



SOLVAY

asking more from chemistry®



ALKAMULS® PEG-16 CO

Shampoo &
Body wash formulas

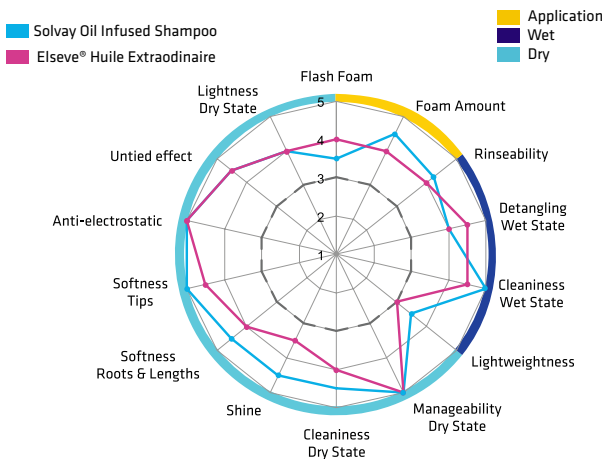
*Taking natural oils from
marketing actives to
functional ingredients*



Sensory evaluation

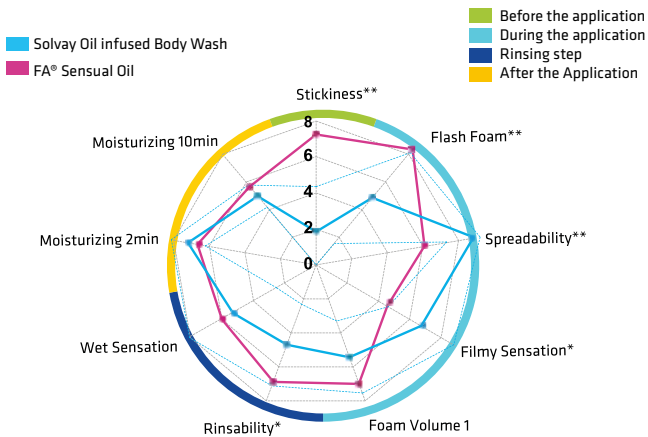
Solvay Oil Infused Shampoo versus Elseve® Huile Extraordinaire

- ▶ Transparent and delivers softness & shine
- ▶ Effective on different types of hair, ie. Caucasian and Brazilian
- ▶ Lightness equivalent to the benchmark without silicone
- ▶ Other performance attributes similar to the benchmark



Solvay Oil Infused Body Wash versus Fa® Sensual Oil

- ▶ Moisturizing equivalent
- ▶ Better spreadability, filmy sensation and less stickiness
- ▶ Work in progress on the foam criteria



*significance 5%

**significance 1%

Elseve & Fa are registered trademarks of L'oréal and Henkel respectively



A new versatile solubilizer, developed to be efficient by itself with different types of natural oils

Alkamuls® PEG-16 CO is a novel, versatile solubilizer for natural oils. Without compromising on clarity, stability, viscosity, foam and cleansing performance, formulators can create clear cleansing formulas infused with natural oils, at an efficient level (typically >0.9%), to deliver their powerful caring benefits to hair & skin. **Alkamuls® PEG-16 CO** is efficient by itself, to avoid solubilizers cocktails that formulators usually have to resort to.

New solubilizer performance: For different oils and versus competition

Versatility and **efficacy** in formulations are key attributes for solubilizers. **Alkamuls® PEG-16 CO** is equally efficient at solubilizing different vegetable oils (**Avocado, Sunflower and Coconut**), regardless of their chemical features: saturated or not, lauric, oleic or linoleic. **Alkamuls® PEG 16 CO** does outperform the market benchmarks solubilizers commonly used in this new trend.

From challenges to **SOLUTIONS** for you

- Our new versatile solubilizer **Alkamuls® PEG16 CO**, developed to be efficient by itself with different types of natural oils, to avoid cocktails of solubilizers formulators usually have to resort to
- Its unique synergy between natural caring oils and our conditioning **Jaguar®**, which provides formulators with a unique trio of ingredients that deliver the benefits to the consumer.

