
PCC
EXOsoft PO30
& EXOsoft PC35
Local. Global. Integrated.

Description

- Washing agent
- Excelent foaming properties (pH above 9.0)
- Foam stabilising properties (pH above 9.0)
- Compatibility with anionic, non–ionic and amphoteric surfactants
- Natural Index is 1
- Available in MB version in accordance with RSPO certification
- Ecocert COSMOS available for EXOsoft PC35 MB
- Alternative for basic formulation
- No PEG
- No dioxan
- Ideal choice for sulphate – free product

Application

- Shower gel
- Liquid hand soap
- Shampoos
- Face foams
- Bar soaps
- Laundry detergent
- Cosmetics for pets
- Hard surface cleaners

in line with cosmetic trends

guarantee the consumer satisfaction

improvement of Personal Care formulation

value for money

EXOsoft PO30

Potassium Oleate

Chemical name	Potassium oleate. Aqueous solution	
CAS number	143–18–0	
Function	Emulsifier, foaming agent, cleansing agent, moisturizer	
Technical requirements	Appearance at temperature (20÷25) °C	Clear yellow liquid
	Dry matter, %(m/m)	25 – 28
	pH of 1% solution	9.5 – 11.4
General data	Solidification point, °C	approx. 0
	Density at 25°C, g/mL	approx. 1.01

Mild soap foam for washing the face and body

Phase	INCI name	Brand name	Concentration [%]	Function
A	Aqua	–	82.1	solvent
A	**Potassium Oleate**	**EXOsoft PO30**	**6.00**	**surfactant**
A	**Cocamidopropyl Betaine**	**ROKAmina K30**	**4.00**	**surfactant**
B	Glycerin	–	3.00	humectant
B	Aqua, Glycerin, Cucumis Sativus Fruit Extract, Citric Acid, Sodium Benzoate, Potassium Sorbate	–	2.50	active
B	Glycerin, Aqua, Aloe Barbadensis Leaf Extract	–	2.00	active
C	Sodium Benzoate	–	0.40	preservative
D	Citric Acid	–	for pH 8.0 – 9.5	pH adjuster

Appearance	Visual method	Transparent yellowish liquid
pH	–	8.0 – 9.5

Procedure:

1. Combine ingredients from phase A. Mix until uniform.
2. Add phase B during mixing. Mix until homogenous solution is obtained.
3. Add Sodium Benzoate and mix.
4. Slowly add Citric Acid to pH 8.0 – 9.5

NOTE The final product has a liquid consistency. To obtain foam the packaging should contain a foam pump.

Gentle liquid hand soap

Phase	INCI name	Brand name	Concentration [%]	Function
A	Aqua	–	71.70	solvent
A	**MIPA Laureth Sulfate and Propylene Glycol**	**SULFOROKAnol L290/1M**	**10.00**	**surfactant**
A	**Cocamidopropyl Betaine**	**ROKAmina K30**	**9.00**	**surfactant**
A	**Potassium Oleate**	**EXOsoft PO30**	**2.00**	**surfactant**
B	Coco-Glucoside	–	3.00	surfactant
B	Panthenol	–	0.50	active
B	PEG-120 Methyl Glucose Dioleate	–	0.50	thickener
C	Parfum	–	0.50	fragrance
D	Phenoxyethanol	–	1.00	preservative
E	Sodium Chloride	–	1.80	viscosity modifier

Appearance	Visual method	Clear yellowish gel
pH	–	8.5 – 9.0
Viscosity [cP]	Brookfield LV, spindle 34, speed 2.5 RPM, T: 25°C	3000 – 6000
Stability	1 month in 5°C, 20°C, 40°C	Confirmed

Procedure:

1. Add ingredients from phase A to warm water (40 – 45°C). Mix until homogenous solution is obtained.
2. Cool the batch down to at least 35°C.
3. Add phase B – D during mixing. Mix until homogenous solution is obtained.
4. Add Sodium Chloride (not in one go) to adjust the viscosity. After addition of each portion mix well.

