



Solubilizers for Personal Care formulations

Local. Global. Integrated.

Operating in 17 countries, in 39 different locations, PCC SE currently employs over 3 300 people.



About Us

PCC Exol SA is a major player in the European surfactants market. In the eastern and central-eastern part of the continent, it is the undisputed leader in its industry. Most of the production facilities and the company's headquarters are located in Brzeg Dolny, Poland. Here we develop, test and manufacture a wide range of anionic, non-ionic and amphoteric surfactants and speciality industrial formulations.

New products are continuously added to the portfolio in response to market trends and individual customer requirements. The surfactants produced at the plants have a very wide range of industrial applications. They

are used as wetting agents, emulsifiers, auxiliaries in paper, metallurgy and many other industries, as well as in household chemicals, personal care products and textiles.

PCC EXOL pays special attention to the issue of sustainable development, which is one of the key elements of the company's strategy. In order to strengthen its competitive position in the surfactants market, the company is committed to promoting responsible production and consumption throughout the value chain. The concept of sustainable development is therefore a key aspect of all the company's management and operational processes.

<p>PCC ROKITA SA PCC PCG OXYALKYLATES IRPC</p> <p>Polyols</p> 	<p>PCC ROKITA SA</p> <p>Chlorine</p> 	<p>PCC ROKITA SA</p> <p>Phosphorus</p> 	<p>PCC EXOL SA PCC CHEMAX INC PCC PCG OXYALKYLATES</p> <p>Surfactants</p> 	<p>PCC SYNTEZA</p> <p>Alkylphenols</p> 
<ul style="list-style-type: none"> • Polyether polyols • Polyester polyols • Prepolymers • Polyurethane Systems 	<ul style="list-style-type: none"> • Chlorine • MCAA • Other Chlorine Downstream Product 	<ul style="list-style-type: none"> • Phosphorus derivatives • Naphthalene derivatives • Polycarboxyethers (PCE) 	<ul style="list-style-type: none"> • Anionic surfactants • Cationic surfactants • Nonionic surfactants • Amphoteric surfactants (betaines) • Chemical formulation 	<ul style="list-style-type: none"> • Nonylphenol • Dodecylphenol • Tristyrylphenol
<p>PCC CONSUMER PRODUCTS SA</p> <p>Consumer Products</p> 	<p>PCC ROKITA SA</p> <p>Energy</p> 	<p>PCC INTERMODAL SA</p> <p>Logistics</p> 	<p>PCC BAKKISILICON HF.</p> <p>Silicon</p> 	<p>PCC SE</p> <p>Holding & Projects</p> 
<ul style="list-style-type: none"> • Household & industrial Cleaners, Detergents and Personal Care Products 	<ul style="list-style-type: none"> • Renewable Energy • Conventional Energy 	<ul style="list-style-type: none"> • Intermodal transport • Road Haulage • Rail Transport 	<ul style="list-style-type: none"> • Microsillica • Silicon Metal 	<ul style="list-style-type: none"> • Portfolio Management • Project Development

Solubilizers for Personal Care formulations

In the personal care industry, solubilizers help to blend very small amounts of oily substances – usually perfume, essential or fragrance oils – into aqueous formulations such as gels, toners, micellar waters and other haircare, skincare, shower and bath products. Solubilizers are usually more water soluble than oil-in-water (O/W) emulsifiers, but both function on the same principle and enable

two immiscible ingredients to mix, usually oil and water. The main difference is the particle size of the dispersed phase. When solubilizer is used the particle size of the dispersed phase is so small that the final product appears transparent. When emulsifying agent is used, the particle size is much higher and the product appears milky.

