Encapsulated Vitamin C: interaction with topical delivery systems and skin
Adeline Delaporte, Elsa Vrignaud, Sana El-Mana, Michel Grisel, Ecaterina Gore

To cite this version:

Adeline Delaporte, Elsa Vrignaud, Sana El-Mana, Michel Grisel, Ecaterina Gore. Encapsulated Vitamin C: interaction with topical delivery systems and skin. Skin Forum 2022, Jun 2022, Malmö, Sweden. hal-03727703

HAL Id: hal-03727703
https://normandie-univ.hal.science/hal-03727703
Submitted on 19 Jul 2022
Encapsulated Vitamin C interaction with topical delivery systems and skin

Adeline DELAPORTE, Elsa VIGNAUD, Sana EL-MANA, Michel GRISEL, Ecaterina GORE

*URCOM EA 3221 INC3M-CNRS-FR 3038, ULH, Normandie University
LOMO, DINS ULH, Normandie University, 76600, Le Havre, France
adeline.delaporte@doct.univ-lehavre.fr  * Corresponding author: ecaterina.gore@univ-lehavre.fr

INTRODUCTION

Ascorbic acid
water soluble anti-aging antioxidant very unstable

Microencapsulation
stability efficacy reproducible

Texture?
Interactions with skin?
Sensory performances?

COMPOSITION OF COSMETIC MATRICES

<table>
<thead>
<tr>
<th>Viscous O/W emulsion (VOW)</th>
<th>Fluid O/W emulsion (FOW)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INGREDIENT</strong></td>
<td><strong>%</strong></td>
</tr>
<tr>
<td>Aqua</td>
<td>78</td>
</tr>
<tr>
<td>Glycerin</td>
<td>3</td>
</tr>
<tr>
<td>Xanthan gum</td>
<td>0.4</td>
</tr>
<tr>
<td>Glyceryl stearate citrate</td>
<td>4</td>
</tr>
<tr>
<td>Phenoxyethyl diisostearate oil</td>
<td>5</td>
</tr>
<tr>
<td>Stearic acid</td>
<td>5</td>
</tr>
<tr>
<td>Hyoxyl isononanoate</td>
<td>4</td>
</tr>
<tr>
<td>Gelified oil (GO)</td>
<td>92</td>
</tr>
<tr>
<td>Phenoxyethyl diisostearate oil</td>
<td>11</td>
</tr>
<tr>
<td>Glycerol behenate/stearate/Eicosadiol</td>
<td>3</td>
</tr>
</tbody>
</table>

MATERIALS & METHODS

COMPRESSION TEST [7]

SPREADING TEST [7]

TRIBOLOGY

RESULTS

COMPRESSION (A-B) AND SPREADING (C) TEST ON COSMETIC MATRICES

CONCLUSIONS

- MDGA-AA microparticles affect texture properties
- Differences in consistency were perceived by the panelists
- Tribological study on BioSkin highlights differences in spreading
- Spreading on skin was still easy with microparticles according to panelists
- In-vivo study must be extended to a larger panel

ACKNOWLEDGEMENTS

The authors from Normandie Université thank the Graduate School of Research XL-Chem (ANR-18-EURE-0020 XL-Chem) and the Région Normandie for financial support.

REFERENCES