

### Preparation of Cetirizine dihydrochloride Complex with Various Substances Using Supercritical Antisolvent Process

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Cetirizine dihydrochloride (CTZ), an antihistamine, is a major metabolite of hydroxyzine and a racemic selective H1 receptor antagonist. CTZ has an extremely unpleasant bitter taste, so there are many patients who have difficulty in swallowing.

For optimize patient compliance, bitter taste masking of CTZ is a very important consideration. We prepared solid-state complex powders of CTZ with various substances by a Supercritical Antisolvent (SAS) process. In order to evaluate the degree of complexation, the thermal behavior of the microparticulate complexes was investigated using differential scanning calorimetry (DSC). The physicochemical properties of the different products were characterized by Fourier transform infrared spectroscopy (FT-IR) and powder X-ray diffractometry (PXRD), and field emission scanning electron microscopy (FE-SEM). In this study, we'll discuss the optimum formula for preparing taste-masked CTZ using SAS process.