

REINOLDERM OLV5

A fundamental characteristic of amphoteric surfactants is that as they contain both ionic groups (anionic and cationic), their behaviour is influenced by pH of the solution in which they are present. The base fatty radicals of those surfactants are fundamentally derived from natural fatty acids that are already transformed into amines. The amines become amphoteric surfactants with the addition of an acid group that quite simply occurs through a reaction with chloroacetic acid. The majority of amphoteric surfactants available today can be structurally considered as being derived from glycine.

Amphoteric surfactants play an important role amongst the raw materials used in detergents, not just because they possess a great foaming and detergent power, optimum solubilizing action and excellent resistance to acids, alkalines and organic salts, but above all because they are particularly skin tolerable.

REINOL, in collaboration with PROGRESSUS, has created an amphoteric surfactant based on Italian olive oil.

REINOLDERM OLV5, is a 'PEG-free' surfactant that has a perfect balance between detergent functionality and respect for the skin. In other words, a product for personal detergency with high functionality and with the maximum in safety of use.

Some interesting facts about **REINOLDERM OLV5** could be as follows:

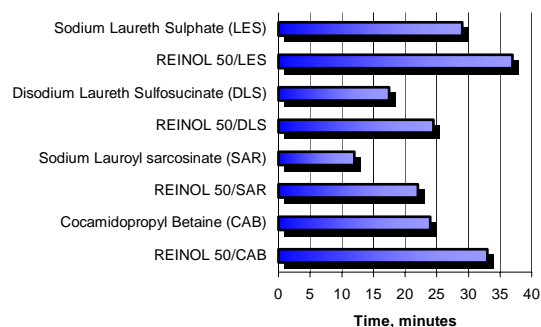
- good detergent power even in the presence of hard water
- high chemical stability
- compatibility with other surfactants
- low skin and eye irritancy
- ability to limit the aggressiveness of other surfactants
- bacteriostatic effect (good preservation of the product over time without the need to add preservatives)

As with all products of this type, the foam action is not particularly high. In the formulation of shampoo or shower gel, foam production should be entrusted to the primary surfactant.

The auxiliary surfactant is entrusted with the responsibility of increasing and stabilising the

foam and making it more uniform, shiny, soft and elastic.

In the following graph it is possible to see how much more persistent is the foam produced by the most common surfactants used alone or in combination with **REINOLDERM OLV5**.



Even if the quantity of foam developed is inferior and therefore less sensitive to decrement, the regression times are on average three times higher. In the second graph however, we show the foam stabilising effect performed by our amphoglycinate upon some of the most common surfactants used in personal detergency.

REINOLDERM OLV5 can be mixed in any proportions with other surfactants or substances normally used in personal detergent products, irregardless of their ionic value; it is resistant to water hardness and it does not form calcareous soaps. On the contrary, it shows clear calcareous soap dispersion properties. This product is advisable for the formulation of shampoo, shower gel, delicate liquid soaps, personal hygiene products, etc. In all these applications it has a balanced washing action, optimum physiological tolerability and biodegradability.

Properties of **REINOLDERM OLV5**

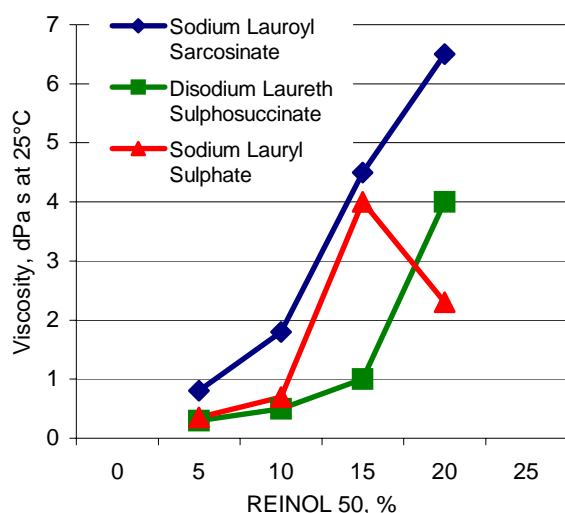
- Dermatological functionality of the starting olive oil.
- Optimum conditioning effect.
- Effective foam stabilising action.
- Easy to thicken.
- Absence of preservatives.
- Good solubilising power.

Obtaining a good viscosity value is often a problem that occurs, particularly when preparing shampoo and shower gel. With **REINOLDERM OLV5** it is possible to obtain good viscosity levels in systems containing surfactants of various nature, even in the absence of lauryl ether

sulphate: it is enough to acidify the formulation, stabilising the product at a physiological pH (5 – 5,5).

This particular behaviour, allows the association with other surfactants that are very interesting from a functional and dermatological point of view, such as sulphosuccinic semi-esters, alkyl ether carboxylates, alkyl-sarcosinates and acyl glutamates which are often relegated to an auxiliary role because they can only be thickened with specific thickeners.

In the following diagram we illustrate the viscosity curve of a solution with pH = 5 containing the same quantities of surfactant and decreasing quantities of **REINOLDERM OLV5**.



Biodegradability

The determination of biodegradability has been made according to the CEE Regulation N. 82/242. **REINOLDERM OLV5** is biodegradable over 95% (OECD method).

Safety

The evaluation of the toxicological profile was performed, preliminarily, using some 'in vitro' tests. **REINOLDERM OLV5** does not have traceable pro-sensibilizing effects.

The following formulations are here indicated in order to give general directions for the employment of **REINOL® 50**. Although they have been realised according to the best information we owe, this does not exonerate the user from verifying their validity. REINOL technical service is at the user's disposal in order contribute to the development of new formulations, and to give the

needed information for a correct use of our products.

Shower gel (No SLES)

Disodium Laureth Sulfosuccinate	18.00
Sodium Lauroyl Sarcosinate	27.00
REINOLDERM OLV5	6.00
Lauramine Oxide	4.00
REINOLDERM OLV3 (Olive Oil PEG-7 Esters)	
Polyquaternium-7	1.00
Panthenol	0.50
NaCl	q.s.
Perfume and preservatives	q.s.
Water	up to 100
Citric Acid	up to pH 5.5

Conditioning shampoo (No SLES)

Disodium Laureth Sulfosuccinate	12.00
Sodium Lauroyl Sarcosinate	17.00
REINOLDERM OLV5	5.50
REINOLDERM OLV3 (Olive Oil PEG-7 Esters)	1.00
Polyquaternium-47	1.20
Guar Hydroxypropyltrimonium Chloride	1.30
Perfume and preservatives	q.s.
Dimethicone Copolyol	1.00
Water	up to 100
Citric Acid	up to pH 5.5

Baby Shampoo

Magnesium Laureth Sulphate	18.00
REINOLDERM OLV4 (Sodium Peg-7 Olive Oil Carboxylate)	12.00
REINOLDERM OLV5	5.00
REINOLDERM OLV3 (Olive Oil PEG-7 Esters)	1.00
Mallow (Glycolic extract)	1.00
Perfume and preservatives	q.s.
Water	up to 100
Citric Acid	up to pH 5.5

For Additional Informations Please Contact

REINOL s.p.a.

Strada del Francese, 21
10071 Borgaro Torinese
Torino — ITALY

Tel. +39 (011) 470.15.10
+39 (011) 470.15.11
+39 (011) 470.45.41
Fax +39 (011) 470.39.10
Email info@reinol.it