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Phosphorus, Sulfur, and Silicon and the Related Elements

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713618290>

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Online publication date: 27 October 2010

To cite this Article Aoki, Shinsuke , Yamaguchi, Shunro , Nakahira, Atsushi , Nakayama, Hirokazu and Suganuma, Katsuaki(2002) 'Aldehyde Absorption with Asp-OCP Inclusion Compound', *Phosphorus, Sulfur, and Silicon and the Related Elements*, 177: 8, 2259

To link to this Article: DOI: 10.1080/10426500213345

URL: <http://dx.doi.org/10.1080/10426500213345>

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ALDEHYDE ABSORPTION WITH ASP-OCP INCLUSION COMPOUND

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(Received July 29, 2001; accepted December 25, 2001)

Asp-OCP with a layered structure ($\text{Ca}_8(\text{HPO}_4)_{1.28}(\text{C}_4\text{H}_5\text{NO}_4)_{0.72}(\text{PO}_4)_4 \cdot 6.3\text{H}_2\text{O}$) was synthesized by the hydrolysis of alpha-tricalcium phosphate in acetic acid/sodium acetate buffer solution containing sodium L-aspartate monohydrate. Two aldehyde gases (formaldehyde and acetaldehyde) were absorbed onto Asp-OCP powder in gas phase. As comparison samples, OCP and activated charcoal were used. The BET specific surface area value of Asp-OCP, OCP and activated charcoal were $43.1 \text{ m}^2/\text{g}$, $11.9 \text{ m}^2/\text{g}$, and $1225.2 \text{ m}^2/\text{g}$, respectively.

In the formaldehyde absorption experiment, Asp-OCP showed the best absorption ability as shown in Figure 1.

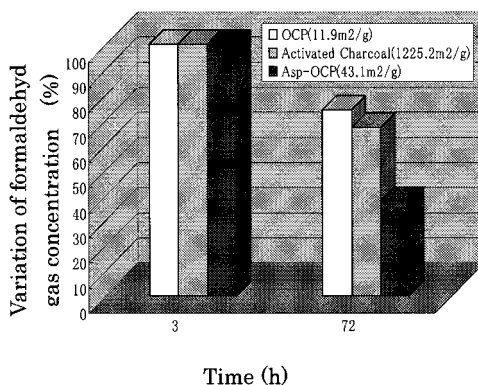


FIGURE 1 Variation of formaldehyde gas concentration between 3 h to 72 h. (The concentration of formaldehyde at 3 h was defined 100%.)

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