

选择性非催化脱硝还原中NH3漏失因素的试验研究

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摘要

在选择性非催化还原过程中试验中, 研究不同因素对氨漏失含量的影响。选择性非催化还原过程试验研究是在燃烧试验装置上进行的, 在尾部烟道抽取烟气采用化学滴定法测量烟气中的NH3漏失含量。试验结果表明: 温度越高, 漏失氨含量越低; 随氨氮物质的量比的增加, NH3漏失含量不断增加; 还原剂质量浓度越低, NH3漏失含量越低; NO初始浓度和停留时间对漏失氨浓度也有影响, NO初始浓度越高NH3漏失浓度越高, 停留时间越长漏失氨浓度越低; 不同还原剂NH3漏失浓度不同, 尿素、碳酸氨、氨水3种还原剂中, 尿素的NH3漏失浓度最高, 氨水的NH3漏失浓度最低。

关键词 [选择性非催化还原](#) [氨漏失](#) [化学滴定法](#) [还原剂](#)

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Experimental Study on Effect Factors of NH3 Slip in SNCR Process

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Abstract

Influences caused by different factors on NH3 slip was analysed in a pilot-plant of selective non-catalytic reduction experiments. The experiments were carried out on a combustion research facility (CRF) and chemical titration was used to measure the NH3 slip of extracted gas that goes out from the rear flue. The results confirm that NH3 slip increases with both higher ratio of NH3 to NO ($n(\text{NH}_3)/n(\text{NO})$) and higher concentration of a reducing reagent, while it decreases with the increase of temperature. Initial NO concentration and its residence time can also affect the NH3 slip. A higher initial NO concentration lead to higher NH3 slip, but added residence time has the opposite effect. Among urea, ammonium carbonate and ammonia liquor, the NH3 slip of urea is the highest and that of ammonia liquor is the lowest.

Key words [selective non-catalytic reduction](#) [NH3 slip](#) [chemical titration](#) [reducing reagent](#)

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