

# Fly Ash Zeolitization Products Applied to Waste Water and Flue Gas Decontamination

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## ABSTRACT

The zeolitic material synthesized from fly ash by using two different technologies is tested for potential application as an ion exchanger to decontaminate high ammonium and heavy metal waters. The preliminary results show high cation uptake efficiencies (up to  $4.7 \text{ meq g}^{-1}$ ) which allowed to obtain a fast decontamination of different types of industrial waste water effluents.

The  $\text{CO}_2$ ,  $\text{SO}_2$ , and  $\text{NH}_3$  sorption capacity of several zeolitic products was also determined and very promising results were obtained for the A4-X blend. Sorption capacity values of 73, 22, and  $111 \text{ mg g}^{-1}$  for  $\text{CO}_2$ ,  $\text{SO}_2$ , and  $\text{NH}_3$  were, respectively, obtained for the zeolitic material synthesized from silica extracts from fly ash and a high aluminate waste water.

Current research will supply additional data on gas sorption capacities.

