Plenary and Session Lectures

E1

Actinide-specific Complexing Agents: their Structural and Solution Chemistry

KENNETH N. RAYMOND*, MARY J. KAPPEL and GWEN E. FREEMAN

University of California, Chemistry Dept., Berkeley Calif., U.S.A.

E2

Plutonium and Americium Processing Chemistry and Technology

JAMES D. NAVRATIL

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(To be published later as a full paper).

E3

Environmental Actinide Chemistry

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E4

New Industrial Applications of the Lanthanides

BARRY T. KILBOURN

Molycorp, Inc., 709 Westchester Avenue, White Plains, N.Y. 10604, U.S.A.

The only deposit in the world mined solely for its lanthanide content is that of Molycorp at Mountain Pass, California, U.S.A. The current processes for producing commercial quantities from this ore will be illustrated and described. The present industrial applications in the areas of metallurgy, glass, ceramics, catalysts, and phosphors will be briefly summarized.

New uses for lanthanides, as metals and as compounds, in various technologies are under development by many companies. The principles underlying the following potential uses, and others, will be considered:

in *Glass* – as a melting aid to reduce the temperature required for melt homogeneity;

in *Metals* – as dispersion strengtheners in high performance alloys;

in *Ceramics* – as sintering aids in the production of new ceramics;

in *Catalysts* – for the control of sulfur dioxide emissions.

E5

Recent Chinese Research on Analytical Chemistry of the Rare Earths

CHENG JAI-KAI

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(To be published later as a full paper)

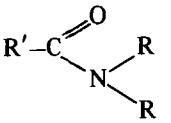
E6

The N,N′ Di-Alkyl-Amides as Alternative Extractants of some Actinides: a Review of Research Work Carried out at E.N.E.A.

M. CASARCI, G. M. GASPARINI* and G. GROSSI

E.N.E.A., C.R.E. Casaccia, Dip. Ciclo del Combustibile, Rome, Italy

NN′-Di-alkyl-substituted alkyl amides:



$R' = C_4–C_8$

$R = C_3–C_4$

are good extractants of some actinides such as U, Pu and Th. Because of some characteristics these compounds present favourable aspects to the TBP. For example: