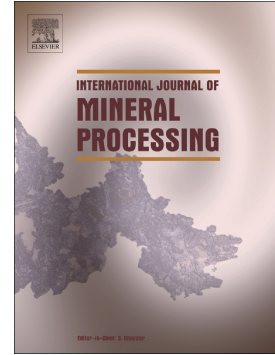


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The elution of platinum and palladium cyanide from strong base anion exchange resins

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**The elution of platinum and palladium cyanide from strong base anion exchange resins**E. Schoeman<sup>1</sup>, S.M. Bradshaw<sup>1\*</sup>, G. Akdogan<sup>1</sup>, N. Snyders<sup>1</sup>, J.J. Eksteen<sup>2</sup><sup>1</sup>Department of Process Engineering, University of Stellenbosch, Private Bag X1, Matieland, 7602, South Africa<sup>2</sup>Department of Metallurgical Engineering, Western Australian School of Mines, Curtin University, GPO Box U1987, Perth, 6845, Western Australia

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**Abstract**

*The paper discusses the elution of platinum cyanide and palladium cyanide from strong base anion exchange resins, namely Amberlite PWA5 and Minix, with the use of acidic thiourea, potassium thiocyanate and zinc cyanide. It is shown that thiocyanate ions and zinc cyanide were effective eluants for strong base resins. Acidic thiourea, however, was found to be ineffective in eluting platinum cyanide from strong base resins, but eluted palladium cyanide. The concentration of the eluting agents was found to affect the elution to a noticeable degree, with no significant effect imparted by the elution temperature and flow rate. Overall, it can be concluded that platinum cyanide and palladium cyanide can be effectively eluted from strong base anion exchange resins, with the use of potassium thiocyanate and zinc cyanide. However, split elution alternatives, such as acid washing, should be investigated to separate platinum cyanide and palladium cyanide from the base metal cyanides loaded on the resins.*

**Keywords:** platinum, palladium, cyanide, elution, resin

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