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Dialkyl(Aryl) [Dialkylcarbamoylmethyl]Phosphine Oxides as Extractants for Concentrating of Transplutonium Elements from Acid Media

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DIALKYL (ARYL) [DIALKYL CARBAMOYLMETHYL] PHOSPHINE OXIDES AS EXTRACTANTS FOR CONCENTRATING OF TRANSPLUTONIUM ELEMENTS FROM ACID MEDIA

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Dialkyl(aryl)carbamoylmethylphosphine oxides (CMPO),
prepared by interaction of tervalent phosphorus acid esters
with chloroacetic amides

$R^1R^2P(O)CH(R^4)C(O)NR_2^3$, R^1, R^2, R^3, R^4 = Alkyl or Aryl,
can be used successfully for concentrating the transpluto-
nium elements.¹

Extraction of Am(III), Pu(IV), U(VI) from acid solu-
tions by CMPO of different structure has been studied.

The nature of substituents at phosphorus and nitrogen
atoms and in methylene bridge affects the extraction capac-
ity, solubility and selectivity of reagents.

The advantages of the reagent with two different radi-
cals, one of which is phenyl at phosphorus atom, has been
demonstrated.

Addition of TBP to the studied reagents allows to in-
crease extraction capacity and loading of reagents, and
improve compatibility with a number of solvents.

1. B.F. Myasoedov, M.K. Chmutova et al., Solv. Extr. and Ion
Exch., 4, 61-81, (1986).