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(54) Title: METHOD AND APPARATUS FOR REMOVING A TARGET SUBSTANCE FROM A GAS

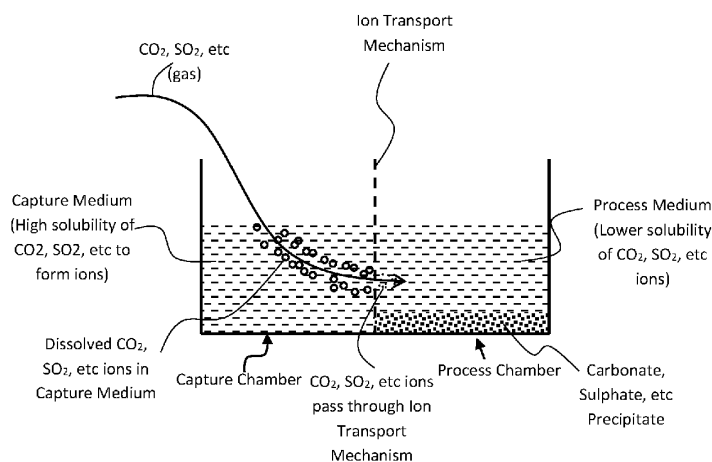


FIG. 1

(57) Abstract: A method for removing a target substance from a gas is provided. The method comprises providing a capture medium comprising an alkaline aqueous solution for dissolving the target substance comprised in the gas to form a target ion in the capture medium, contacting the target substance comprised in the gas with the capture medium to form a target ion in the capture medium, and transporting the target ion comprised in the capture medium to a process medium via an ion transport mechanism, wherein the process medium comprises an aqueous solution comprising an ion having an electric charge opposite to that of the target ion, and which interacts with the target ion to form a compound in the process medium, wherein the ion transport mechanism is adapted to allow a flow of ions between the capture medium and the process medium to maintain charge balance. An apparatus for removing a target substance from a gas, and use of the method and apparatus disclosed herein in treatment of industrial exhaust gas or air are also provided.

[Continued on next page]

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