

**Publisher** Elsevier**ISSN/ISBN** 0956-053X ; 1879-2456**edoc-URL** <http://edoc.unibas.ch/49068/>**Full Text on edoc** No;**Digital Object Identifier DOI** 10.1016/j.wasman.2007.06.020**PubMed ID** <http://www.ncbi.nlm.nih.gov/pubmed/17851061>**ISI-Number** 000258432000004**Document type (ISI)** Journal Article