SYNTHESIS AND CHARACTERIZATION OF TITANIA SILIKA COMPOSITE BASE ON TITANIUM BUTOXIDE AND RICE HUSK BY SOL-GEL METHOD

By

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Abstract

The research of titania silica composite base on titanium butoxide and rice husk with various silica dopant increased in titania has been done. The preparation sampel are pressing and calsination. Sample characterization include XRD, SEM, phocatalyst test and resistivity. The result of XRD for 1:1 ratio sample showed antase fase and the amorph structure. Result of SEM characterization showed change of microstructure of TiO_2-SiO_2 compatible to comparison of silica in titania and EDS indicated the elements in the TiO_2-SiO_2 composite namely are titannium, oksigen, silicon, and a litle bit carbon. The photocatalyst result showed over all of sample degradation are relative the same used in UV and visible light. The best degradation of photocatalyst test showed in 1:0,05 comparison in the methylene blue and the methylen orange. Sample resistivity decreases with the decreasing ratio of silica composition.

Key Word: photocatalyst, Resistivity, SEM-EDS, SiO_2, TiO_2, XRD