Baby laundry detergent, BLD

Compound	Brand name	Concentration [%]	Function
Sodium Laureth Sulfate	**SULFOROKAnol L227/1**	**35.0**	**removes stains/ foaming agent**
Potassium Oleate	**EXOsoft PO30**	**5.0**	**breaks down stains**
Magnesium Laureth Sulfate	–	5.0	removes stains/ foaming agent
PEG-6 Glyceryl Cocoate/ Laureth-7/ Alcohols, C8-18-ethoxylated/ PEG 11-Rapeseedamide	**ROKAcet KO400G/ ROKAnol L7/ ROKAnol MT7E/ ROKAmid MRZ11**	**3.0**	**breaks down stains**
Glycerin	–	6.0	humectant
Tetrasodium Glutamate Diacetate	–	2.5	chelator
Styrene/Acrylic Copolymer	–	0.5	opacifier
Citric Acid	–	for pH ~ 9	pH regulator
Aqua	–	up to 100.0	solvent

Appearance	Visual method	Milky emulsion
pH	–	~ 9.0
Viscosity [cP]	Brookfield LV, 20°C	<100

Procedure:

1. Mix SULFOROKAnol L227/1 with water until dissolved.
2. Add ROKAcet KO400G/ROKAnol L7/ROKAnol MT7E/ROKAmid MRZ11 and mix.
3. Then add Magnesium Laureth Sulfate and mix.
4. Add EXOsoft PO30 and mix.
5. Then add Styrene/Acrylic Copolymer and mix.
6. Add Glycerin, mix.
7. Add GLDA-Na4, mix.
8. Finally, add Citric Acid to obtained pH in the mass around 9.

Concentrated hand dishwashing liquid

Compound	Brand name	Concentration [%]	Function
Sodium Laureth Sulfate	**SULFOROKAnol L270/1**	**15.0**	**cleaning agent/ foaming agent**
Potassium Oleate	**EXOsoft PO30**	**5.0**	**cleaning agent/ foaming agent**
Cocamidopropyl Betaine	**ROKAmina K40HC**	**5.0**	**foaming agent/ foam stabilizer**
Sodium Cumenesulfonate	**EXOtrope SCS 40**	**2.5**	**hydrotrope**
PEG-4 Rapeseedamide	**ROKAmid MRZ4**	**2.0**	**cleaning agent**
Sodium Benzoate	–	0.4	preservative
Sodium Chloride	–	1.5	thickener
Citric Acid	–	q.s.	pH modifier
Aqua	–	up to 100.0	solvent

Appearance	Visual method	Viscous, clear liquid
pH	–	4.7-5.2
Viscosity [cP]	Brookfield LV, spindle S34, speed 12 RPM, T: 20°C	3500 - 4000
Density [g/ml]	20°C	Approx. 1.04
Active substance [%]	Anionic	Approx. 12.0
Dry matter [%]	Without Sodium Chloride	17.2

Procedure:

1. Combine Sodium Benzoate with water, mix until dissolved.
2. Next add SULFOROKAnol L270/1 and mix.
3. Add ROKAcet KO400G/ROKAmid MRZ4, mix until clear liquid is obtained.
4. Next add EXOsoft PO30, mix.
5. Add EXOtrope SCS 40 and mix.
6. Next add ROKAmina K40HC, mix.
7. Check pH, add Citric Acid to pH approx. 5.0.
8. Add Sodium Chloride (not in one go) to adjust the viscosity. After addition of each portion mix well.

EXOsoft PC35

Potassium Cocoate

Chemical name	Fatty acids, potassium salts. Aqueous solution	
CAS number	61789–30–8	
Function	Foaming agent, cleansing agent, moisturizer, emulsifier	
Technical requirements	Appearance at temperature (20÷25) °C	liquid
	Colour (Gardner units) at 40°C	max 3
	Dry matter, %(m/m)	34 - 36
	pH of 10% solution	10.5 – 11.3
General data	Molecular weight, g/mol	260
	Solidification point, °C	approx. -5
	Viscosity at 25°C, cP	max. 100
	Density at 20°C, g/mL	approx 1.03
	Preservative	none

