

Development of Absorbent for Recycling "Tatami"

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Recently, Japanese "tatami" mats are dumped about 1 million per year. Most have not been reused, they are incinerated. Therefore, effective using of dumped "tatami" mat which replaced of incineration disposal is needed. In this research, the adsorption properties for air pollutants and waste water contaminants of carbonized "tatami" were evaluated. Carbonized "tatami" is prepared by carbonizing the "tatami" waste in a nitrogen gas atmosphere for 12 h at 800°C. Rush grass which forms the "tatami" mat has a natural porous structure and it holds its structure after carbonizing. Water purification experiments of the adsorption properties of the carbonized "tatami", adsorption of 2,4-DCP was superior compared to the adsorption properties of activated carbon made from coconut shell residual chlorine. On the other hand, the carbonized "tatami" shows good adsorption properties for formaldehyde in the gas phase adsorption experiments, and the same results as activated carbon made from coconut shell were obtained. Therefore, the adsorbent which made from carbonized "tatami" can be available for the gas phase adsorption than the liquid phase adsorption.

Key Words : Tatami, Adsorbent, Carbonizing, Renewable Resource, Fertilizer