



Product Information

Emulsifiers & Surfactants:

symbio[®]solv clear plus

Product features:

- Powerful natural solubilizer for transparent products
- PEG-free
- Low odor and color
- For perfume and essential oils
- 100% naturally derived

drstraetmans

An Evonik brand.

sybio[®]solv clear plus

The product: sybio[®]solv clear plus

sybio[®]solv clear plus is the next generation of a powerful naturally derived solubilizer blend for transparent cosmetic products. The improved recipe provides a powerful PEG-free alternative for the formulation with and without alcohol. **sybio[®]solv clear plus** shows a comparable performance to well-established PEG solubilizers in the market. The environmentally friendly manufacturing process and the composition of readily biodegradable raw materials is ideal for natural certified cosmetic concepts.

Characteristics

- *INCI: Caprylyl/Capryl Glucoside; Aqua; Sodium Cocoyl Glutamate; Glyceryl Caprylate; Citric Acid; Polyglyceryl-6 Oleate; Sodium Surfactin*
- Appearance: Viscous light yellow liquid
- 100% naturally derived, compliant with COSMOS and other standards for natural cosmetic, please contact us for further information
- Composed of naturally derived surfactants and wetting agents
- Environmentally friendly:
 - o Does not involve any alkoxyated compounds
 - o Low dosage
- Innovative surfactant mixture for optimum performance
- Powerful replacement for PEG-containing solubilizers in the market:
 - o For natural cosmetics
 - o Yields transparent solutions
 - o Suitable for most perfume and essential oils in aqueous formulations
 - o Can be used in surfactant based products
 - o For clear alcohol containing or alcohol-free formulations
- Pleasant skin feel, non-sticky
- Very low odor, no interference with odor in formulation
- Wheat-free, PEG-free
- Low critical micelle concentration – very effective solubilization
CMC = 0.6 g/L (surface tension = 24.4 mN/m)
- pH range 4.5 - 6.5
- HLB ~16

Dosage

| Product Concept | Dosage (ratio) |
|------------------------------|--|
| Transparent aqueous solution | 1:3 – 1:5 (oil : solubilizer) max. 4-5% |
| Surfactant based products | 0.5 – 1.5 % |

drstraetmans

An Evonik brand.

How to work with sybio[®]solv clear plus

Manufacturing procedure for aqueous solutions or surfactant based products (laboratory scale)

1. Pre-mix **sybio[®]solv clear plus** with perfume and other lipophilic substances to be solubilized at room temperature.
2. Add water, the aqueous phase **or** the surfactant base, to the pre-mix under stirring.
3. Adjust pH to 4.5 – 6.5 if necessary.
4. If required, add ethanol at the end of the formulation process, in small portions.

Easy, cold process.

Note: In surfactant based products: **sybio[®]solv clear plus** may reduce the viscosity. Adjust viscosity at the end of the formulation process.

Finding the right dosage of sybio[®]solv clear plus:

- **In solubilizates:** Dosage depends on specific lipophilic component. For the beginning, start with a ratio of 1:3 (one part oil, three parts solubilizer). If the solution stays milky, increase amount of solubilizer. Restart formulation process in this case!

Formulation advice

| | |
|---------------------------------|---|
| Compatible with | Conventional perfume oils |
| | Natural perfumes or essential oils |
| | Lipophilic actives |
| | Synthetic ester oils |
| | Ethanol (max. 10%) |
| | Alcohol-free, transparent concepts |
| | Non-ionic conditioning agents (e.g. Amylomer H-NI) |
| Working with ethanol (max. 10%) | If turbid after ethanol addition, it might help to add some more solubilizer afterwards |
| Incompatible with | Vegetable oils |
| | Cationic compounds (e.g. quaternized substances) |
| In case of pH drift | Use buffer system (e.g. Tri-Sodium Citrate) |

Application Ideas

Perfectly suitable for tonics, wet wipe lotions, gels, clear shampoos and shower gels.

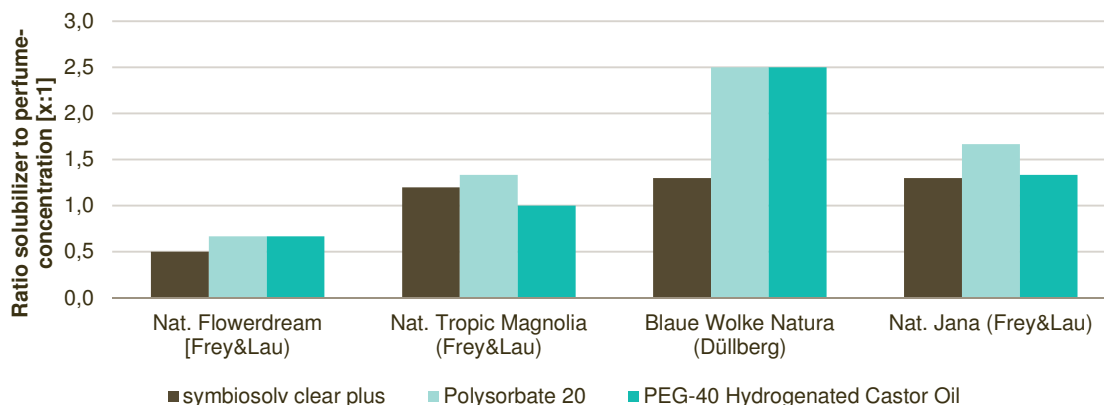
For more formulation ideas visit us at:

