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(54) Title: METHODS AND COMPOSITIONS FOR THE SEQUESTRATION OF CARBON DIOXIDE

(57) Abstract: The present invention relates to methods for capturing carbon dioxide and permanently sequestering carbon dioxide in the form of Group II metal carbonates. The invention involves production of HCl by reacting steam with a material that includes a magnesium chloride hydrate. The HCl that is generated from this process is used to leach Group II mineral salts from a variety of different materials, including minerals and industrial waste materials. The leached Group II mineral salts are used to capture carbon dioxide by forming Group II mineral salt carbonates.

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