
PCC
Autocare
Formulations. Performance. Protection. Shine.
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 surfact nts 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.

PCC ROKITA SA
PCC PCG
OXYALKYLATES
IRPC

Polyols

- Polyether polyols
- Polyester polyols
- Prepolymers
- Polyurethane Systems

PCC
ROKITA SA

Chlorine

- Chlorine
- MCAA
- Other Chlorine Downstream Product

PCC
ROKITA SA

Phosphorus

- Phosphorus derivatives
- Naphthalene derivatives
- Polycarboxyethers (PCE)

PCC EXOL SA
PCC CHEMAX INC
PCC PCG OXYALKYLATES

Surfactants

- Anionic surfactants
- Cationic surfactants
- Nonionic surfactants
- Amphoteric surfactants (betaines)
- Chemical formulation

PCC
SYNTEZA

Alkylphenols

- Nonylphenol
- Dodecylphenol
- Tristyrylphenol

PCC CONSUMER PRODUCTS SA

Consumer Products

- Household & industrial Cleaners, Detergents and Personal Care Products

PCC
ROKITA SA

Energy

- Renewable Energy
- Conventional Energy

PCC
INTERMODAL SA

Logistics

- Intermodal transport
- Road Haulage
- Rail Transport

PCC
BAKKISILICON HF.

Silicon

- Microsillica
- Silicon Metal

PCC
SE

Holding & Projects

- Portfolio Management
- Project Development

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04 / Air fresheners

05 / Roles of surfactants in vehicle cleaning and maintenance preparations

01 / Body cleaning

Snow foam, car shampoo, rinse aid

1.1 Snow foam version 1

Ingredient	Percentage [%]	Function
SULFOROKAnol L270/1	14.5	Cleaning agent, foaming agent
ROKAnol GA9	5.0	Cleaning agent, degreasing agent
Sodium salt of α-olefin sulfonates (40%)	10.0	Foaming agent, foam stabiliser
Citric acid – monohydrate	up to pH=7	pH regulator
Tetrasodium EDTA salt (40%)	2.0	Chelating agent
Water	up to 100%	Solvent

The product should be used at a dilution of 1:5 to 1:20, depending on the severity of staining.

Preparation procedure

1. Add **SULFOROKAnol L270/1** to a measured quantity of water and mix thoroughly.
2. Then add an aqueous solution of sodium salt of alpha-olefin sulfonates and **ROKAnol GA9**, mixing each time.
3. Then add citric acid and an aqueous solution of sodium EDTA salt. Mix until uniform.

Parameters

physical appearance	Clear liquid
pH at 25°C	6-7
Viscosity at 20°C, cP	<10
Solidification point, °C	< 0

Snow foam version 1 – in-use tests

Snow foam 1 – 1:9 concentration

Directly after application

After 1 minute from application

Reference formulation – 1:9 concentration

Directly after application

After 1 minute from application

Test methodology:

A test of foaming capacity of the products on the surface of a car bonnet was carried out. The test was carried out using a Karcher model K7 pressure washer with a P.A. SpA model LS 3 foam lance. After diluting the product to the indicated concentration in the tank of the foam lance, the surface of the bonnet was sprayed with the product at the maximum capacity of the foam lance. After application, a review photo was taken; after waiting 1 minute from application, another photo was taken. Evaluation of the product is based on a visual comparison of the foam obtained at the time of application and after 1 minute.

Snow foam version 2

Ingredient	Percentage [%]	Function
ROSULfan D	17.0	Cleaning agent, foaming agent
ROKAmina K30K	7.0	Foam stabiliser
SULFOROKAnol L227/1	7.0	Foaming agent
EXOlat C40	2.0	Sequestrant
2-(2-butoxyethoxy)ethanol (BDG)	2.0	Solvent, foam enhancer
Water	up to 100%	Solvent

The product should be used at a dilution of 1:5 to 1:20, depending on the severity of staining.

Preparation procedure

1. Add **SULFOROKAnol L227/1** to a measured quantity of water and mix thoroughly.
2. Add **ROSULfan D, ROKAmina K30K** and **EXOlat C40** (in that order), mixing each time.
3. Add BDG and mix until a homogeneous liquid is obtained.

Parameters

physical appearance	Clear liquid
pH at 25°C	6-7
Viscosity at 20°C, cP	<10
Solidification point, °C	< 0

Snow foam version 2 – in-use tests

Snow foam 1 – 1:9 concentration

Directly after application

After 1 minute from application

Reference formulation – 1:9 concentration

Directly after application

After 1 minute from application

Test methodology:

A test of foaming capacity of the products on the surface of a car bonnet was carried out. The test was carried out using a Karcher model K7 pressure washer with a P.A. SpA model LS 3 foam lance. After diluting the product to the indicated concentration in the tank of the foam lance, the surface of the bonnet was sprayed with the product at the maximum capacity of the foam lance. After application, a review photo was taken; after waiting 1 minute from application, another photo was taken. Evaluation of the product is based on a visual comparison of the foam obtained at the time of application and after 1 minute.

