Rashid Mahmood, J Develop Drugs Res 2017, 6:1 (Suppl)
http://dx.doi.org/10.4172/2329-6631-C1-022

Rashid Mahmood

Surge Laboratories Private Limited, Pakistan

Hot melt extrusion: An emerging drug delivery technology

Over the last three decades Hot-Melt Extrusion (HME) has emerged as an influential processing technology in developing molecular dispersions of Active Pharmaceutical Ingredients (APIs) into polymers matrices and has already been demonstrated to provide time controlled, modified, extended and targeted drug delivery resulting in improved bioavailability. HME has now provided opportunity for use of materials in order to mask the bitter taste of active substances. Since industrial application of the extrusion process back in the 1930's HME has received consider able attention from both the pharmaceutical industry and academia in a range of applications for pharmaceutical dosage forms, such as tablets, capsules, films and implants for drug delivery through oral, transdermal and transmucosal routes. This makes HME an excellent alternative to other conventionally available techniques such as roll spinning and spray drying. In addition to being a proven manufacturing process, HME meets the goal of the US Food and Drug Administration's (FDA) Process Analytical Technology (PAT) scheme for designing, analyzing as well as controlling the manufacturing process through quality control measurements during active extrusion process. The use of Hot-Melt Extrusion (HME) within the pharmaceutical industry is steadily increasing, due to its proven ability to efficiently manufacture novel products. HME involves the application of heat, pressure and agitation through an extrusion channel to mix materials together, and subsequently forcing them out through a die. Twin-screw extruders are most popular in solid dosage form development as it imparts both dispersive and distributive mixing. It blends materials while also imparting high shear to break-up particles and disperse them. HME extrusion has been shown to molecularly disperse poorly soluble drugs in a polymer carrier, increasing dissolution rates and bioavailability.

Biography

Rashid Mahmood has Master Degree in Analytical Chemistry and MS in Total Quality Management. He has 13 years of experience of Pharmaceutical Quality Operations and has attended many international conferences as a keynote speaker. He has presented various talks in USA & China on Cleaning Validation, cGMP Guidelines and Quality Risk Management. Currently he is working as a Senior Executive Manager Quality Operations for Surge Lab.(Manufacturer of Microencapsulated APIs, Liquid & Dry Powder Parentrals) which is the best export oriented company in Pakistan.

rashid.mahmood@surgelaboratories.com