Shaving cream

Phase	INCI name	Brand name	Concentration [%]	Function
A	Aqua	–	47.50	solvent
A	Acrylates Copolymer	–	6.00	rheology modifier
B	Potassium Hydroxide	–	1.00	pH adjuster
C	**Ceteareth-25, Cetearyl Alcohol**	**EXOcare TE25**	**4.00**	**emulsifier**
C	Palmitic Acid	–	1.00	rheology modifier
C	Stearic Acid	–	1.00	rheology modifier
D	Magnesium Aluminum Silicate	–	1.00	rheology modifier
E	**Potassium Cocoate**	**EXOsoft PC35**	**14.00**	**surfactant**
E	**Sodium Laureth Sulfate**	**SULFOROKAnol L227/1**	**13.00**	**surfactant**
E	**Coco-betaine**	**ROKAmina K30B**	**10.00**	**surfactant**
E	Phenoxyethanol, Ethylhexylglycerin	–	1.00	preservative
E	Parfum	–	0.50	fragrance

Appearance	Visual method	Creamy emulsion
pH	–	7.5-8.5
Stability	1 month in 5°C, 20°C, 40°C	Confirmed

Procedure:

1. In main vessel combine ingredients from phase A and mix until uniform.
2. Add Potassium Hydroxide (phase B) and mix. Heat to 75-80°C.
3. In separate vessel combine ingredients from phase C. Heat to 75-80°C.
4. Add phase C to A while mixing. Homogenize with 2500-3500 RPM, 90 sec.
5. Add phase D and homogenize 90 sec. Cool the batch down to 25°C while mixing.
6. In separate vessel prepare phase E.
7. Add phase E to main vessel and mix.

Shower Gel

Phase	INCI name	Brand name	Concentration [%]	Function
A	Aqua	–	72.00	solvent
A	**Potassium Cocoate**	**EXOsoft PC35**	**16.00**	**surfactant**
A	**Cocamide DEA**	**ROKAmid KAD**	**1.50**	**surfactant**
B	**Cocamidopropyl Betaine**	**ROKAmina K30K**	**7.00**	**surfactant**
C	Parfum	–	0.50	fragrance
D	Betaine	–	1.00	active
E	Sodium Chloride	–	2.00	thickener

Appearance	Visual method	Gel
pH	–	8.0-9.0
Viscosity [cP]	Brookfield LV, spindle S34, speed 2.5 RPM, T: 25°C	min. 1000
Stability	1 month in 5°C, 20°C, 40°C	Confirmed

Procedure:

1. In main vessel combine ingredients from phase A and mix until uniform.
2. Add ingredients from phase B-D while mixing and mix until uniform.
3. Add slowly phase E while mixing.

Pet shampoo

Phase	INCI name	Brand name	Concentration [%]	Function
A	Aqua	–	70.70	solvent
A	**Cocamidopropyl Betaine**	**ROKAmina K30**	**15.00**	**surfactant**
A	**Potassium Cocoate**	**EXOsoft PC35**	**10.00**	**surfactant**
B	Betaine	–	1.00	active
B	Lavandula Angustifolia Flower Extract	–	0.50	active
C	Phenoxyethanol	–	1.00	preservative
C	Lactic Acid	–	0.30	pH adjuster
D	Sodium Chloride	–	1.50	rheology modifier

Appearance	Visual method	Clear gel
pH	–	7.9-8.2
Viscosity [cP]	Brookfield LV, spindle S34, speed 2.5 RPM, T: 25°C	3000-5000
Stability	1 month in 5°C, 20°C, 40°C	Confirmed

Procedure:

1. Add ingredients from phase A to warm water (40-45°C). Mix until homogenous solution is obtained.
2. Cool the batch down to at least 35°C.
3. Add phase B during mixing. Mix until homogenous solution is obtained.
4. Add Phenoxyethanol and mix.
5. Adjust pH by Lactic Acid to 7.9-8.2.
6. Add Sodium Chloride and mix.

Gentle wood furniture cleaner

Compound	Brand name	Concentration [%]	Function
Sodium Laureth Sulfate	**SULFOROKAnol L227/1**	**2.74**	**surfactant**
Potassium Cocoate	**EXOsoft PC35**	**1.67**	**surfactant**
Laureth-4	**ROKAnol L4**	**0.5**	**surfactant**
Cumenesulfonic acid sodium salt	**EXOtrope SCS 40**	**1.5**	**solubilizer**
Ethanol	–	1.5	solvent
2-Butoxyethanol	–	1.0	degreaser
Nonionic carnauba emulsion	–	0.5	polish
Methylisothiazolinone, Metylochloroizotiazolinon	–	0.05	preservative
Citric Acid	–	for pH ~ 7.5	pH regulator
Parfum	–	0.1	fragrance
Aqua	–	up to 100.00	solvent