1.2 Car shampoo

Ingredient	Percentage [%]	Function
ABSNa 30	27.0	Cleaning agent
SULFOROKAnol L227/1	10.0	Cleaning agent, foaming agent
ROKAmina K40 HC	5.0	Foam stabiliser
EXOlat MC60	2.0	Sequestrant
Sodium carbonate	2.0	pH regulator, detergency enhancer
Sodium metasilicate	3.0	pH regulator, detergency enhancer
Water and additives*	up to 100%	Solvent

The product should be used at a dilution of 1:5 to 1:20, depending on the severity of staining.

Preparation procedure

1. Mix **SULFOROKAnol L227/1** with half the required quantity of water until dissolved.
2. Then add **ROKAmina K40HC** to the solution and mix. Then add **ABSNa 30** and mix until a homogeneous solution is obtained.
3. Prepare a second solution in a separate vessel. Mix sodium carbonate and sodium metasilicate with the remaining water. While mixing, add **EXOlat MC60** and mix until a homogeneous solution is obtained.
4. Finally, pour solution 2 in portions into the still mixed solution 1.

Parameters

physical appearance	White, milky liquid
pH at 25°C	12-13
Viscosity at 20°C, cP	<100
Solidification point, °C	Approx. – 10

Car shampoo – economical

Ingredient	Percentage [%]	Function
EXOCon B27	8.0	Cleaning agent, foaming agent
ROKAmina K40HC	5.0	Cleaning agent, foam stabiliser
EXOlat MC60	2.0	Sequestrant
Sodium carbonate	2.0	Detergency enhancer
Sodium metasilicate	3.0	pH regulator, detergency enhancer
Water	up to 100%	Solvent

The product should be used at a dilution of 1:3 to 1:10, depending on the severity of staining.

Preparation procedure

1. First, mix **EXOcon B27** with half the required quantity of water until dissolved.
2. Then add **ROKAmina K40HC** to the solution and mix until a homogeneous mass is obtained.
3. Prepare solution no. 2 in a separate container. To do this, mix the sodium carbonate and sodium metasilicate with the remaining water. While mixing, add **EXOlat MC60** to the remaining ingredients and mix until a homogeneous solution is obtained.
4. Finally, pour solution no. 2 in portions into the still mixed solution no. 1.

Parameters

physical appearance	Yellow opaque liquid
pH at 25°C	12-13
Viscosity at 20°C, cP	< 4000
Solidification point, °C	Approx. – 10

Car shampoo – environmentally frendly *

Ingredient	Percentage [%]	Function
ROKAnol L7	8.0	Cleaning agent, foaming agent
SULFOROKAnol L227/1	10.0	Cleaning agent, foaming agent
ROKAmina K40HC	5.0	Cleaning agent, foam stabiliser
Sodium carbonate	2.0	Detergency enhancer
Cetyl alcohol	0.1	Foam stabiliser
trisodium salt of methylglycinediacetic acid (MGDA*Na4)	2.0	Chelating agent
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification

The product should be used at a dilution of 1:5 to 1:20, depending on the severity of staining.

Preparation procedure

1. A weighed quantity of cetyl alcohol was poured over with water at a temperature of 40-50°C. The mixture of alcohol and water was mixed until the alcohol melted.
2. Sodium carbonate was added and mixed until dissolved. The temperature was maintained between 40 and 50°C throughout the process.
3. Then, **SULFOROKAnol L227/1, ROKAnol L7** and **ROKAmina K40HC** were added (in that order), each time mixing until dissolved before adding the next ingredient.
4. Finally, MGDA*Na4 was added, after which the heating was turned off and the preparation was mixed until stabilized at ambient temperature.

Parameters

physical appearance	Clear liquid
pH at 25°C	10-11
Viscosity at 20°C, cP	200-300
Solidification point, °C	Approx. – 10
Compliance with Nordic Swan	√

Car shampoo with wax

Ingredient	Percentage [%]	Function
ROKAnol K18	1.0	Wax emulsifier
ROKAnol IT9	15.0	Cleaning agent
Carnauba wax	2.2	Polishing agent
Oleic acid	0.3	Wax emulsifier, car body protectant
Monoethanolamine (MEA)	0.3	pH stabiliser
Water	up to 100%	Solvent

The product should be used at a dilution of 1:3 to 1:10, depending on the severity of staining.

