

SYNTHESIS OF SILICA GEL FROM GLASS USING SOL-GEL METHODS

by Erfan Priyambodo, Sunarto

ABSTRACT

Waste glass is one of inorganic wastes which are significant in Indonesia and has not been handled properly. The high content of SiO_2 in the glass waste allowed to be processed into silica gel through sol-gel methods. Firstly, waste glass was destructed into micro size particles. After that, it was reacted with a sodium hydroxide solution, thus forming a solution of sodium silicate. Silica gel was obtained by reacting sodium silicate with hydrochloric acid. After a silica gel obtained, silica gel is dried and then characterized using infrared spectrophotometry. The result shows that as many as 27.23% of silica gel obtained from waste glass. Analysis using infrared spectrophotometry showed that the material obtained was silica gel.

Kata Kunci: *silica gel, sol-gel*