

Synthesis of Ordered Mesoporous Carbon for Advanced Adsorbent by developing micropores

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Adsorption is being used as one of the most useful methods as it shows high efficiency at low cost. As the advancement of technology, factories are becoming more integrated and advanced, the need for air control technology with ultra-low concentrations is required.

Ordered mesoporous carbon(OMC) has a large surface area, a stable framework, and has ordered mesoporous channel, which makes it suitable for the development of advanced adsorbents. Also, it can be used as a model material that finds out which factors play an important role in the target gas by controlling the pore size and surface area.

Through comparison of adsorption of OMC made with different carbon precursors, We expect to find the most suitable carbon precursor source for our target gas. Also we developed more micropores in OMC by using phosphoric acid. Since micropores are one of the important factors in adsorption efficiency, we expect to increase adsorption efficiency by developing appropriate levels of micropores.

The materials were characterized by XRD, N₂-adsorption, SEM, Raman, TPD and FT-IR.