

# **EXPERIMENTAL RESULTS ON FLUORIDE SORPTION ON ACTIVATED ALUMINA IN PRESENCE OF OTHER IONS**

**Elitsa Evstatieva\* and Wolfgang H. Höll**

*Institute for Technical Chemistry, Division of Water- and Geotechnology,*

*Karlsruhe Research Centre,*

*P.O. Box 3640; D-76021 Karlsruhe*

## **ABSTRACT**

The adsorption of fluoride in aqueous solutions onto the commercial activated alumina product Compalox was studied in this research. The experimental results indicated that the removal efficiency was influenced significantly by the solution pH and the optimum operating pH was found to be in the range of 5 to 7. The presence of sulfate and phosphate ions interferes with the adsorption capacity of fluoride by alumina. For neutral and acidic solutions the effect of sulfate ions was greater than in alkaline media. Phosphates decreased substantially the fluoride removal.