Appearance	Visual method	Milky opalescent liquid
pH	–	6.0-8.0

Procedure:

1. Mix EXOsoft PC35 with water until dissolved.
2. Add Citric Acid to pH of about 7.5
3. Add SULFOROKAnol L227/1 and mix.
4. Then add ROKAnol L4 and mix.
5. Add EXOtrope SCS 40 and mix.
6. Add 2-Butoxyethanol and ethanol and mix.
7. Add Nonionic carnauba emulsion and mix.
8. Finally, add Methylisothiazolinone, Metylochloroizotiazolinon and parfum and mix until disolve.

Formulations with EXOsoft PO30 & EXOsoft PC35

Beard shampoo

Phase	INCI name	Brand name	Concentration [%]	Function
A	Aqua	–	68.46	solvent
A	**Potassium Cocoate**	**EXOsoft PC35**	**10.00**	**surfactant**
A	**Potassium Oleate**	**EXOsoft PO30**	**8.00**	**surfactant**
A	**Cocamidopropyl Betaine**	**ROKAmina K30**	**6.00**	**surfactant**
B	Glycerin	–	1.00	active
B	Panthenol	–	0.50	active
B	Polyquaternium -10	–	0.50	condintioning agent
C	**Poloxamer 184**	**EXomer L64**	**1.20**	**surfactant**
C	Parfum	–	0.50	fragrance
C	Humulus Lupulus Flower Extract	–	0.50	additives
C	**Glycol Distearate, Laureth-4, Cocoamidopropyl Betaine**	**EXOpearl SF**	**0.30**	**surfactant**
D	Phenoxyethanol	–	1.00	preservative
D	Lactic Acid	–	0.20	pH modifier
E	CI 19140	–	0.02	dye
E	CI 17200	–	0.02	dye
F	Sodium Chloride	–	1.80	viscosity modifier

Appearance	Visual method	Pearling gel
pH	–	4.7-5.7
Viscosity [cP]	Brookfield LV, spindle 34, speed 2.5 RPM, T: 25°C	3000-5000

Procedure:

1. Add ingredients from phase A to warm water (40-45°C). Mix until homogenous solution is obtained.
2. Cool the batch down to at least 35°C.
3. Add phase B-E during mixing. Mix until homogenous solution is obtained.
4. Add Sodium Chloride in portions and mix.

Cleansing lotion

Phase	INCI name	Brand name	Concentration [%]	Function
A	Aqua	–	73.45	solvent
A	Benzyl Alcohol, Ethylhexylglycerin, Tocopherol	–	0.60	preservative
A	Sclerotium Gum, Xanthan Gum	–	0.25	rheology modifier
A	Lactic Acid	–	0.20	pH adjuster
B	Helianthus Annuus Seed Oil	–	6.00	emollient
B	**PPG-15 Stearyl Ether**	**ROKAnol SP15L**	**6.00**	**emollient**
B	**Cetearyl Alcohol**	**EXOalc 1618**	**3.50**	**emulsion stabilizer**
B	**Polysorbate 80**	**ROKwinol 80**	**3.00**	**emulsifier**
B	**PPG-5-Ceteth-20**	**ROKAnol LP6066 MB**	**2.00**	**emollient**
C	**Potassium Oleate**	**EXOsoft PO30**	**3.00**	**surfactant**
C	**Potassium Cocoate**	**EXOsoft PC35**	**2.00**	**surfactant**

Appearance	Visual method	Emulsion
pH	–	7.5-8.5
Stability	1 month in 5°C, 20°C, 40°C	Confirmed

Procedure:

1. In a main vessel combine ingredients from the phase A. Heat phase A to 75-80°C while mixing.
2. In a separate vessel combine ingredients from the phase B.
3. Heat phase B to 75-80°C.
4. Add B into A, stir well, keep A/B at 75-80°C. Homogenize with 2000-3000 RPM, 90 sec.
5. Cool the batch down to 30°C while mixing.
6. Add EXOsoft PC35, EXOsoft PO30 – mix until uniform.

