

KARAKTERISTIK DISPERSI PADAT ALOPURINOL-NIKOTINAMID

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ABSTRACT

Allopurinol is a commonly used drug in the treatment of chronic gout or hyperuricemia. One of the major problems with also is that, it is practically insoluble with water, which results in poor bioavailability after oral administration. In the present study, solid dispersions of allopurinol were prepared by solvent evaporation method in the ratio 1:1. Prepared solid dispersions were characterized in the liquid state by phase solubility studies and in the solid state by infrared spectrophotometry, X-ray diffractometry (XRD), Differential Thermal Analysis (DTA) and Scanning Microscope Electron (SEM). FTIR analysis indicates the absence of any interaction between allopurinol and nicotinamide. Characterization with XRD showed the significant decrease in cristalinity of pure drug present in solid dispersions or physical mixture. DTA studies revealed that there was a decrease of allopurinol melting point. SEM photomicrograf of solid dispersions showed that solvent evaporation method were effective in producing highly homogeneous partially solid dispersions systems.

Keywords: allopurinol, nicotinamide, solid dispersion, infrared spectrophotometry, X-ray diffractometry (XRD), differential thermal analysis (DTA) and scanning microscope electron (SEM).