



Contribution ID: 448

Type: Oral Presentation

Physical stability of ionic liquid polymers for the recovery of Se and Te from metallurgical aqueous solutions

Friday, 8 July 2016 15:00 (20 minutes)

Abstract content (Max 300 words) http://events.saip.org.za/getFile.py/?target=_blank **Formatting & Special chars**

The use of ionic liquid (IL) has currently gained interest in many sectors (food industry, mining and process industry, etc.). The development of an appropriate IL for a specific application requires the knowledge of the physical system involved and of that of the IL's physical properties. Considering that ILs can be subjected to high temperatures and long-time exposures, ILs physical stability is essential when selecting the suitable IL constituting components for the application. Thermal stability of ILS is affected by parameters as length and type of the polymer, cation and anion type, structural modification of the cation for e.g. alkyl length, different functionalities in the alkyl chain and impurities as water or chlorides. Temperature has influence on the liquid state and emission of toxic vapours of ILs, the significant thermal analysis are melting point, the glass transition temperature, the crystallisation temperature and decomposition temperature. This paper discusses the physical stability, using Thermal Gravimetric Analysis, of the trihexyl (tetra) decyl phosphonium chloride based IL as used in the recovery of Se and Te from the base refinery aqueous solutions.

Apply to be considered for a student award (Yes / No)?

No

Level for award (Hons, MSc, PhD, N/A)?

MSc

Main supervisor (name and email) and his / her institution

Prof. Antoine F. Mulaba-Bafubiandi

Would you like to submit a short paper for the Conference Proceedings (Yes / No)?

Yes

Please indicate whether this abstract may be published online (Yes / No)

Yes

Primary author: Prof. ANTOINE F., Mulaba-Bafubiandi (Univesity of Johannesburg)

Co-author: Ms MOGOMETSI, Mpho (University of Johannesburg)

Presenter: Ms MOGOMETSI, Mpho (University of Johannesburg)

Session Classification: Applied Physics (1)

Track Classification: Track F - Applied Physics