

Particle size distribution and purification of red clay for industrial use

Abstract

The objective of this study is to purify red soil from Indah Permai (IP) for industrial applications. Particle size distribution of IP soil was studied and impurities of clay was removed. A series of methods for the extraction of iron oxides from soil and clay was tested with using dithionite ($\text{Na}_2\text{S}_2\text{O}_4$) as reducing agent at varied pH. Theoretically, the oxidation potential of dithionite increases with increase in pH. A buffer was used in method 1 to maintain the pH at the optimum level (alkalinity). NaHCO_3 is served as the buffer. HCl was used in method 2 to provide its acidic environment. However, method 3 reacts in neither acidic nor base environment. Results showed that different methods have different removal efficiency. © 2009 Asian Network for Scientific Information.