CHARACTERIZATION OF THE POTASSIUM JAROSITE PARTICLES, SYNTHESIZED BY CHEMICAL PRECIPITATION IMPROVED METHOD

Elias Hernández-Lazcano¹, Ventura Rodríguez-Lugo¹, Ma. Isabel Reyes-Valderrama¹, Eduardo Cerecedo Sáenz¹, Demetrio Mendoza-Anaya² & Eleazar Salinas-Rodríguez¹


Different synthesis of potassium jarosite-type compound were done using the method of chemical precipitation traditional, but with some innovations such as; variation of precursors concentration, time of reaction and temperature. Traditionally this process of precipitation is carried out at 97 °C during 24 hours of reaction and at a molar concentration of 0.3 of Fe₂(SO₄)₃•nH₂O and K₂SO₄. For this case, concentration of both precursors varied from 0.05 to 0.3 M, the time employed was of 4 to 8 hours and the temperature used was of 70 °C. In all experiments was obtained a precipitated that was characterized by X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM) joint with Energy Dispersive Spectrometry (EDS) to determine the mineralogical characteristics of precipitate and confirm preliminary the formation of potassium jarosite. According obtained results, the precipitate obtained consist of spherical particles with sizes ranging between 15 and 20 µm in diameter. Finally by XRD and EDS microanalysis, was confirmed that material is a jarosite of potassium due the presence of Fe, O, S and K determined by EDS and the PDF obtained by XRF, which help to conclude that the precipitation of the jarosite - type compounds could be reached at minor times and temperatures of reaction and at different concentrations of precursors.

Keywords: JAROSITE CHARACTERIZATION, SYNTHESISPROCESS IMPROVED, POTASSIUM JAROSITE

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Presenting author's email: elias.dezlaz@gmail.com