Abstract

Aluminosilicates ($KAlSi_2O_6$ or commonly leucite) have very wide applications due to their porous properties. Among these aluminosilicates the most common are ZSM, zeolite A, and zeolite L. $KAlSi_2O_6$ is one of the common feldspthoids but according to IZA it is included in zeolite category. It is less porous matérials but has short synthesis time period. For the synthesis of $KAlSi_2O_6$ anionic surfactant was used. The characterization of the product was carried out by XRD, TEM and FTIR were used. The particle size obtained was within range of 30-50 nm. Degradation activity as catalyst was investigated against methylene blue under UV-Visible light. The most effective catalyst is the one which was synthesized at CMC value of surfactant (sodium dodecyl sulfate). Leucite is also useful as slow release fertilizer due to its cation exchange capacity. The synthesized material was also used for the occlusion of calcium ammonium nitrate and checked its stability against water. The release of nitrate ions were observed till 16 days so this can be used as slow release fertilizers.