

Preparation of lanthanum acetate from a mixed rare earths concentrate

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A simple and economical chemical process to obtaining lanthanum acetate of high purity was studied. The raw material in the form of mixed rare earths carbonate 24% La₂O₃ comes from commercial Brazilian monazite. It is used the technique of strong cationic exchange resin, proper to water treatment to the lanthanum's fractionation and it is achieved a purity of 99.9% La₂O₃ and yield greater than or equal 90%, with the elution of rare earths by EDTA solution at pH 4.0. The complex of EDTA-La is transformed in La₂O₃ , subsequently the lanthanum oxide is dissolved in acetic acid to obtain the cerium acetate. The solid salt then is characterized via chemical analysis, thermal analysis, X ray diffraction, infrared spectroscopy and mass spectrometry to certify the lanthanum acetate purity. The analytical data collected allowed to conclude that the stochiometric formula for the compound is La (CH₃COO)₃ · 1.5 H₂O.

References

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