

## USE OF A COCONUT OIL BASED LIGAND FOR THE EXTRACTIVE SEPARATION OF TITANIUM

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A hydroxylamine type ligand i. e. N-Laurylphenylhydroxylamine (LPHA) has been prepared using coconut oil as the starting material. Over 50% of titanium (IV) can be selectively extracted from acidic aqueous phase with a petroleum ether (B. P. 100-120°) solution of the ligand. The optimum conditions for the selective extraction of titanium have been established by studying the effect of pH on the metal complexes such as iron (III), iron (II) and aluminium (III) which commonly occur in conjunction with titanium.

In this paper the vector  $x_i$  that maximises both  $Y_1$  and  $Y_2$  subject to constraints  $Y_i \geq 0$ ;  $i = 3, 4, \dots$  and  $x_i$  bounded is sought.

The resulting multicriterion problem is solved on the basis of the Pareto-optimality principle (3), using an algorithm involving the Monte Carlo technique (4). The Computer programme developed could be used to solve similar multicriterion problems.

#### References:

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