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LEACHABILITY TESTS OF FRAGMENTED METALLIC WASTE

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ABSTRACT

Introduction

It has becoming more and more important to have knowledge about the material deposited in landfills. During a lifetime of a landfill a lot of pollutants, e.g. heavy metals, nutrients and organic compounds, are leached out. The EG-directive of landfilling from 1999 suggests limit values for pollutions from landfills. The limit values will be defined from what is leached out and it is important to characterise the waste for future landfilling. Work is going on for developing guidelines on how to assess waste material, e.g. column test, batch test, diffusion test and pH-static test. In many of the tests the relationship between the leaching liquid and the solid material, i.e. the L/S-ratio, are used to relate to. These tests are exclusively directed towards the leaching of inorganic compounds. Hence, there is a lack of knowledge about the leaching of organic substances like PCB, phenols, PBDE and phthalates. The aims of this study was to study the leaching out of pollutants from shredded metallic waste with focus on the organic substances and made a characterisation of the waste in order to classify it into a deposit class.

Experimental

Two different leachability tests, a stage batch test (EN 12457-3) and an up-flow percolation test (prEN 14405) have been used. Analyses of different parameters were performed according to suggests limit values for pollutions from landfills and to the LAQUA-protocol including sum parameters, heavy metals, organic substances such as phenols and PCB and an acute toxicity test.