

Title: **Natural Deep Eutectic Solvents: Properties and Applications**

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Deep eutectic solvents (DESs) and Natural deep eutectic solvents (NADESs) are defined as mixtures between two or more compounds that have a lower melting point than the individual components, and it is lower than room temperature, so they are liquids in these conditions. They have particular properties which concern to them special attention in several chemistry applications and potential to become the solvents of the future. They are nontoxic, sustainable, safe, biodegradable, cheap and they do not need purification. For this reason, they are likely to replace the commonly used organic solvents and Ionic Liquids (ILs). Their properties are affected for some factors, such as temperature and water content. They have been used in organic synthesis and catalysis. Especially NADESs have been used in biochemistry, biomedicine, enzymatic reactions and pharmaceutical applications. They also have application in electrochemistry and separation. This work contains an overview of DESs and NADESs and the study of some of their properties and applications in chemistry.

Keywords: Deep eutectic solvents, Natural deep eutectic solvents, Properties, Preparation, Applications, Synthesis, Catalysis.