Preparation procedure

1. In a vessel, the wax was melted with oleic acid at 85°C.
2. A mixture of **ROKAnol K18**, MEA and 12.2% water was prepared in a separate vessel. The ingredients were mixed thoroughly by heating to approximately 90°C.
3. The solution prepared in item 2 was slowly added, via dripping, into the mixture prepared in item 1.
4. A heated mixture of **ROKAnol IT9** and the remaining water was then slowly added, while the preparation was continuously mixed.
5. The entire preparation was mixed and gradually cooled to ambient temperature.

Parameters

physical appearance	Opaque milky beige liquid
pH at 25°C	9-10
Viscosity at 20°C, cP	<100
Solidification point, °C	Approx. – 10

1.3 Rinse aid

Ingredient	Percentage [%]	Function
ROKAmin K15K	8.0	Cleaning agent, foaming agent
ROKAmin K5	5.0	Cleaning agent, foam stabiliser
Isopropyl myristate	2.0	Sequestrant
Water	up to 100%	Solvent

The product should be used at a dilution of 1:3 to 1:10

Preparation procedure

1. A measured quantity of water placed in a vessel was heated in a warm water bath (to 40°C). Isopropyl myristate was added to the water and the preparation mixed,
2. Then **Rokamin K5** was added and the preparation was mixed thoroughly. When a homogeneous solution was obtained, **Rokamin K15K** was added and the preparation was mixed again.
3. The entire solution was removed from the water bath and slowly cooled while continuously mixed.

Parameters

physical appearance	Yellow/amber clear liquid
pH at 25°C	7-8
Viscosity at 20°C, cP	Approx. 50
Solidification point, °C	< 0

A section of a car body with and without the polish applied after rinsing with water. Observed hydrophobic effect of the product.

02 / Interior cleaning

upholstery cleaners, APC, dashboard matte and shine agents

2.1 Textile upholstery cleaner environmentally frendly * version 1

Ingredient	Percentage [%]	Function
ROSULfan L	2.0	Cleaning agent, foaming agent
ROKAtend LS	1.0	Cleaning agent
ROKAmina K30	0.5	Cleaning agent, foam stabiliser
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Ready-to-use product.

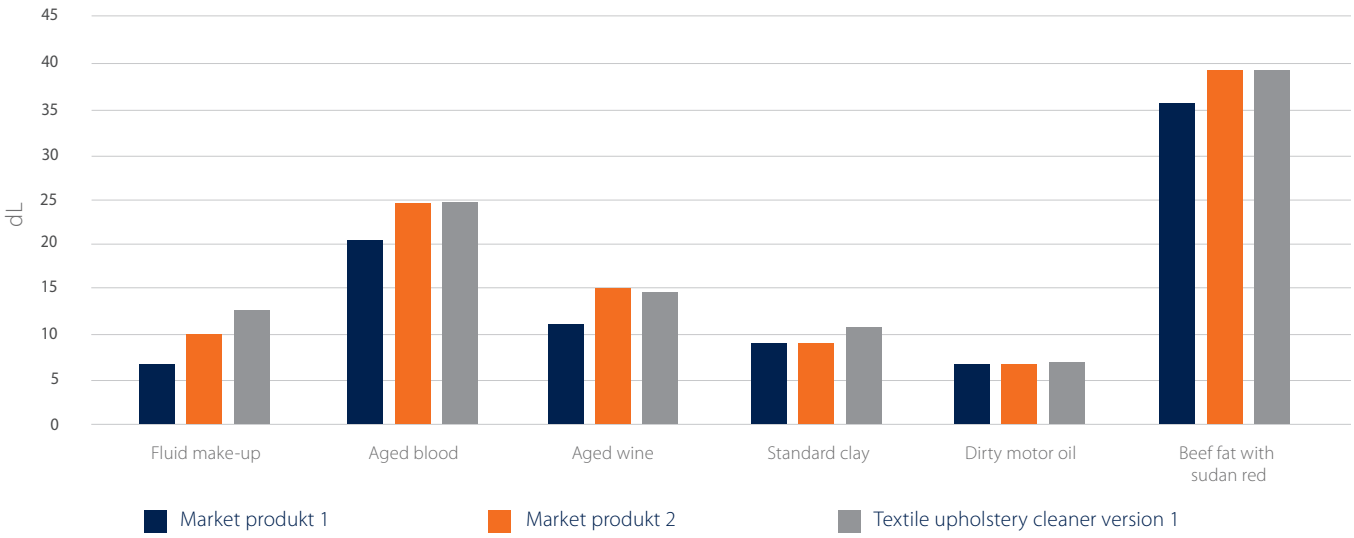
Preparation procedure

Weigh out an appropriate quantity of water. Then add surfactants, i.e. **ROSULfan L, ROKAtend LS, ROKAmina K30**. Mix each time until uniform.

Parameters

physical appearance	Clear liquid
pH at 25°C	10-11
Viscosity at 20°C, cP	< 10
Solidification point, °C	1
Nordic Swan	√

Textile upholstery cleaner version 1 – detergency test on cotton fabric



For the evaluation of detergency, different types of stains for which a particular formulation has the best cleaning properties were selected.

