Hydresia® SF2 consists of natural Oleosomes from Safflower seeds and functions to improve the aesthetics of all formulations (including alcohol hand sanitizers) for unparalleled efficacy in personal care.

**INCI**
Carthamus Tinctorius (Safflower) Oleosomes + Water

**USE LEVELS**
2-5% as a Delivery system  
3-10% as an Emulsifier

**CERTIFICATIONS**
EcoCert Natural  
NPA Approved

**MAIN APPLICATIONS**
Natural skincare  
Alcohol hand sanitizers

**BEYOND OIL**
Hydresia® SF2 consists of a 65% dispersion of Oleosomes in water. Oleosomes are structures found naturally in all oil bearing plant seeds and serve as natural storehouses of energy used by the seed until germination.

Oleosomes are micron sized spheres of emollient plant oils and vitamin E, surrounded by a phospholipid membrane and protein coat. They are isolated as aqueous dispersions according to a patented chemical-free green manufacturing process. This unique structure has considerable benefits over and above regular plant oils in personal care.

**REVOLUTIONARY BENEFITS**
Hydresia® SF2 enhances formulations through a range of multi-function benefits and provides a perfect balance between all-natural and real performance.

**POWERFUL EMULSIFIER**
Due to the unique structure of Oleosomes, Hydresia® SF2 functions as a cold-process natural emulsifying system which operates over a wide HLB range, allowing you to make sustainable emulsions at a reduced manufacturing cost.

**PROVEN DELIVERY SYSTEM**
Oleosomes are proven to liberate their contents onto the skin surface over time via delayed release for improved aesthetics in nearly all personal care applications, including alcohol hand sanitizers.
Oleosomes are spherical structures with a diameter of 1-3 μM. They consist of a core of vegetable triglycerides, surrounded by a single phospholipid membrane with an oleosin protein coat (1% of weight). Oleosins are 25,000 kDa proteins that consist of both hydrophilic (water-loving) and hydrophobic (oil-loving) domains, and because of their spherical orientation, exhibit unparalleled emulsification efficiency (HLB 5-15), even at extremely low levels.

As a result of the unique Oleosome structure, both cold process (RT) and modified cold process (<550°C) emulsions are possible. Significant reductions in cycle time and energy costs can be realized with Hydresia® SF2. One customer reduced cycle time by 62% going cold process!

PROVEN DELIVERY SYSTEM – Controlled release delivery of oils and fragrances

Once applied to the skin or hair, Hydresia® SF2 begins to collapse and release its contents via delayed release. Hydresia® SF2 alone releases emollient oils and vitamin E to the skin for long-lasting moisturization, even in typically drying alcohol hand sanitizers (62% alcohol).

Application: a better Alcohol hand sanitizer

A Hydresia® SF2 alcohol hand sanitizer was compared to a Market leading alcohol hand sanitizer in blinded study (n = 30)

<table>
<thead>
<tr>
<th></th>
<th>Preferred Oleosome Hand Sanitizer</th>
<th>Preferred Market leading Hand Sanitizer</th>
<th>No Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance of Product</td>
<td>47%</td>
<td>47%</td>
<td>4%</td>
</tr>
<tr>
<td>Softer skin feel after drying</td>
<td>64%</td>
<td>33%</td>
<td>3%</td>
</tr>
<tr>
<td>Which one would you buy?</td>
<td>67% (20/30)</td>
<td>33% (10/30)</td>
<td>3%</td>
</tr>
</tbody>
</table>

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