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Overcoming Solubility Challenges: A Review of Enhancement Techniques for Poorly Soluble Drugs

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ABSTRACT:

Solubility enhancement techniques play a pivotal role in overcoming challenges associated with poorly soluble drugs, thus improving their bioavailability and therapeutic efficacy. This abstract provides a concise overview of various strategies employed in pharmaceutical formulations to enhance drug solubility. Techniques such as Micronization, solid dispersion, super critical fluid technique, cryogenic technique, kneading, solvent evaporation, co-precipitation method, precipitation, high pressure homogenization, SEDDS, liquid solid technique, Sonocrystallization, nanotechnology, prodrug approach are discussed. Understanding the principles and applications of these techniques is essential for formulators to develop effective drug delivery systems. By employing these strategies individually or in combination, researchers aim to address solubility issues and advance drug development in the pharmaceutical industry.

Keywords: Solubility enhancement techniques**,** poorly soluble drugs**,** conventional techniques, novel techniques, drug delivery systems.

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