

# SYTHEON

...making innovation work

## Synovea® DOI: A Cost-Effective Solution in Improving Skin Hydration, Barrier Homeostasis & Epidermal Architecture

Water and barrier homeostasis of the epidermis is essential for the normal function of skin and for normal stratum corneum (SC) hydration. It is a determinant of skin appearance, mechanical properties, barrier function, and metabolism. In addition, it is indispensable in maintaining proper water balance of the body. Sytheon has designed Synovea® DOI, a patent-pending compound, to address these key issues. In addition, Synovea® DOI has been found to improve dermo-epidermal architecture (flattened DEJ ⇒ Undulating structure) as revealed by the ex-vivo study using human skin explants.

### Product Information

<b>Trade Name</b>	<b>Synovea® DOI</b>
INCI Name	Isosorbide Dicaprylate
CAS #	64896-70-4
Appearance	Free-flowing clear liquid
Solubility	Highly miscible with a wide range of hydrophobic emollients and solubilizers
Suggested use level	2 to 4%; Works synergistically with glycerol

### Unique attributes of Synovea® DOI:



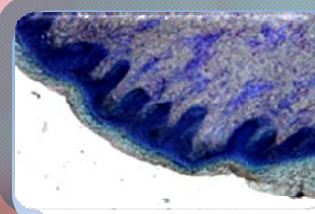
#### Naturally Derived & Safe Starting Materials

- **Octanoic acid:** Found naturally in coconuts, palm oil, breast milk and goat milk; Used widely in skin care products as an ester (Caprylic/carpric triglycerides)
- **Isosorbide:** Obtained by double dehydration of sorbitol. A bio-feedstock; Used widely in skin and personal care products as-is and as an ether (Dimethyl Isosorbide)



#### Improves Water & Barrier Homeostasis

- Clinically proven to be very effective in providing long-term skin hydration
- Up-regulate Aquaporin-3 responsible for water homeostasis (gene expression/proteins)
- Up-regulate Tight Junction, Desmosomes & Epidermal differentiation genes responsible for barrier homeostasis (gene expression/proteins)



#### Improves Epidermal & Dermo-Epidermal Architecture

- Proven by immuno-fluorescence & histology
- Significant stimulation of Aquaporin-3, E-Cadherin, Claudins & Desmosome proteins and rebuilding of epidermal & dermo-epidermal architecture
- May reduce fine lines & improves skin appearance (to be proven clinically)

Disclaimer: The information given and the recommendations made herein are based on our research and literature search and are believed to be accurate but no guarantee of their accuracy is made. This information is intended to be helpful, but no warranty is expressed or implied as to the results obtained from use in the formulation, procedure or products suggested herein. Neither is any permission or recommendation to practice any invention covered by patent either expressed or implied.

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