

Electrochemical Generation of Ozone: Comparison of IrO₂ series with Pt/SnO₂ anode support in solid membrane cell

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The technology of Proton exchange membrane water electrolysis offers an alternative to the corona discharge technology by preventing nitrogen oxide formation during ozone generation. In this study, various anode supports were installed in the membrane cell and their ozone production performances were assessed. The Pt/IrO₂, Ta/IrO₂ and Ru/IrO₂ were compared with Pt/SnO₂ based used for ozone generation specially in solid membrane cell, to be a anode support. An important component of the membrane cell for ozone generation, the anode support should exhibit corrosion resistance, oxygen evolution activity, good electrical conductivity, electrochemical stability, and low oxygen evolution over potential. The result shows Pt/SnO₂ ozone anode support has better performance than Pt/IrO₂, Ta/IrO₂ and Ru/IrO₂ anode supports,.

Keywords: electrochemical, ozone, electrolysis

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