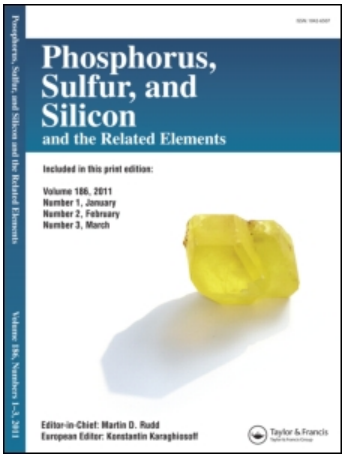

Phosphorus, Sulfur, and Silicon and the Related Elements

Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

Aldehyde Absorption with Asp-OCP Inclusion Compound

Shinsuke Aoki[a]; Shunro Yamaguchi[a]; Atsushi Nakahira[b]; Hirokazu Nakayama[c]; Katsuaki Suganuma[a]
[a] Osaka University, Japan [b] Kyoto Institute of Technology, Japan [c] Kobe Phermaceutica University, Japan

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

Phosphorus, Sulfur and Silicon, 2002, Vol. 177:2259

1042-6507/02 $12.00 + .00
DOI: 10.1080/10426500290105979

ALDEHYDE ABSORPTION WITH ASP-OCP INCLUSION COMPOUND

Shinsuke Aoki,[a] *Shunro Yamaguchi,*[a] *Atsushi Nakahira,*[b] *Hirokazu Nakayama,*[c] *and Katsuaki Suganuma*[a]
Osaka University, Japan;[a] *Kyoto Institute of Technology, Japan;*[b] *and Kobe Phermaceutica University, Japan*[c]

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

Asp-OCP with a layered structure ($Ca_8(HPO_4)_{1.28}(C_4H_5NO_4)_{0.72}(PO_4)_4 \cdot 6.3H_2O$) 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 m^2/g, 11.9 m^2/g, and 1225.2 m^2/g, respectively.

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

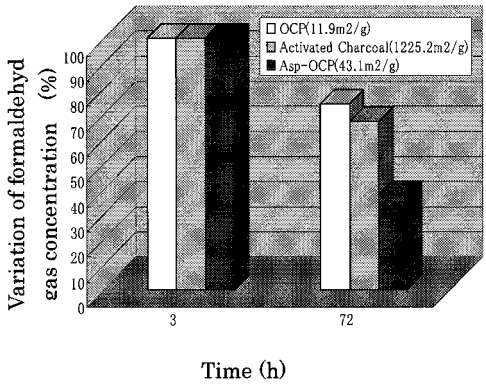

FIGURE 1 Variation of formaldehyde gas concentration between 3 h to 72 h. (The concentration of formaldehyde at 3 h was defined 100%.)

Address correspondence to Shinsuke Aoki, ISIR, Osaka University, Ibaraki, 567-0047, Japan.