ROKAnol® LP42, LP64, LP66

ALCOHOLS, C16-18, ETHOXYLATED PROPOXYLATED

KEY BENEFITS

- low foaming emulsifiers
- for mineral base oil and vegatable base oil, effective emulsifiers
- lubrication boosters
- hardwater stable
- good co-surfactant
- label free (human & environment)
- biodegradable
- no VOC

ROKAnol® LP42, LP64, LP66

PHYSICAL-CHEMICAL PROPERTIES

ROKAnol	LP42	LP64	LP66
Appearance at 20-25 °C	liquid	liquid	liquid
Concentration [%]	approx. 100	approx. 100	approx. 97
Hazen colour at 40°C	max. 70	max. 70	max. 70
Cloud point [°C]			
Method A 1% in water solution	–	<10	approx. 15
Method B 1% solution in 5% NaCl solution	–	<10	<10
Method C 1% solution in 10% NaCl solution	–	<10	<10
Method D 10% solution in 25% BDG solution	51-53	60-62	approx. 69
Method E 16.7% solution in 25% BDG solution	44-46	approx. 55	64-68
Average molar mass [g/mol]	610	770	1000
Water content [%, by weight]	max. 1	max. 0.5	max. 3.0
Solidification point [°C]	approx. 6	approx. 2	approx. 4
pH, at 20°C (method B or method C)	5-7 1% solution	5-7 1% solution	5-7 1% solution
Density at 25°C [g/cm^3]	approx. 0.94	approx. 0.96	approx. 0.98
Viscosity at 25°C [cP]	approx. 60	approx. 115	approx. 160
CAS	68002-96-0	68002-96-0	68002-96-0

APPLICATION

SOLUBILITY

Solubility in water, oils and other solvents according to PN-EN 13955: 25°C, 5% [w/w])

Product name	PAraffinic base oil	Naphthenic base oil	Rape-seed oil	Rapeseed oil methyl esters (RME)	Acetone	Ethanol	Demineralized water
ROKAnol LP42	●	●	●	●	●	●	○
ROKAnol LP64	●	●	●	●	●	●	○
ROKAnol LP66	●	●	●	●	●	●	○

○ macroscopic phase separation
● clear, homogeneous solution

FOAMING STABILITY

ROKAnols LP 42, 64 and 66 have low foaming capability so these products can be used in many application where foam is problematic.

Determination of the foaming capability was preformed according to PN-ISO 696:1994 (the modified Ross-Miles method) for solution with a concentration of 1.0 g/l in deionised and hard water at a temperature of 25°C.

Product name	Demineralized water	Hard water
ROKAnol LP42	Non	Non
ROKAnol LP64	Non	Non
ROKAnol LP66	Poor	Poor

