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Title: Revisiting the electrochemical oxidation of ammonia on carbon-supported metal nanoparticle catalysts

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Revisiting the Electrochemical Oxidation of Ammonia on Carbon-supported Metal Nanoparticle Catalysts

Zhe-Fei Li, Yuxuan Wang, and Gerardine G. Botte

Highlights

- A procedure to pretreat electrocatalysts to study the ammonia oxidation is provided
- N_{ads} and O/OH_{ads} were identified as the major deactivation species that prevent ammonia oxidation
- The electrocatalytic activity, thermodynamics, and possible deactivation mechanisms for ammonia oxidation were elucidated
- The onset potential for ammonia oxidation is related to the hydrogen binding energy of the catalyst
- Ammonia electro-oxidation involves a complex decoupled electron and proton transfer process

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