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**Simultaneous removal of thiocyanate and nitrogen from wastewater by
autotrophic denitrification process**

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Abstract:

Pollutants containing sulfur as electron donors will play an important role in the energy-saving denitrification process when organic carbon source was insufficient in wastewater. However, thiocyanate (SCN^-), a hazardous pollutant, has not been characterized in denitrification. In this study, the effects of key environmental factors on removal of thiocyanate and nitrogen were investigated in denitrification. The results showed that the maximum removal efficiency of nitrogen was observed in complete removal of thiocyanate and nitrite. The elemental sulfur was observed prior to complete depletion of thiocyanate. The efficiency of denitrification was promoted by NaHCO_3 and weakly-alkaline environment. In the sludge containing dominant

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