Foam volume [ml]	Description
100-200	Moderate
70-100	Low
20-70	Poor
0-20	Non

TESTING THE FOAMING PROPERTIES OF ROKAnols® SERIES

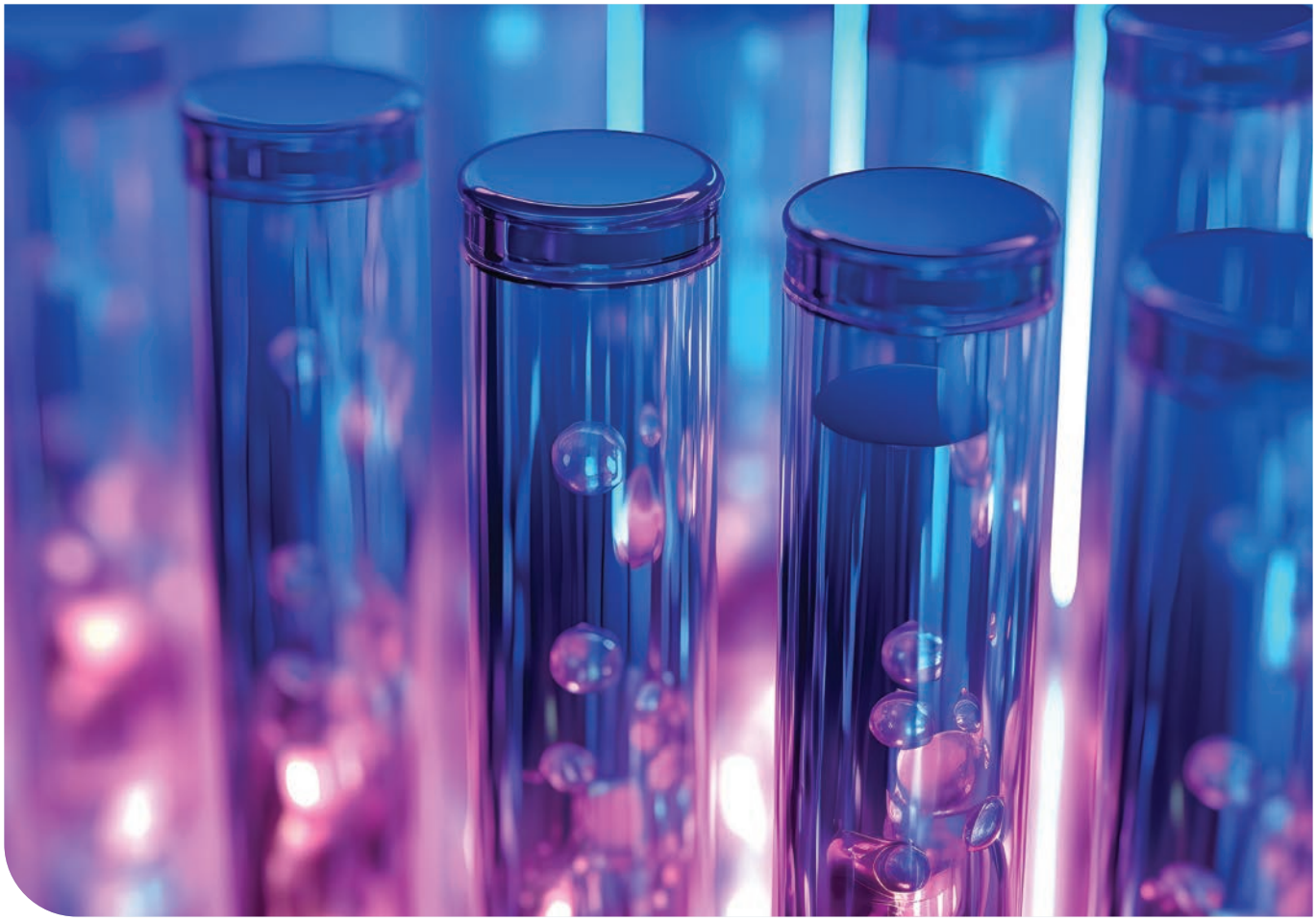
A solution of 0.1% ROKAnols® was prepared by dissolving it in demineralised using a Kruss DFA100 foam analyser, the solution obtained was foamed by injecting 150 ml of air at a rate of 0.5 l/min, then the The measurement was carried out at 20±2 °C for 10 minutes.

Foam stability parameters for deminarelised water

Product	$V_{foam\ max}$	$t_{FLS\ 75\%}$	$t_{FLS\ 50\%}$	$t_{FLS\ 25\%}$
ROKAnol LP42	113	21	24	31
ROKAnol LP64	156	46	22	34
ROKAnol LP66	183	23	31	55

Legend:

$t_{FLS\ 75\%}$ [s] - 25% drainage time: time at which the FLS has reduced to 75 % of its initial value
$t_{FLS\ 50\%}$ [s] - 50% drainage time: time at which the FLS has reduced to 50 % of its initial value
$t_{FLS\ 25\%}$ [s] - 75% drainage time: time at which the FLS has reduced to 25 % of its initial value



PCC EXOL SA
Sustainable technologies for new generations

PCC EXOL SA is a company that combines cutting-edge technologies with rich experience in production of surfactants (surface active agents). The company is located in Brzeg Dolny (Poland), where anionic, nonionic and amphoteric surfactant production plants have been launched. Due to the flexible production processes, the company offers a wide spectrum of surfactants and industrial formulations, which are often suited for the individual customers operating in plenty of various industry sectors. As one of the leading surfactant manufacturers, PCC EXOL SA carries out new investment projects and implements innovative technologies based on the global sustainability trends.