Fabric cleaning test:

Model test fabric MON-PCC02 (cotton) – soiled with 15 different types of stains. The stains are divided into three categories, depending on the removal mechanism: enzymatic, bleach and greasy. Prepare 30 ml of preparations, which should be poured on the test fabric before washing. Put the test fabrics and 2kg of white cotton towels into an automatic washing machine. Run the program dedicated to cotton „40°C". Washing time is 2h 50 min. At the end of the rinse cycle, remove the fabrics from the washing machine and leave to dry. After washing, perform a spectrophotometric measurement of the parameter of total colour difference dE* as the difference before and after washing, following the CIELab method.

The total colour difference dE* is determined as follows:

$$dE^* = \sqrt{dL^{*2} + da^{*2} + db^{*2}}$$

dL* – luminance (brightness) difference = $L^*_{AFTER} - L^*_{BEFORE}$
da* – difference of colour parameter, from green to magentic = $a^*_{AFTER} - a^*_{BEFORE}$
db* – difference of colour parameter, from blue to yellow = $b^*_{AFTER} - b^*_{BEFORE}$

Textile upholstery cleaner environmentally frendly version 2

Ingredient	Percentage [%]	Function
ROSULfan A	2.0	Cleaning agent, foaming agent
ROKAnol L7	2.0	Cleaning agent
ROKAmina K30B	3.0	Cleaning agent, foam stabiliser
Water	up to 100%	Solvent

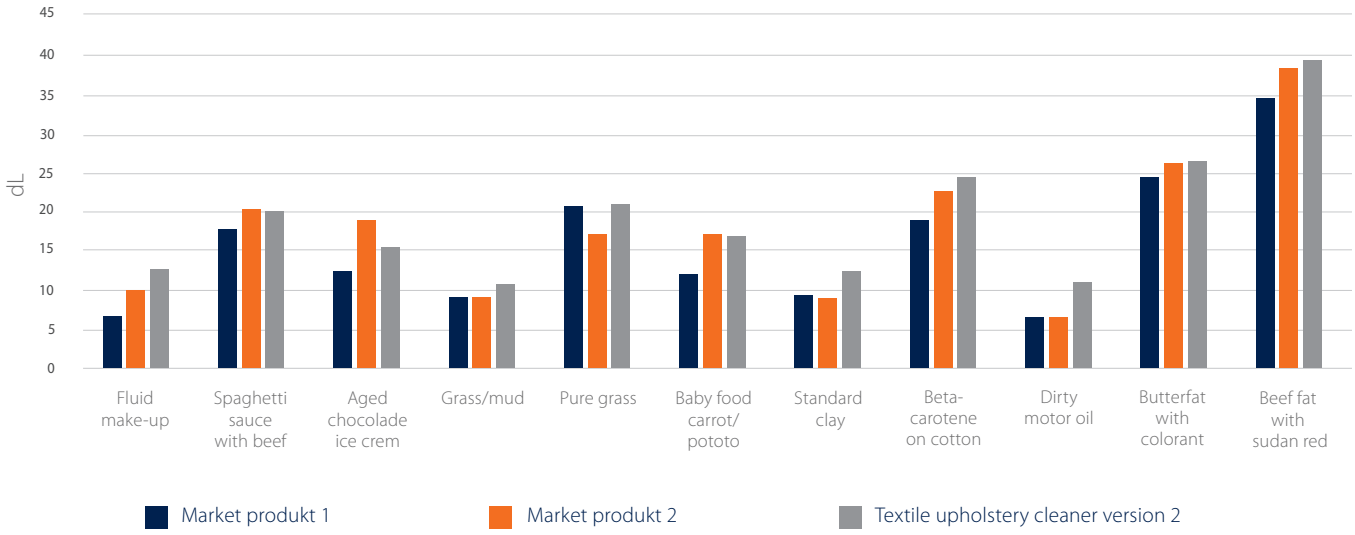
Preparation procedure

Weigh out an appropriate quantity of water. Then add surfactants, i.e. **ROSULfan A, ROKAnol L7, ROKAmina K30B.**
Mix each time until uniform was mixed until stabilized at ambient temperature.

