

能源和环境工程

桨叶式干燥机热干燥处理制革污泥的排放特性

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摘要

进行了使用桨叶式干燥机进行污泥热干燥处理的实验研究, 分析在不同的温度下污泥的干燥效果、气体排放和冷凝水产生情况。实验结果表明, 污泥在干燥过程中会释放出氨气、挥发性有机酸(甲酸、丙酸)和烷烃(庚烷)等挥发性有机污染物, 且升高温度能够降低干燥机出料含水率, 并能够通过影响水解及脱羧反应从而增加干燥过程排放的气体量及冷凝水的COD值。通过对比冷凝前后的气体排放量, 表明冷凝操作有利于降低二次污染。

关键词

[桨叶式干燥机](#) [污泥干燥](#) [有机污染物](#) [冷凝水](#)

分类号

Emission characteristics of thermal processing of tannery sludge in paddle dryer

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Abstract

Thermal drying experiments of tannery sludge were conducted in a sludge paddle dryer. The drying characteristics of sludge, emission characteristics of flue gases and condensed water quality were analyzed. The result indicated that three kinds of volatile compounds, *i.e.*, ammonia, volatile fatty acid (CHCOOH , $\text{CH}_3\text{CH}_2\text{COOH}$) and alkane (heptane) were found in the thermal drying process. The water content of sludge decreased by increasing the temperature of heat-transfer oil. The concentration of volatile compounds and the COD value of condensed water were also influenced by the hydrolysis and decarboxylation in this process. The concentration of volatile compounds was measured before and after condensation. It was found that condensation could markedly reduce the emission of gaseous pollutants.

Key words

[paddle dryer](#) [sludge drying](#) [volatile compounds](#) [condensed water](#)

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