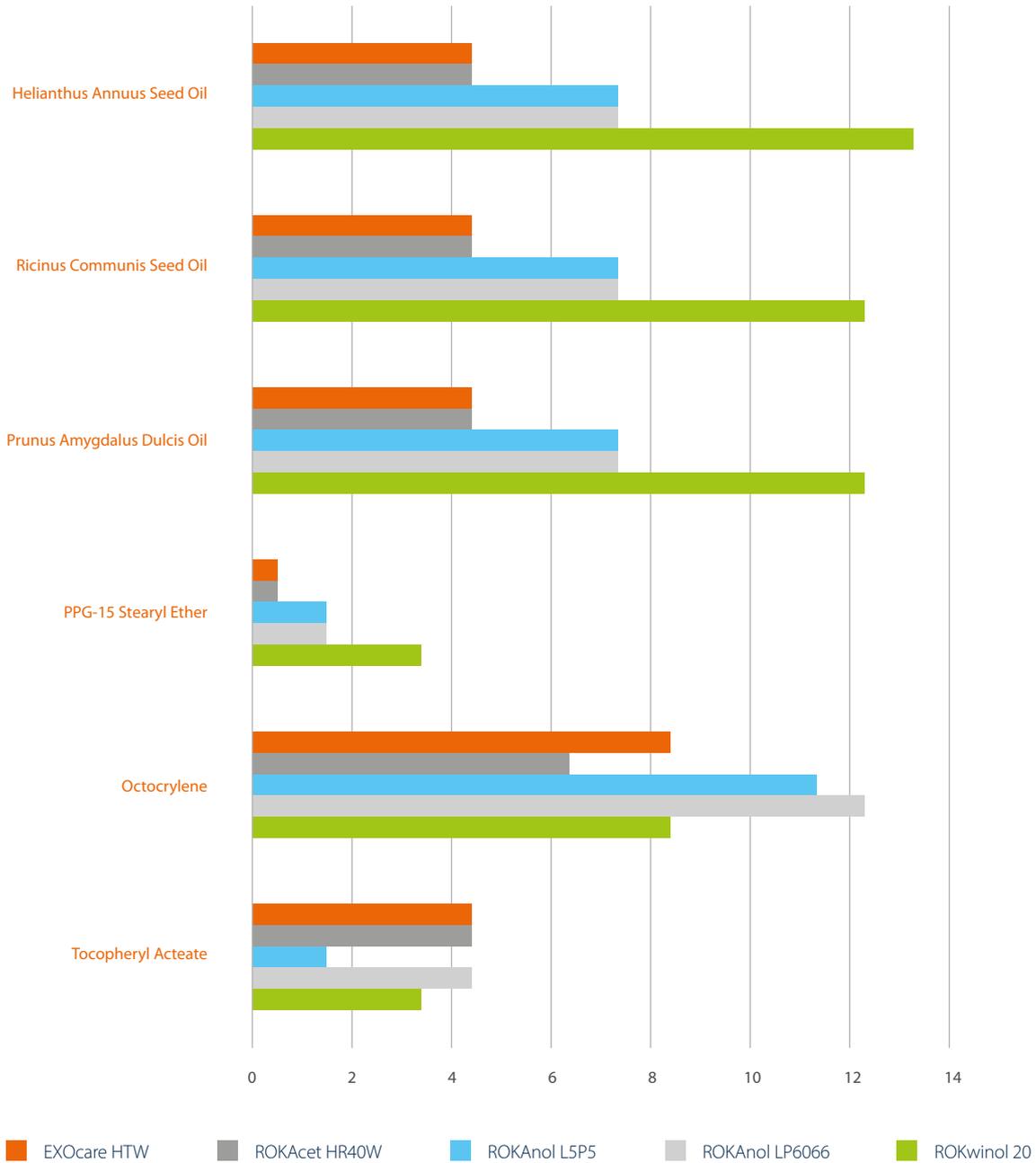
Product Name	INCI	Appearance
EXOcare HTW1	Trideceth-9, PEG-40 Hydrogenated Castor Oil, Aqua	liquid
EXOcare HK40W	PEG-40 Hydrogenated Castor Oil, Glycereth-7, PEG-7 Glyceryl Cocoate, Aqua	clear, viscous liquid
ROKAcet HR40	PEG-40 Hydrogenated Castor Oil	paste
ROKAcet HR40W	PEG-40 Hydrogenated Castor Oil, Aqua	liquid
ROKAcet HR40WPG	PEG-40 Hydrogenated Castor Oil, Aqua, Propylene Glycol	liquid
ROKwinol 20	Polysorbate 20	clear liquid
ROKwinol 80	Polysorbate 80	liquid or semi liquid with a dark-yellow to brown colour
ROKAnol LP31	PPG-5-Laureth-5	clear or slightly turbid liquid
ROKAnol IT9	Isotrideceth-9	liquid of oily consistence or paste
ROKAnol L7	Laureth-7	clear or cloudy liquid