Parameters

physical appearance	Clear liquid
pH at 25°C	5-7
Viscosity at 20°C, cP	< 10
Solidification point, °C	Approx. 0
Nordic Swan	√

Textile upholstery cleaner version 2 – detergency test on cotton fabric



Textile upholstery cleaner environmentally frendly * version 3

Ingredient	Percentage [%]	Function
SULFOROKAnol L227/1	10.0	Cleaning agent, foaming agen
ROKAnol NL8/NL9	5.0	Cleaning agent
ROKAmina K40HC	3.0	Foam stabiliser
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

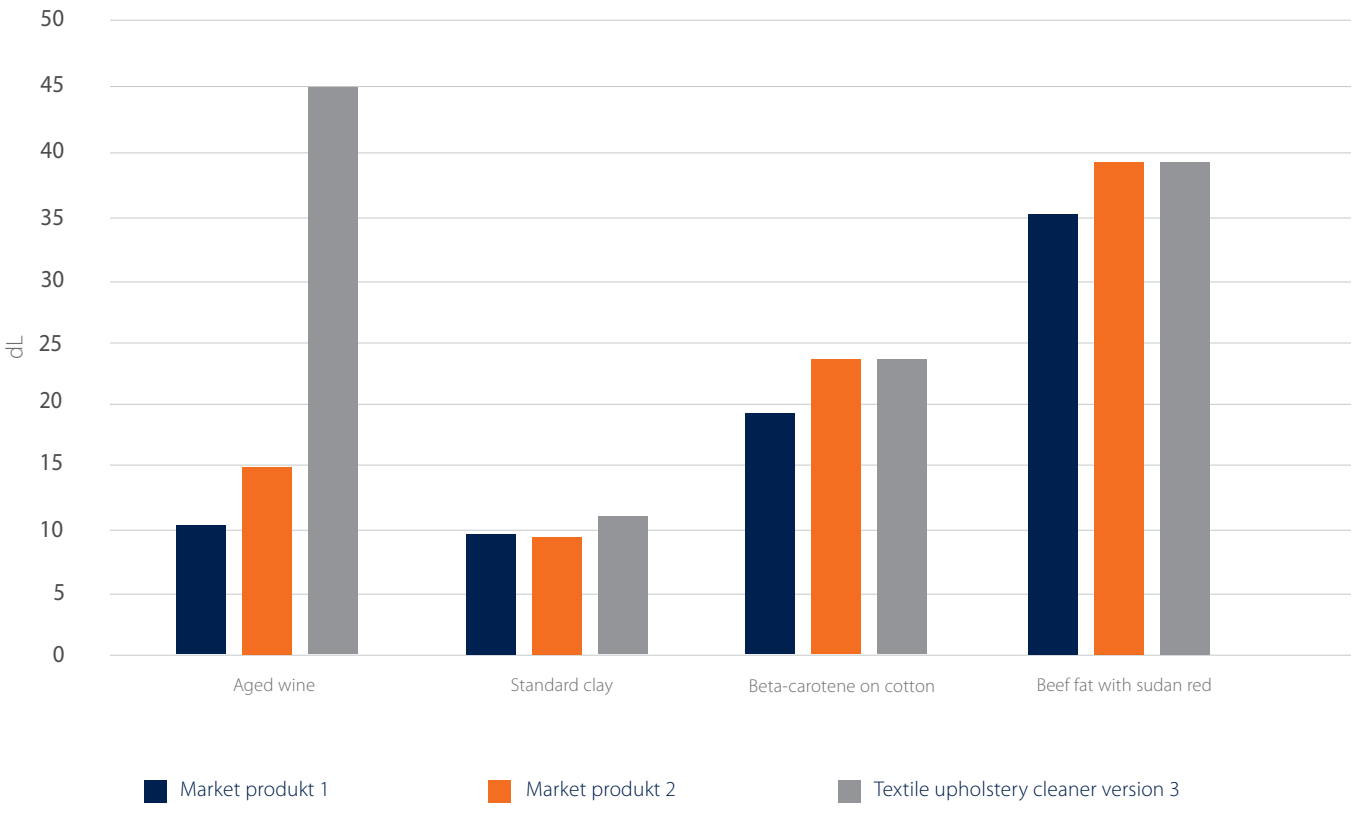
Preparation procedure

Weigh out an appropriate quantity of water. Then add the following products, in the specified order: **SULFOROKAnol L227/1, ROKAnol NL8/NL9** and **ROKAmina K40 HC**. Mix each time until uniform.

