环境科学学报
ACTA SCIENTIAE CIRCUMSTANTIAE

研究报告

汪向阳,陈金思,胡献国,徐玉福.流化床焚烧含盐苯胺废液的NO_x排放特性[J].环境科学学报,2013,33(7):1932-1938

流化床焚烧含盐苯胺废液的NO_x排放特性

NO_x emission from the incineration of salty aniline wastewater in fluidized bed

关键词：含盐苯胺废液 流化床 焚烧 NO_x

基金项目：合肥工业大学科研基金(No.2011QTXM1423)

作 者 单位

汪向阳 合肥工业大学机械与汽车工程学院, 合肥 230009

陈金思 1. 合肥工业大学机械与汽车工程学院, 合肥 230009;

2. 合肥徽锐工程科技有限公司, 合肥 230009

胡献国 合肥工业大学机械与汽车工程学院, 合肥 230009

徐玉福 合肥工业大学机械与汽车工程学院, 合肥 230009

摘要：在流化床焚烧实验装置上进行含盐苯胺($C_6H_5NH_2$)废液的焚烧实验研究,用IMR-IMR2800P 废气分析仪对焚烧尾气成分进行了在线监测,考察了焚烧工艺条件对NO_x排放浓度的影响规律.结果显示:采用分级燃烧工艺和提高焚烧温度,可以降低NO_x浓度;增大进料速率却导致NO_x排放浓度的增加.当过剩空气系数(α) 低于1.0时,NO_x排放浓度随着α的增大急剧上升;大于1.1时,NO_x排放浓度随α增加而减小.苯胺废液高温焚烧时添加氯化钠能降低NO_x排放.

Abstract: The emission of NO_x from the incineration of salty aniline wastewater ($C_6H_5NH_2$) was investigated in a fluidized bed incinerator. The online flue gas was monitored using an IMR-IMR2800P flue gas analyzer. The effects of incineration processing conditions on the emission concentration of NO_x were studied. Results showed that the emission concentration of NO_x decreased by the staged-incineration process with increasing incineration temperature. By contrast, the emission concentration of NO_x increased with increasing feeding rate. When the excess air coefficient (α) was less than 1.0, the emission concentration of NO_x increased rapidly with α. However, the emission concentration of NO_x decreased when α >1.1. The emission concentration of NO_x was reduced in aniline wastewater incineration at high temperature using NaCl as an additive.

Key words: salty aniline wastewater fluidized bed incineration NO_x