Applications



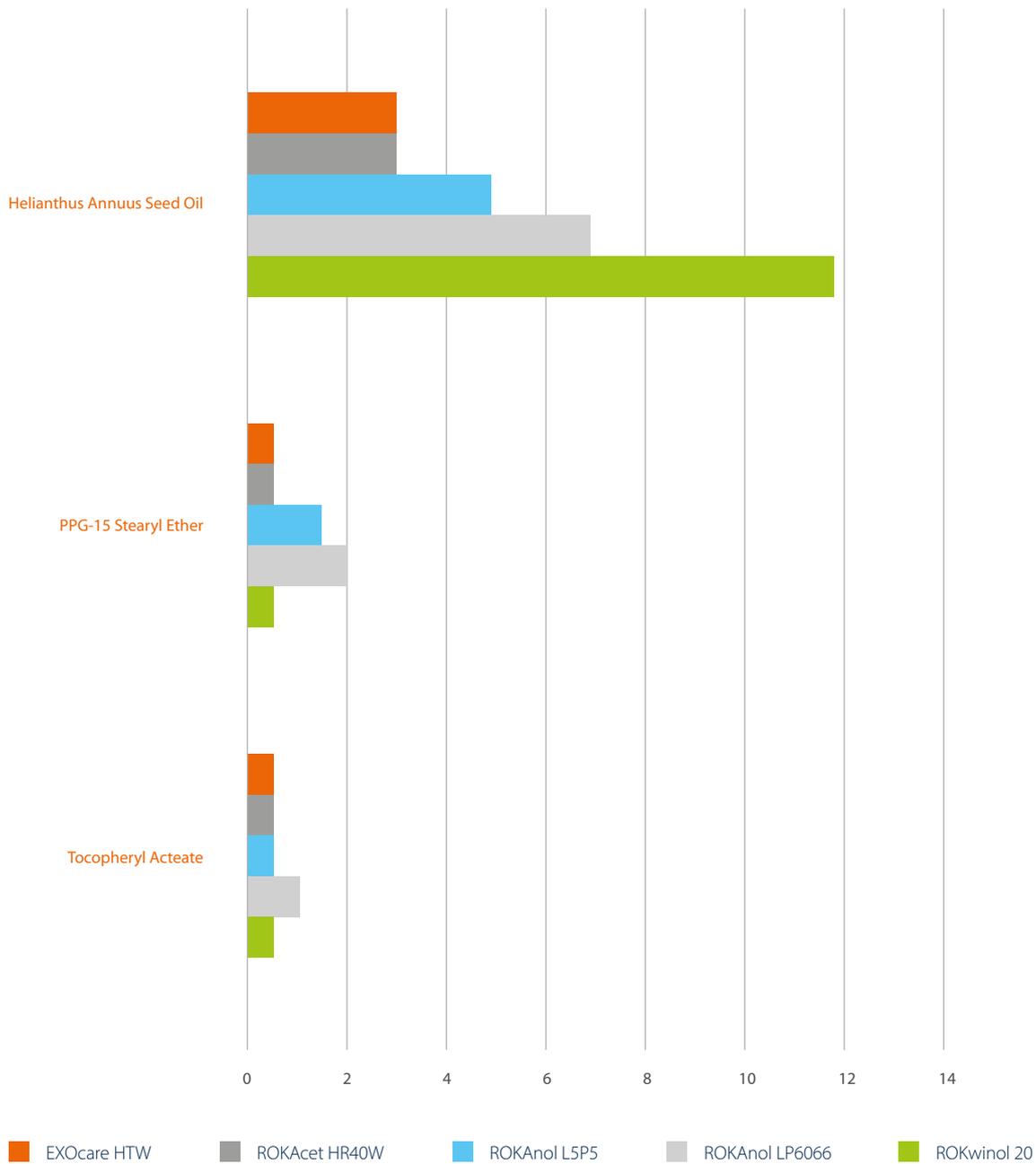
The amount of solubilizer needed to solubilize 0.5% of water-insoluble substance [wt%]



Solubilization test determining the amount of solubilizer needed to introduce 0.5% of water-insoluble components to obtain a clear mixture.

