

(54) Title of the invention : A MICROPARTICLES-BASED INHALABLE PHARMACEUTICAL COMPOSITION COMPRISING 5-[(1S)-1-(2,3-DIMETHYLPHENYL)ETHYL]-1H-IMIDAZOLE

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(57) Abstract :

The present disclosure relates generally to pharmaceutical compositions. More specifically, the disclosure is directed to a microparticles-based inhalable pharmaceutical composition comprising 5-[(1S)-1-(2,3-dimethylphenyl)ethyl]-1H-imidazole (Dexmedetomidine), mannitol, polyvinylpyrrolidone and an emulsifier. The pharmaceutical composition of Dexmedetomidine has microparticles with low particle size and bulk density for efficacious delivery and enhanced systemic absorption to give desired pharmacological action. The composition was seen to provide improved in vitro drug release of upto 2.4 folds that of pure drug. The present disclosure also provides a process of manufacturing the microparticles-based composition.

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