ABSTRACT

SYNTHESIS AND CHARACTERIZATION ZrO_2-CuO AS A FUNCTION OF COMPARISON MOL

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The synthesis of ZrO_2-CuO has been carried out by sol gel method. The starting material used is zirconium chloride and copper nitrate. Preparation begins with the mixing of raw materials under stirring for 10 hours to produce the gel. Powder molded into pellets and then calcined at 700 °C for 10 hours. The samples were characterized by X-Ray Diffraction (XRD) and Scanning Electron Microscopy (SEM) to determine the crystal structure and microstructural. XRD characterization results on samples with composition ZrO_2-CuO 1 : 8 shows that the peak of CuO (tenorite) is higher than the other comparison and addition of CuO as lower dopant ZrO_2 crystal size. In the XRD results of the grain size on the composition of 1: 1 is 313 nm and composition 1 : 8 is 77 nm. SEM microstructural characterization results indicate that the ZrO_2-CuO ratio 1: 8 is smaller and than the ratio of 1: 1.

Keywords: ZrO_2, CuO, sol-gel, calcination.