<http://www.dr-straetmans.de/en/products/>

Proof of Performance

Comparison between symbio[®]solv clear plus and benchmark solubilizers

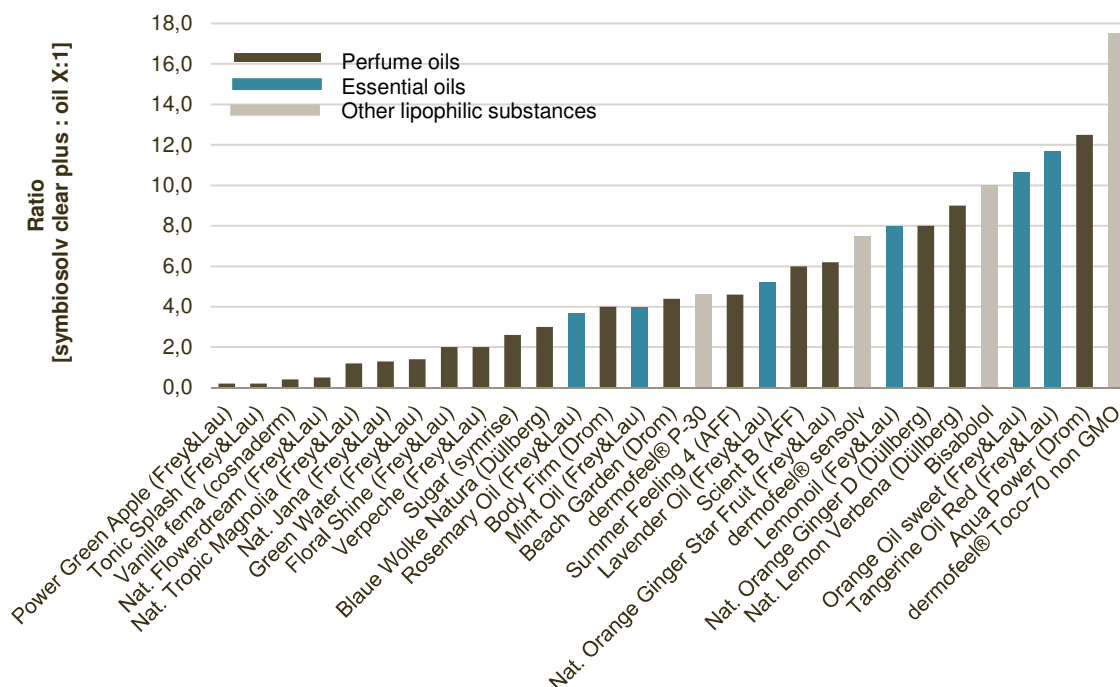
Amount of solubilizer blend needed in relation to perfume oil



symbio[®]solv clear plus shows excellent solubilizing performance, comparable to PEG-40 Hydrogenated Castor Oil and Polysorbate 20. Since in many markets, consumers and manufacturers are asking for PEG-free surfactants, **symbio[®]solv clear plus clear** offers a powerful solution to replace ethoxylated solubilizers.

Dosage required to solubilize different oils and other lipophilic substances

Amount of solubilizer blend needed in relation to lipophilic substance



Trade Information

| | |
|--|--|
| International Approval* | EU, USA, Canada, Australia, China, Japan, Korea. |
| Packaging | 5 kg / 25 kg |
| Shelf life <i>(stored in original container)</i> | 24 months |

** Information is based on our best knowledge and reviewed for the most requested regions only. We recommend to check current regulatory requirements in individual target countries. For more information contact our regulatory department or refer to our regulatory status statement.*

Literature

Thiemann, A.; Scholze, J.; Salmina-Petersen, M.; Jänichen, J. Wetting Agents: Friends or Enemies of Solubilizers. *SOFW*, 2014, Nov, 46-53.

For further information, contact our Dr. Straetmans sales team:
sales@dr-straetmans.de
or your local representative.

Dr. Straetmans Worldwide Network

<https://www.dr-straetmans.de/en/meta/contact/>



Disclaimer:

The information above is believed to be accurate and represents the best information currently available to us. Dr. Straetmans makes no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own determination on the suitability of the information for their particular purposes. In no way shall Dr. Straetmans be liable for any claims, losses, damages, lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising from the sale or use of this material.

drstraetmans

An Evonik brand.

Evonik Dr. Straetmans GmbH · Merckurring 90 · D-22143 Hamburg

Phone: +49 (0)40-669 356-0 · Fax: +49 (0)40-669 356-310 · email: info@dr-straetmans.de