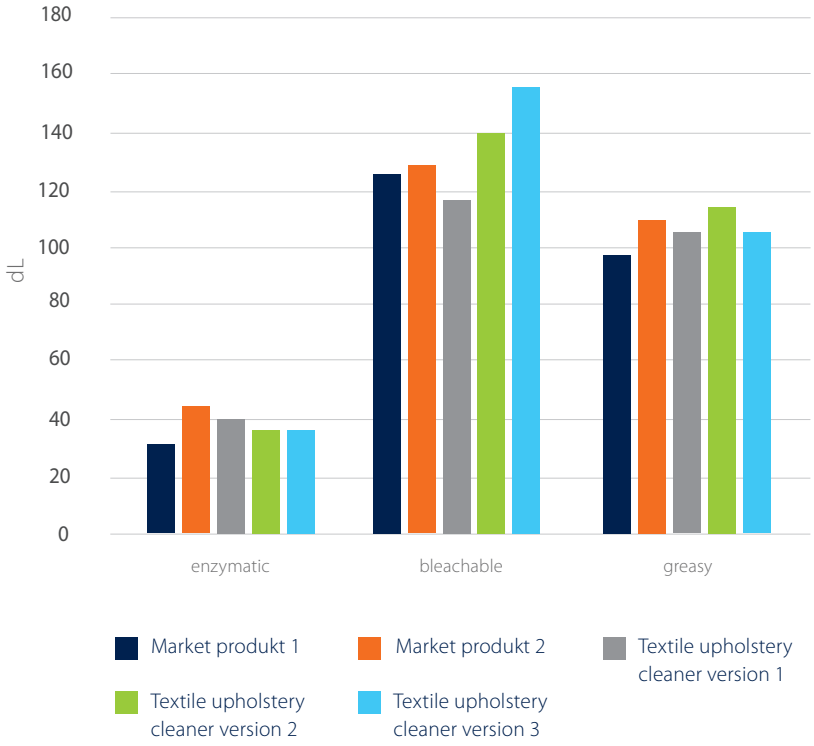
Parameters

physical appearance	Clear liquid
pH at 25°C	5-7
Viscosity at 20°C, cP	< 10
Solidification point, °C	1
Nordic Swan	√

Textile upholstery cleaner version 1 – detergency test on cotton fabric



Detergency test on fabric – comparison



Stain category	Type of stain
Enzymatic stains	Aged bood
	Aged chocolate ice cream
Bleach stains	Curry
	Aged wine
	Grass/mud
	Tea
	Pure grass
	Standard clay
	Beta-carotene on cotton
	Baby food carrot/potato
Greasy stains	Fluid make-up
	Spaghetti sauce with beef
	Butterfat with colorant
	Beef fat with sudan red
	Dirty motor oil

2.2 Leather upholstery cleaner

Ingredient	Percentage [%]	Function
EXOemul OM4	14.0	Silicone oil emulsifier
ROKAnol GA7W	5.0	Cleaning agent
Silicone oil	17.0	Wetting agent, film-forming agent
Propylene glycol	2.0	Humectant
Methoxydipropanol	2.0	Solubiliser
Water	up to 100%	Solvent

Ready-to-use product.

Preparation procedure

1. Mix **EXOemul OM4** and silicone oil together.
2. Add water at a temperature of approx. 80°C to the mixture and mix vigorously.
3. Then add **ROKAnol GA7W**, propylene glycol and methoxydipropanol (in that order), mixing each time
4. Homogenise the whole mixture until uniform.

Parameters

physical appearance	White, milky liquid
pH at 25°C	7-8
Viscosity at 20°C, cP	< 13,000
Solidification point, °C	< 0

2.3 All purpose cleaners

Multi-purpose cleaner environmentally frendly * version 1

Ingredient	Percentage [%]	Function
ROKAnol IT5	2.0	Cleaning agent, degreasing agent
ROKAmina K40HC	2.0	Cleaning agent, foam stabiliser
2-butoxyethanol (BG)	7.0	Solubiliser
Isopropyl alcohol (IPA)	10.0	Solubiliser, degreasing agent
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Ready-to-use product.

Preparation procedure

1. Weigh out an appropriate quantity of water.
2. Then add **ROKAnol GA7** and butoxyethanol, mixing each time.
3. Mix until uniform.

Parameters

physical appearance	Clear liquid
pH at 25°C	5-7
Viscosity at 20°C, cP	< 10
Solidification point, °C	Approx. – 5
Nordic Swan	√

Multi-purpose cleaner environmentally frendly * version 2

Ingredient	Percentage [%]	Function
ROKAnol GA7	2.5	Cleaning agent, degreasing agent
Butoxyethanol (BG)	2.5	Solubiliser
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Ready-to-use product.

Preparation procedure

1. Weigh out an appropriate quantity of water. Then add surfactants, i.e. **ROKAnol IT5** and **ROKAmina K40HC** , mixing each time.
2. Then add butyl glycol (BG) and isopropyl alcohol.
3. Mix until uniform.

Parameters

physical appearance	Clear liquid
pH at 25°C	5-7
Viscosity at 20°C, cP	< 10
Solidification point, °C	<0
Nordic Swan	√

Multi-purpose cleaner environmentally frendly * version 3

Ingredient	Percentage [%]	Function
ROSULfan O	5.0	Cleaning agent, degreasing agent
ROKAmina K40HC	2.0	Cleaning agent, foam stabiliser
2-butoxyethanol (BG)	7.0	Solubiliser
Isopropyl alcohol (IPA)	10.0	Solubiliser, degreasing agent
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Ready-to-use product.

Preparation procedure

1. Weigh out an appropriate quantity of water. Then add surfactants, i.e **ROSULfan O** and **ROKAmina K40HC** , mixing each time. Then add BG and isopropyl alcohol. Mix until uniform.