- Recommended use level: 0.5 – 1.5%
- Preservative-free
- REACH

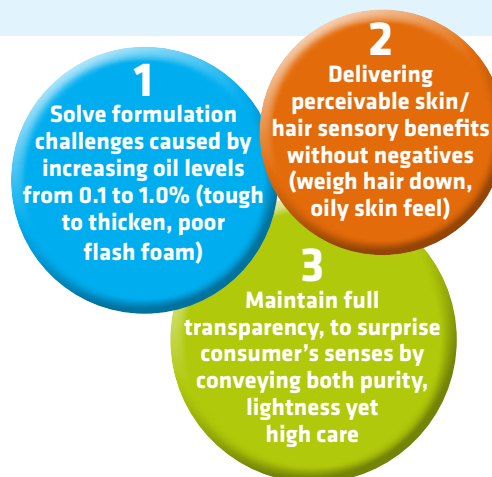
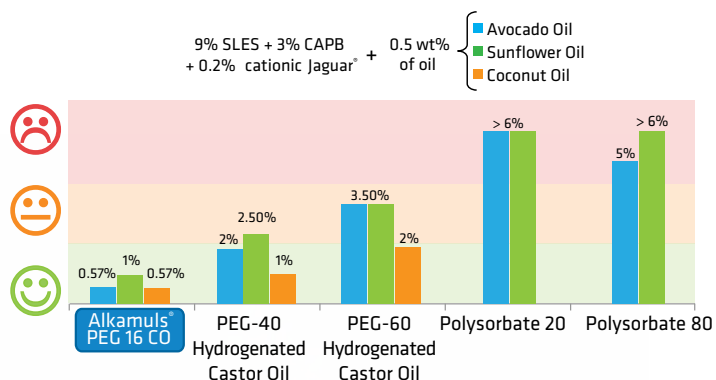
INCI name: PEG-16 Castor Oil Oleate

CAS #: 220037-02-5

Renewable
Carbon Index
RCI = 72%

Typical properties	
Appearance, 20°C	Clear Yellow liquid
pH (5% in water)	7-8
Color Gardner	6 max
Acid number (mg KOH/g)	10-14
Active content	100
Flash point (°C)	> 100
1,4- Dioxane (ppm)	< 10
Ethylene Oxide (ppm)	< 5

Alkamuls® PEG 16 CO
INCI: PEG-16 castor oil Oleate
Amount of solubilizer to obtain a cristal clear oil-infused formulations (i.e. T% ≥ 94%)



Synergistic Combinations for Hair & Skin

2 formulas developed: Oil infused shampoo and body wash

Ingredients	% Active
SLES	4.6%
SLS (SLS-free version for body wash)	3.4%
Geropon® X *	2.5%
Mackam® Y *	2.0-2.5%
Mackamide® CPA	1.5%
2 Vegetable Oils	0.9%
Jaguar® conditioning guar	0.5%
Alkamuls® PEG-16 CO	0.9-1.1%
Sodium Benzoate / Salicylic Acid	0.5% / 0.2%
Additives (Panthenol, Tocopherol)	0.25%
Citric acid	0.4%

*Generic term of Solvay ingredients of interest

SOLVAY *Way*

The way we do business

North America

Solvay Novocare – 504 Carnegie Center Drive –
Princeton, NJ 08540 – USA
Phone: +1-800-973-7873 – Fax: +1-609-860-0463
NovocareCC@solvay.com

Europe

Solvay Novocare – 40, rue de la Haie-Coq –
F-93306 Aubervilliers Cedex – France
Phone: +33 (0) 1 53 56 50 00 – Fax: +33 (0) 1 53 56 53 90

Asia Pacific

Solvay Novocare – 1, Biopolis Drive –
#05-01/06 AMNIOS – Singapore 138 622
Phone: +65 - 6291 1921 – Fax: +65 - 6394 3376

Latin America

Solvay Novocare – Centro Empresarial –
Avenida Maria Coelho Aguiar, 215, Bloco B-1º Andar
Cep: 05804-902 – São Paulo-SP Brazil
Phone: +55 11 3741-7505 – Fax: +55 11 3741-8378

www.solvay.com

While the information herein is believed to be reliable, we do not guarantee its accuracy. Customers (direct and indirect) are urged to make their own tests with products described herein. Various patents owned by Solvay or others may be pertinent to their use and to compositions containing them. Nothing contained herein is intended as a recommendation to use our products so as to infringe any patent. We assume no liability for any intellectual property rights violation by customers (direct or indirect). Customers (direct and indirect) should make their own patent investigation related to the freedom to operate for any specific intended use. If a relevant patent is identified, customers (direct and indirect) should secure a license from the patent owner. Customers (direct and indirect) should evaluate the products to determine notably their strength, performance and safety. All applicable laws and regulations should be consulted. All the names mentioned are registered trademarks of Solvay, its subsidiaries or affiliates.