

Effect of feed gas on NH_3 formation during N_2O gas removal at room temperature
electroscrubber

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No report found room temperature removal of N_2O gas. Moreover, value added product during N_2O removal is highly desired. Here in, we report first time an ambient temperature removal of N_2O to NH_3 formation and effect of fee gas on NH_3 formation. First, $[\text{N}(\text{I})(\text{CN})_4]^{3-}$ was generated by electrochemical way using paired electrolysis at cathodic half-cell in 10 M KOH solution. The concentration of electrogenerated $\text{N}(\text{I})$ was derived from potentiometric titration. The electrogenerated $\text{N}(\text{I})$ pumped on the scrubber column to remove the N_2O . The N_2O removal and product formation were monitored by online FTIR gas analyzer which was attached to the column exit. Different carrier gases were tested to define and confirm the effective formation NH_3 . On line GC results compared for the formation of NH_3 during removal of N_2O .

Key words: MER, N_2O removal, electro-scrubbing, Greenhouse gas removal