All purpose cleaner

Compound	Brand name	Concentration [%]	Function
Aqua	–	89.5	solvent
Potassium Cocoate	**EXOsoft PC35**	**3.0**	**surfactant**
Glycerin	–	2.0	antistatic
Potassium Oleate	**EXOsoft PO30**	**2.0**	**surfactant**
Sodium 2-ethylhexyl sulfate	**ROSULfan E**	**1.0**	**surfactant**
Sodium Carbonate	–	1.0	degreaser
Parfum	–	0.5	fragrance
Lactic Acid	–	pH 10.0 – 11.5	pH adjuster

Appearance	Visual method	Liquid
pH	–	10.0-11.5

Procedure:

1. Mix EXOsoft PC35 and EXOsoft PO30 with water until dissolved.
2. Then add ROSULfan E and mix.
3. Add Glycerin, Sodium Carbonate, Parfum and mix.
4. Check pH and add Lactic Acid if it is necessary.

Cleaning agent for oiled and wooden floors

Compound	Brand name	Concentration [%]	Function
Aqua	–	76.7	solvent
Sodium Dodecylbenzensulfonate	**ABSNa 30**	**5.0**	**surfactant**
Potassium Oleate	**EXOsoft PO30**	**4.0**	**surfactant**
Potassium Cocoate	**EXOsoft PC35**	**4.0**	**surfactant**
Sodium Carbonate	–	3.0	degreaser
Sodium Cumenesulfonate	**EXOtropes SCS 40**	**3.0**	**solubiliser**
Sodium Laureth Sulfate	**SULFOROKAnol L270/1**	**2.0**	**surfactant**
Laureth-4	**ROKAnol L4**	**2.0**	**surfactant**
Parfum	–	0.2	fragrance
Methylisothiazolinone, Metylochloroizotiazolinon	–	0.1	preservative
Citric Acid	–	pH 10.0-11.0	pH adjuster

Appearance	Visual method	Clear gel
pH	–	10.0–11.0

Procedure:

1. Mix EXOsoft PC35 and EXOsoft PO30 with water until dissolved.
2. Add ABSNa 30 and mix.
3. Add Sodium Carbonate and mix until dissolved.
4. Then add SULFOROKAnol L270/1 and ROKAnol L4 and mix.
5. Finally, add EXOtrope SCS 40, Methylisothiazolinone, Metylochloroizotiazolinon, parfum and mix until uniform.
6. Check pH and add (slowly) Citric Acid if it is necessary. You can reduce the pH below the recommended level, but this will reduce the viscosity.

Washing gel, WG

Compound	Brand name	Concentration [%]		Function
		Formulation 1	Formulation 2	
Sodium C12-15 Pareth Sulfate	**SULFOROKAnol L370**	**14.6**		**removes stains/ foaming agent**
Alcohols, C8-18-ethoxylated	**ROKAnol MT7E**	**9.0**		**breaks down stains**
Potassium Oleate	**EXOsoft PO30**	**9.0**	**–**	**breaks down stains**
Potassium Cocoate	**EXOsoft PC35**	**–**	**6.75**	**breaks down stains**
Tetrasodium Glutamate Diacetate	–	3.0		chelator
Trisodium Citrate	–	2.5		chelator
Enzymes	–	0.5		breaks down different types of stains
Fluorescent brightener	–	0.1		optical brightener
Citric Acid	–	for pH ~ 7.5		pH regulator
Aqua	–	61.3	63.55	solvent

Appearance	Visual method	Liquid
pH	–	~ 7.5
Viscosity [cP]	Brookfield LV, 20°C	<100

Procedure:

1. Mix fluorescent brightener with water until dissolved.
2. Add Trisodium Citrate and mix until a homogeneous solution is obtained.
3. Then add SULFOROKAnol L370 and mix.
4. Add ROKAnol MT7E and mix.
5. Then add EXOsoft PO30/EXOsoft PC35 and mix a homogeneous solution is obtained.
6. Add Tetrasodium Glutamate Diacetate, mix.
7. Add Citric Acid to obtained pH in the mass around 7.5.
8. Finally, add enzymes and mix until a clear liquid is obtained.