System: water – solubilizer – insoluble substance

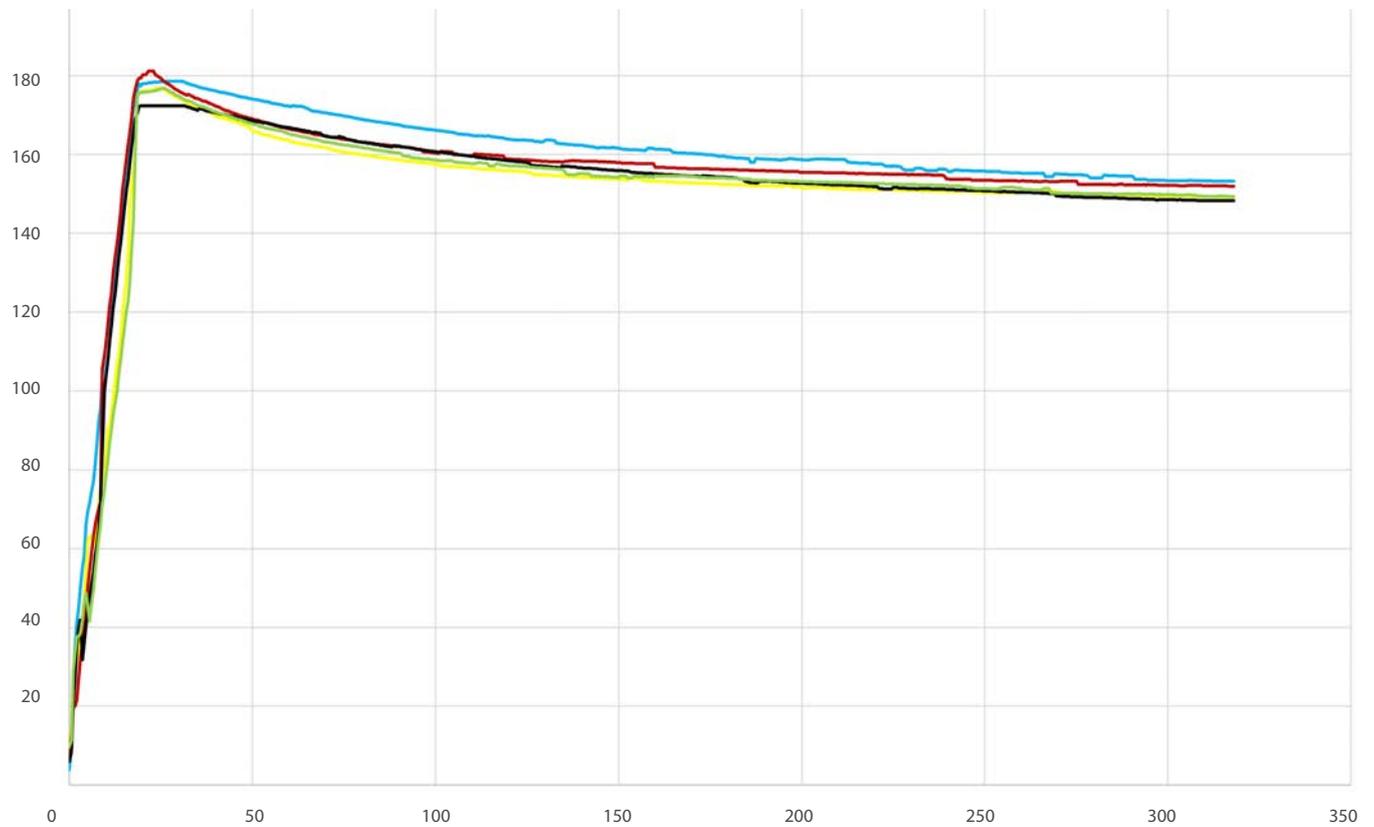
The amount of solubilizer needed to solubilize 1% of water-insoluble substance [wt%]



Solubilization test determining the amount of solubilizer needed to introduce 1% of water-insoluble component into formulation and obtain a clear mixture.

* System: water – surfactants – solubilizer – insoluble substance
 * INCI: Sodium Laureth Sulfate (6.5%), Cocamidopropyl Betaine (2.0%), Sodium Chloride (2.0%), Lactic Acid (0.20%), pH 4,8

Foam height and stability [mm]



- base
- base ROKwinol 20
- base ROKAnol LP6066
- base ROKAnol L5P5
- base EXOcare HTW
- base Tocopheryl Acetate

DFA100 KRÜSS foam analyzer Investigation of the foam formation and foam disappearance process for 1.0% of active substance (SA) of the formulation diluted in tap water at 20°C.

* SA was calculated from the following INCI composition: Sodium Laureth Sulfate (6.5%), Cocamidopropyl Betaine (2.0%), Sodium Chloride (2.0%), Lactic Acid (0.2%), pH 4.8

All tested solubilizers (EXOcare HTW, ROKAcet HR40W, ROKAnol L5P5, ROKAnol LP6066, ROKwinol 20) exhibit positive effect on the amount of created foam.

The characteristics of the foam disappearance are similar for all analyzed preparations.





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The information in the catalogue is believed to be accurate and compiled to the best of our knowledge; however, it should be considered as introductory only. Detailed information about our products is available in TDS and MSDS.

The suggestions for product applications are based on our best knowledge.

The responsibility for the use of products in conformity or otherwise with the suggested application, and for determining product suitability for the user's own purposes rests with the user.

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