Parameters

physical appearance	Clear liquid
pH at 25°C	6-7
Viscosity at 20°C, cP	< 10
Solidification point, °C	< – 10
Nordic Swan	√

Multi-purpose cleaner environmentally frendly * version 4

Ingredient	Percentage [%]	Function
ROKAnol GT8	2.0	Cleaning agent, degreasing agent
ROKAcet KO400G	1.0	Cleaning agent, foam stabiliser
methoxydipropanol	2.0	Degreasing agent, aroma
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Ready-to-use product.

Preparation procedure

1. Weigh out an appropriate quantity of water. Then add surfactants, i.e. **ROKAnol GT8** and **ROKAcet KO400G**, mixing each time. Then add methoxydipropanol. Mix until uniform.

Parameters

physical appearance	Clear liquid
pH at 25°C	6-7
Viscosity at 20°C, cP	< 10
Solidification point, °C	Approx. 0
Nordic Swan	√

Interior cleaner concentrate

environmentally frendly *

Ingredient	Percentage [%]	Function
ROSULfan D	15.0	Cleaning agent, foaming agent
ROKAnol GT8	10.0	Cleaning agent, degreasing agent
ROKAcet KO400G	2.0	Cleaning agent, foam stabiliser
methoxydipropanol	5.0	Degreasing agent, aroma
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Use a dilution of 1:100 for light staining, 1:20 for normal staining and 1:3 for severe staining.

Preparation procedure

1. Weigh out an appropriate quantity of water. Then add surfactants, i.e. **ROSULfan D, ROKAnol GT8** and **ROKAcet KO400G**, mixing each time.
2. Then add methoxydipropanol.
3. Mix until uniform.

Parameters

physical appearance	Clear liquid
pH at 25°C	5-7
Viscosity at 20°C, cP	< 10
Solidification point, °C	< – 5
Nordic Swan	√

All purpose cleaners – in-use tests

The photos shown are from a test carried out on the side door of a passenger car. The tested factor was the degree to which greasy food stains (food sauce) were cleaned. The preparations in the appropriate dilution were spread over the surface using a detailing brush. Once the preparation was spread, the surface was wiped with a microfibre cloth. Detergency was assessed by visually observing the degree to which sections of the board were cleaned.

Before After

Reference preparation

Before After

Multi-purpose cleaner – 1

Before

After

Multi-purpose cleaner – 2

Before

After

Multi-purpose cleaner – 3

Before

After

Multi-purpose cleaner – 4

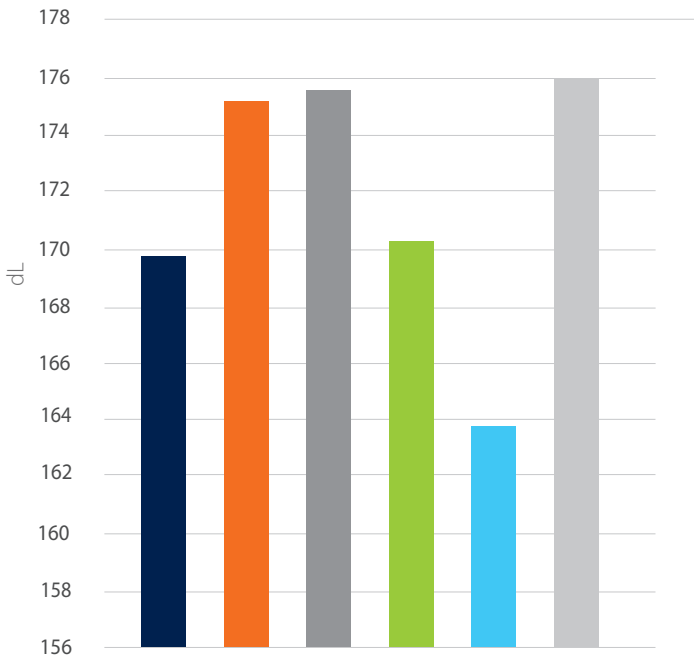
Before

After

Interior cleaner concentrate

Product name	Market product	Multi-purpose cleaner – 1	Multi-purpose cleaner – 2	Multi-purpose cleaner – 3	Multi-purpose cleaner – 4	Interior cleaner concentrate
		environmentally frendly	environmentally frendly	environmentally frendly	environmentally frendly	
Dilution	1:20	1:20	1:20	1:20	1:20	3:200

All purpose cleaners – detergency test



Fabric cleaning test:

Model test fabric MON-PCC02 (cotton) – soiled with 15 different types of stains. The stains are selected as typical stains occurring in cars: make-up, spaghetti sauce, chocolate dessert, mud with grass, baby food, dirty engine oil, butter fat, beef fat. Prepare 30 ml of preparation in a suitable dilution, which should be poured on the test fabric before washing. Put the test fabrics and 2kg of white cotton towels into an automatic washing machine. Run the program dedicated to cotton „40°C". Washing time is 2h 50 min. At the end of the rinse cycle, remove the fabrics from the washing machine and leave to dry. After washing, perform a spectrophotometric measurement of the parameter of total colour difference dE* as the difference before and after washing, following the CIELab method.