Performance test

Detergency of washing gel (formulation on page 17)

Detergency - the ability of the detergent to remove soils from the fabric surface during the laundering process. Detergency tests were performed using to own method on fabric soiled with standard, different dirt. Tested dirt divided into three categories:

Enzymatic

- Blood, aged
- Chocolate ice cream, aged

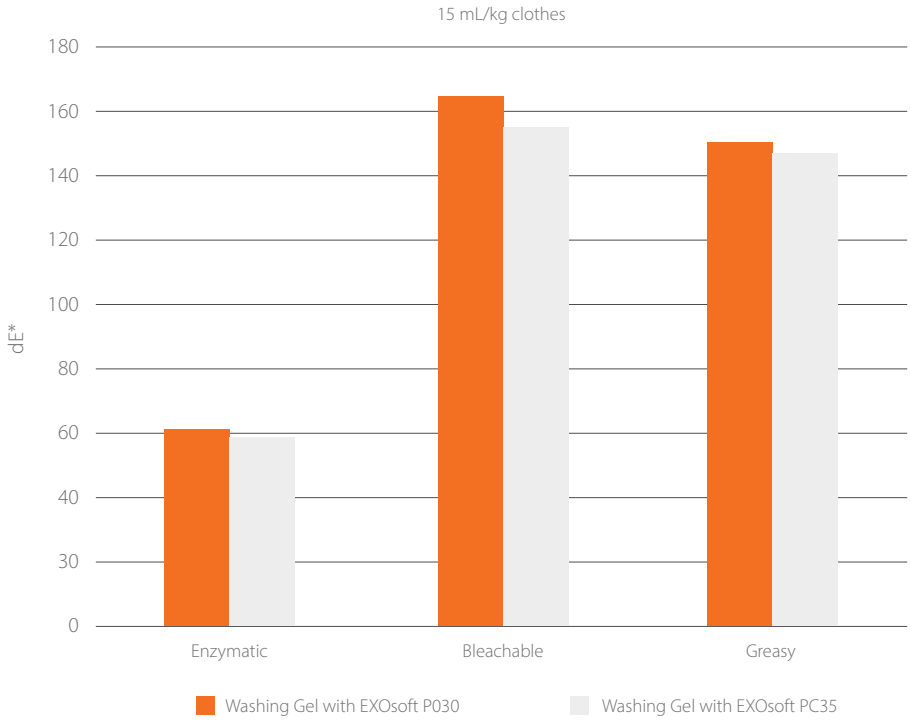
Greasy

- Fluid make-up
- Spaghetti sauce with beef
- Butter with colourant
- Beef fat, coloured with Sudan Red
- Dirty Motor Oil (DMO)

Bleachable

- Curry
- Wine, aged
- Grass/mud, with thickening agent
- Highly discriminative tea
- Grass, pure
- Standard clay
- Beta-carotene on cotton, circular stain
- Baby food carrot/potato

Detergency of Washing Gel



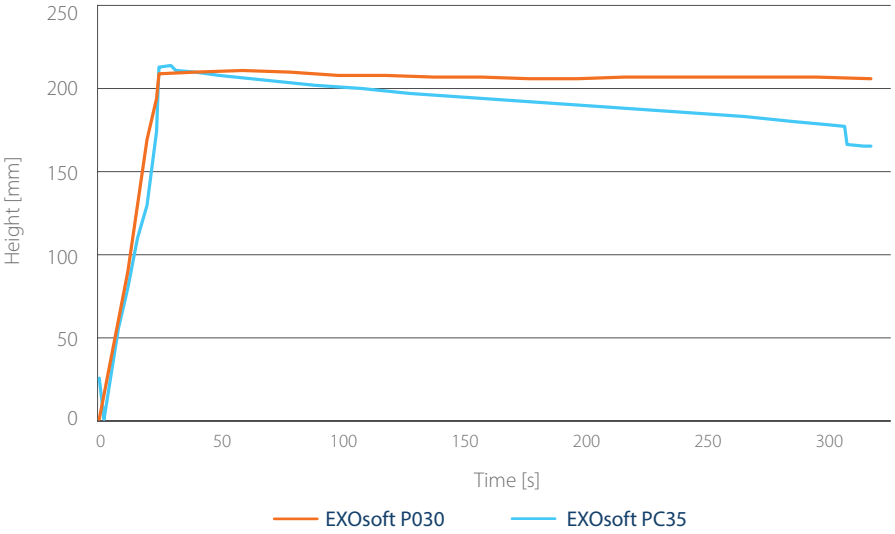
Foam capability

Foaming ability was measured using a KRUSS DFA 100 instrument. For this purpose, aqueous solutions of the tested products were prepared at a concentration of 3.6% in terms of active substance.

