A Sustainable and Efficient Hybrid Carbon Capture Gel Made From Monoethanolamine, Bovine Gelatin and Carboxymethyl Chitosan: Taking Care of Industrial Emissions and Purification of Air

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In 2022, global carbon dioxide emissions reached an estimated 36.8 billion metric tons, which has had a profound impact on climate change and environmental deterioration. The overall CO2 contribution from the industrial sector is 40% of the total CO2 emission which is 14.72 billion metric tons. With the ongoing increase in atmospheric CO2 concentrations, there is an imperative demand for effective carbon capture technologies. (IEA (2023) This research investigates the creation of an innovative carbon capture gel formulated from monoethanolamine (MEA), Bovine gelatin and Carboxymethyl chitosan. MEA and Carboxymethyl chitosan are recognized for their CO2 absorption properties, and their combination is facilitated by bovine gelatin, which serves as a structural binder, thereby enhancing the gel's stability and performance.

Awards Won: