



## Preparation and Characterization of Spherical Agglomerates of Piroxicam

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**SUMMARY.** The purpose of the present study was to prepare spherical agglomerates (SA) of piroxicam by solvent change method. Crystallization medium used for spherical agglomerates of piroxicam consisted of DMF:water and chloroform. The presence of solvents residual in SA was determined by gas chromatography and were particles were characterized by DSC, FT-IR, XRD and SEM. The respective solubility study and dissolution behavior studies were carried out. The samples were stored in stability chamber to investigate their physical stabilities. Solvents residuals in SA were found to be within the limits and exhibited decreased crystallinity of piroxicam in SA than pure piroxicam. The solubility and dissolution of the spherical agglomerates was improved compared with pure piroxicam and recrystallized sample. In stability test, the release profile of the spherical agglomeration was almost unchanged as compared with the freshly prepared spherical agglomeration stored at 20 °C and 45 % relative humidity for 90 days. Hence this technique can be used to obtain modified drug raw material for formulation of tablets of piroxicam by direct compression with directly compressible tablet excipients.

**KEY WORDS:** Crystallinity, Dissolution, Piroxicam, Spherical agglomerates, Stability study.

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