

能源和环境工程

## 化工有机废液循环流化床焚烧 $\text{NO}_x$ 排放特性

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**摘要** 在一座热态循环流化床燃烧试验装置上对化工有毒废液红水进行焚烧试验, 对焚烧过程烟气成分进行了在线检测, 重点考察红水焚烧量、二次风率、红水密相区喷入比例、过剩空气系数等因素对 $\text{NO}_x$ 排放浓度的影响。试验结果表明,  $\text{NO}_x$ 排放浓度随着红水焚烧量或过剩空气系数的增加而增大, 随着红水在密相区喷入比例或二次风率的增加而减小。由于循环流化床低温和分级燃烧对 $\text{NO}_x$ 生成的抑制作用, 各试验工况 $\text{NO}_x$ 排放浓度均满足国家排放标准。

**关键词** [循环流化床](#) [红水废液](#) [焚烧](#) [排放](#)

分类号

## Characteristics of $\text{NO}_x$ emission of incineration test of chemical organic waste liquid in CFB

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### Abstract

An incineration test of the toxic chemical organic waste liquid (red waste liquid) was conducted in a circulating fluidized bed (CFB) incinerator. The flue gas was measured online with the advanced SAE-19 flue gas analyzer. The effects of several factors, in terms of the flowrate of red waste liquid, the ratio of red waste liquid injected into the dense bed of the CFB, the excess air coefficient and the secondary air fraction on  $\text{NO}_x$  emission were investigated. The experimental results showed that  $\text{NO}_x$  concentration in flue gas increased with the increase in the flowrate of red waste liquid injected into the bed or the excess air coefficient, and decreased with the increase in the ratio of red waste liquid injected into the dense bed of the CFB or the secondary air fraction. During the test runs,  $\text{NO}_x$  concentration in flue gas meets the national standard for  $\text{NO}_x$  emission due to the suppression effect of low temperature and staged combustion in the CFB on  $\text{NO}_x$  formation.

**Key words** [circulating fluidized bed \(CFB\)](#) [red waste liquid](#) [incineration](#) [emission](#)

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