

〈原 著〉

2-ヒドロキシプロピル- β -シクロデキストリンによる 香料の複合体化と放出制御

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Complexation and Release Control of Fragrance Materials by 2-Hydroxypropyl- β -Cyclodextrin

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Abstract

We prepared complexes of thirteen typical fragrance materials for cosmetic use using 2-hydroxypropyl- β -cyclodextrin (2HP- β -CD) and elucidated their solubilizing ability by calculating molar ratios and apparent stability constants. The results showed that these values varied with the kind of fragrance materials and that the complex formation was influenced by the hydrophobic ~ hydrophilic degree of the type of fragrance material.

Then we investigated their percutaneous penetration and the strength of perfumery release with the passage of time to determine the release behavior of fragrance materials in 2HP- β -CD complexes. In relation to the concentrations of fragrance materials and 2HP- β -CD, the percutaneous penetration increased with the concentration of fragrance materials and was controlled by the increase in 2HP- β -CD concentration.

We also determined from fragrance release control experiments that the system of perfumery solubilization by 2HP- β -CD was superior to the systems of water ~ perfumery and surfactant ~ perfumery in fragrance release control.

Key words: 2 hydroxypropyl- β -cyclodextrin, cyclodextrin, release control, complexation, fragrance material