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A Desulphurization Method Using In Situ Generated Superoxide Ion



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TECHNOLOGY READINESS LEVEL (TRL)

TRL 4

PATENT/ GRANTED NUMBER

MY-177170-A

▶ TECHNOLOGY OVERVIEW

The present invention relates to a method to desulphurize a substrate comprising petroleum or petroleum products, comprising the steps of: mixing an ionic liquid with the substrate to form a reaction mixture; providing the reaction mixture in a cathode chamber of a membrane electrochemical reactor; providing hydroxide solution in an anode chamber of the membrane electrochemical reactor; subjecting the reaction mixture to electrochemical reduction to generate superoxide ions in the ionic liquid, wherein the superoxide ions desulphurize the substrate; and wherein said reaction mixture is sparged with oxygen during the electrochemical reduction.

CONTACT US!

Dr. Lee Ching Shya, RTTP UMCIE Business Officer

Email: leecs@um.edu.my

Phone: +603 - 7967 7352 / 013-2250151