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Green Sustainable Process for Chemical and Environmental Engineering and Science

Solvents for the Pharmaceutical Industry

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Chapter 9 - Ethyl lactate as a green solvent in the pharmaceutical industry

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Abstract

Ethyl lactate (EL) has an important role as a green solvent, not only to put into practice the 12 principles of green chemistry, but also to achieve a long-term Sustainable Development Goal for a more economical and environmentally benign solvent for use in different industries and in food preparations. EL is produced from the esterification reaction of lactic acid and ethanol, especially from the fermentation of agro-based materials. In this chapter, an overview of EL properties, production, and the pharmaceutical applications is highlighted. The other areas discussed are the advantages and disadvantages as a solvent for dissolving/dispersing bioactive compounds, isolation of phytochemical constituents from natural sources, and practical applications in topical therapy for dry skin disorders and cosmetics, chiral synthesis, and controlled drug delivery.



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