

A new method of PSI coagulant preparation and its characterization towards food waste plant treated water

이보열, 장세형, 김현리, 문일식[†]
순천대학교
(ismoon@sunchon.ac.kr[†])

Waste water treatment by coagulant is a cost less and practical method. Toxicity of some coagulants such as Alum and PAC forced to find new coagulant. In this regards, PSI (poly silicate iron) started use but, not affordable by industries and also not commercially available in domestic market. In the present investigation, a new method of PSI preparation was developed and characterized by zeta potential, particle analyzer, and additional analyses such as viscosity and pH. Further, the prepared PSI was applied to food waste treated water and compared with commercial coagulants. By controlling the sodium silicate with suitable acid ratio and concentration, the pH and viscosity of the PSI coagulant prepared. After the characterization of PSI, the coagulant was applied to waste water obtained from food waste treatment process. The turbidity, pH change, TOC and dosage concentration of PSI were conducted in purification process.

Keywords: Coagulant preparation, Poly-silicate iron, waste water treatment, Coagulation.