



Contribution ID: 253

Type: **Verbal**

## New Fluorinated Diluents for Tributylphosphate

*Thursday, 15 May 2014 14:00 (15 minutes)*

The extraction ability of ligands strongly depends on the type of the diluent. The fluorinated compounds provide an opportunity for variation of diluents structure and polarity. Different types of fluorinated compounds (alcohols, ethers and other fluorinated aromatic compounds) were tested as diluents for bidentate organophosphorus compounds, chlorinated cobalt dicarbollide and crown ethers. It was shown that in some cases using of polar diluents allowed to increase extraction ability of studied ligands.

The main goal of the present work was to study the influence of new fluorinated diluents (fluorinated ethers and formals of fluorinated alcohols) on extraction ability of tributylphosphate (TBP) toward nitric acid and metals. It was found that fluorinated ethers and formals of fluorinated alcohols which contained in their structure  $-\text{CF}_2\text{H}$  groups decrease the extraction ability of TBP like in the case of chloroform. Both classes of studied compounds are highly resistant to gamma-radiolysis in the presence of nitric acid.

From the technological point of view fluorinated diluents are very promising as they allow receiving of concentrated uranium solutions.

**Primary authors:** Mr KONNIKOV, Andrey (PA "Mayak"); Dr BABAIN, Vasiliy (Khlopin Radium Institute)

**Co-author:** Dr ALYAPYSHEV, Mikhail (Khlopin Radium Institute)

**Presenter:** Dr BABAIN, Vasiliy (Khlopin Radium Institute)

**Session Classification:** Chemistry of Nuclear Fuel Cycle 4

**Track Classification:** Chemistry of Nuclear Fuel Cycle / 1st ASGARD International Workshop