

Electronic Supplementary Information

Tin-palladium supported on alumina as a highly active and selective catalyst for hydrogenation of nitrate in actual groundwater polluted with nitrate

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Table S1 Catalytic performance of Sn_{0.5}Pd/Al₂O₃ with different metal loadings for the hydrogenation of NO₃⁻.

| Loading amount of Sn _{0.5} Pd /wt% | NO ₃ ⁻ -decomposition rate/ mmol h ⁻¹ g ⁻¹ | Selectivity ^a /% | |
|--|---|------------------------------|-----|
| | | NH ₄ ⁺ | Gas |
| 6.5 | 8.0 | 1 | 99 |
| 1.0 | 1.4 | 1 | 99 |

Reaction conditions: catalyst weight, 10 mg; reactant NO₃⁻ (from KNO₃), 0.8 mmol dm⁻³, volume of reaction solution 250 cm³; gas composition, H₂/CO₂ = 1/1; gas flow rate, 30 cm³ min⁻¹; and reaction temperature, 298 K.

^a Selectivity at around 30% conversion.