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**'Novel trends in cyclodextrins encapsulation. Applications in food science'**

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**Abstract**

Cyclodextrins (CDs) are cyclic oligosaccharides composed of linked glucopyranose subunits. The main property of CDs is that their hydrophobic inner cavity forms inclusion complexes with a wide range of guest molecules, while the hydrophilic exterior enhances CD solubility in water. Because of their molecular inclusion capability, the properties of the materials with which they complex can be significantly modified. Particularly, solubility and stability of bioactive compounds to be used as nutraceuticals, could be improved by encapsulation in CDs. The available thermodynamic data are consistent with an exothermic and spontaneous inclusion processes. Phase solubility studies in liquid systems along with studies of physical properties of solids complex, help to elucidate complex stoichiometry and guest-CD interactions.

The use of CD-complexes for improving molecules solubility and stability, for control release and as adjuvant in extraction processes, represents a promising innovative strategy in the food industry for the development of new ingredients and products.

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