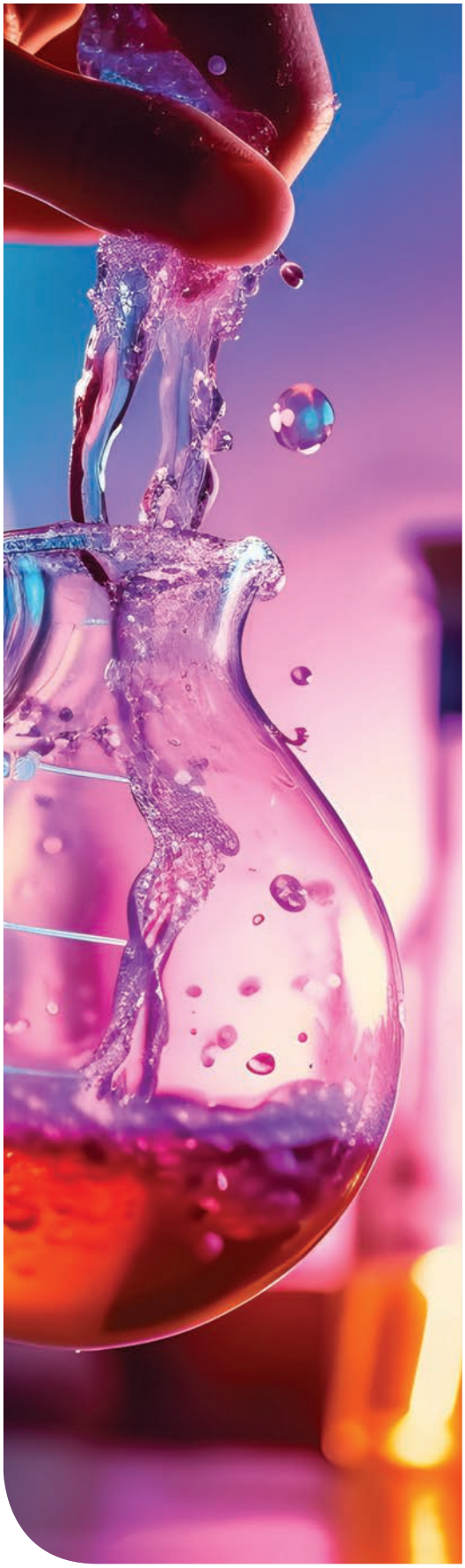
PCC EXOL SA portfolio includes surfactants with a broad range of applications. Besides of the mass production for personal care and detregents industry, the substances produced by PCC EXOL SA also include specialized products used in various branches, such as textile, agrochemical, metal cleaning, oil drilling, building & construction, paints & coatings, paper industry, extraction & drilling, and many others.

The company comprehensive portfolio is continuously enriched with new innovative products, which meet even the strictest market requirements and adapt to the individual needs of customers. This is possible due to the dynamic development of the research facili-

PCC EXOL SA combines innovative technologies with experience in designing, producing and selling surfactants and chemical formulations

ties, flexible production, knowledge as well as experienced personnel.

PCC EXOL SA has the key competence necessary for a worldwide production of surfactants. The ongoing projects will soon bring the new opportunities for the company's further development and expansion into new markets. The company offers not only a wide portfolio and professional servicing but most of all flexible production and comprehensive system solutions that meet individual customer demands. The strategic PCC EXOL SA investor is PCC SE, operating on international markets of the chemical raw materials, transport, energy, coal, coke, petrol, plastics and metallurgy. PCC SE includes 80 companies operating in 39 different locations in 17 countries.



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www.products.pcc.eu

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