

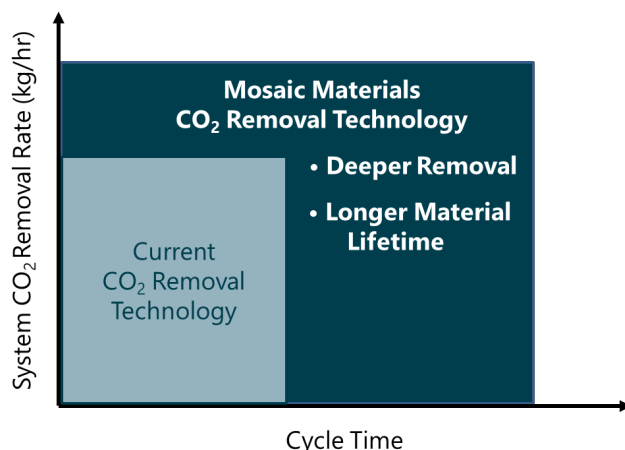
Advanced Materials for Next Generation Life Support Systems

Who We Are

Mosaic Materials, based in Alameda, CA, has developed a next generation material for improved carbon dioxide removal in life support systems. Mosaic’s solid sorbent material has demonstrated a 33% higher removal rate with a cycle time up to three times longer than existing technologies, leading to a more effective, lower cost life support system.

Unique Sorbent Performance

Our core technology, developed at the University of California, Berkeley, is based on a specific class of amine-functionalized solid adsorbents which combine the high performance of the traditional CO₂ separation technology with the lower energy requirements of solid sorbents. These sorbents exhibit step-shaped adsorption behavior, so the sorbents go from low loading to saturation almost instantaneously. This unique behavior leads to much lower energy requirements for regeneration in preparation for the next adsorption cycle. In addition, Mosaic’s sorbent materials demonstrate ultra-high capacity under dilute (<1%) CO₂ concentrations – up to three times the CO₂ capacity of existing materials. The combination of ultra-high capacity and rapid adsorption means a reduction in both capital and operating expenses for life support and other dilute CO₂ removal systems.



Applications

Mosaic Materials is working with industry and government partners on a range of carbon dioxide removal applications, ranging from life support for underwater and space applications to carbon capture technologies aimed at removing CO₂ from the atmosphere. Our unique manufacturing and material platform allows our material to be tuned to deliver performance in a wide range of process conditions for a variety of applications. We look forward to working with you to explore how our materials can help deliver your needs.

