UNIVERSITY OF WYOMING
Wyoming Technology Transfer and Research Products Center

Catalytic CO_2 Desorption for Ethanolamine Based CO_2 Capture Technologies

UW ID: 14-109

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Patent Status:
Patent Issued

Description of Technology

Greenhouse gases are increasingly being emitted into the atmosphere. One of the major greenhouse gases is carbon dioxide (CO2). The high demand for fossil fuel is largely responsible for the increase in the CO2 concentration levels in the atmosphere. Capturing CO2 emitted from power plant flue gas has been considered a potentially effective approach to the control of atmospheric CO2 levels.

The "chemisorption" method, which uses chemical reactions to adhere chemicals together, has been considered the most practical technology for the capture and reduction of CO2 emissions. However, chemical adsorption requires high energy consumption. To considerably decrease the energy consumption of chemisorption and make the process more economically feasible for CO2 capture, researchers from the University of Wyoming discovered the use of catalyst, TiOx(OH)y. This catalyst is shown to accelerate CO2 desorption and decrease energy consumption even when exposed to various temperatures.

Applications

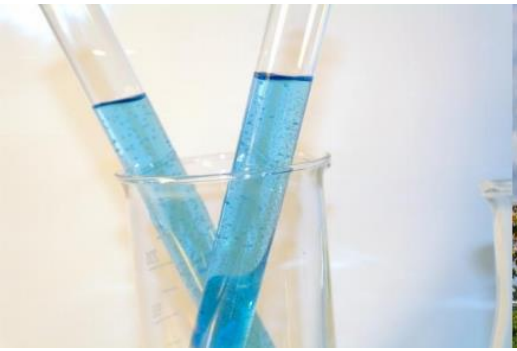
This highly efficient catalyst has promising industrial application for the capture of CO2 from flue gas and other fossil fuel emissions.

Features & Benefits

- Highly efficient
- Potential contributor of CO2 reduction in the atmosphere

Market Opportunity

This catalyst could improve the overall atmospheric quality in the future if used by gas, oil, or other industries for CO2 capture. With the current high demand of fossil fuels and tighter regulations of emissions, this catalyst could be useful to the thousands of power plants and many other applications across the globe.



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