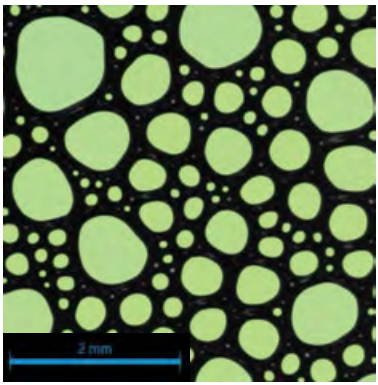
Foaming ability was tested for solutions with a pH of 11 and 9*. The structure of the foam in the tested products is also presented below.

*For solutions at pH 9, opalescence is possible.

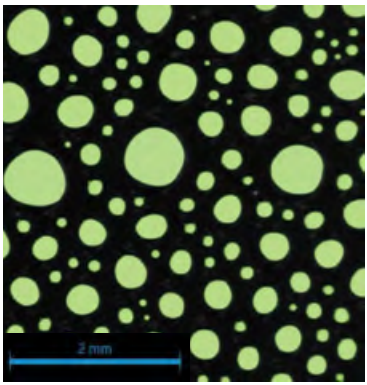
Foam capability for solution pH=9



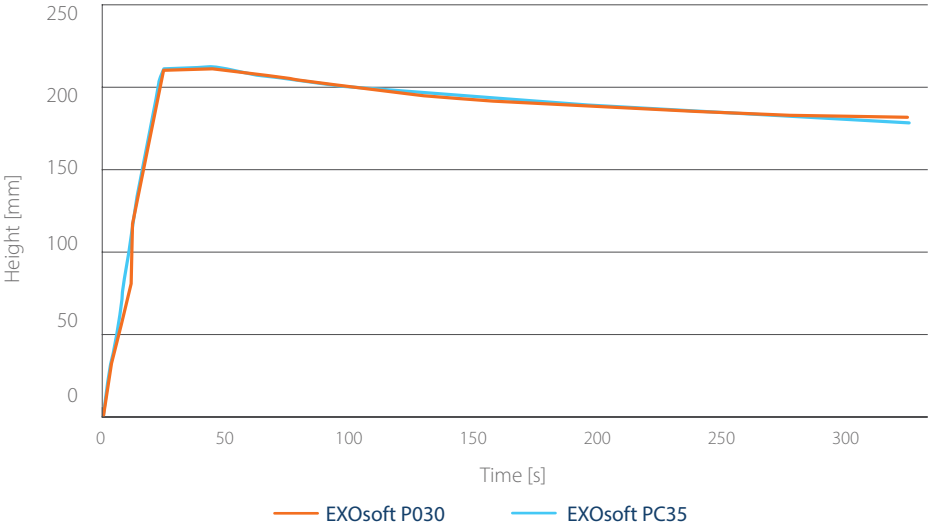
EXOsoft PO30



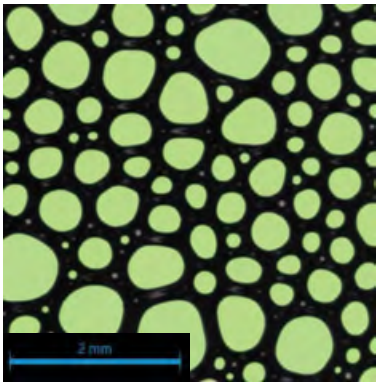
EXOsoft PC35



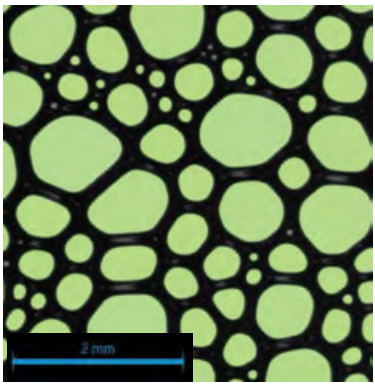
Foam capability for solution pH=11



EXOsoft PO30



EXOsoft PC35



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