- Market produkt 1
- Multi-purpose cleaner (Environmentally friendly*) version 1
- Multi-purpose cleaner (Environmentally friendly*) version 2
- Multi-purpose cleaner (Environmentally friendly*) version 3
- Multi-purpose cleaner (Environmentally friendly*) version 4
- Interior cleaner concentrate (environmentally friendly*)

2.4 Dashboard matte and shine agents

Matte agent

Ingredient	Percentage [%]	Function
ROKAnol GA5/ROKAnol IT6	6/4	Cleaning agent, degreasing agent
Aqueous emulsion of polydimethylsiloxane*	20.0	Matting
Methoxydipropanol	2.0	Degreasing agent, aroma
Water	up to 100%	Solvent

Ready-to-use product.

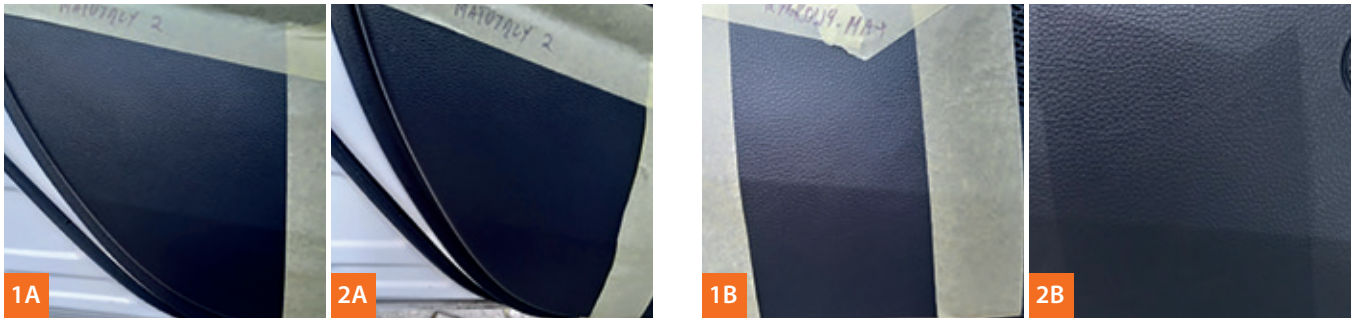
Preparation procedure

1. Weigh out half of the appropriate quantity of water and mix vigorously with the polydimethylsiloxane emulsion.
2. In another vessel, add methoxydipropanol and **ROKAnol GA5/ROKAnol IT6** to the remaining half and mix.
3. Add the prepared surfactant solution via dripping, with intervals, into the vessel with emulsion placed in a water bath.
4. Mix vigorously while slowly cooling.

Parameters

physical appearance	White emulsion
pH at 25°C	4.5-5.5
Viscosity at 20°C, cP	< 10
Solidification point, °C	< – 5

Before After Before After



Matte agent Market product

Photographs of the inside of a plastic door with applied preparations: market preparation and„matting agent (based on ROKAnol GA5)" formulation – before and after versions

Shine agent

Ingredient	Percentage [%]	Function
ROKAnol GA5	3.0	Cleaning agent, degreasing agent
ROKAcet KO400G	2.0	Emollient
Aqueous emulsion of amino-functional polydimethylsiloxane*	20.0	Agent responsible for the gloss effect
Water	up to 100%	Solvent

Ready-to-use product.

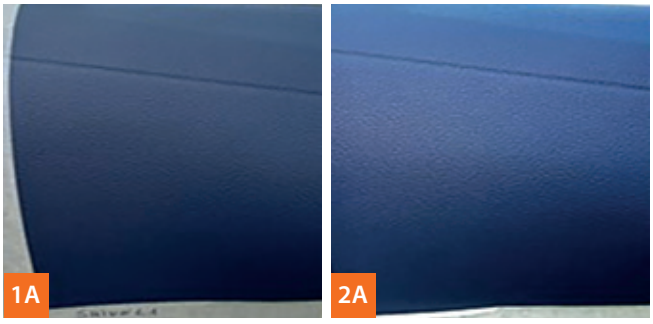
Preparation procedure

1. Weigh out an appropriate quantity of water and methoxydipropanol.
2. Add the amino-functional polydimethylsiloxane emulsion and mix thoroughly.
3. Then add the surfactant, i.e. **ROKAnol GA5** and **ROKAcet KO400G** and mix until a homogeneous emulsion is obtained.

Parameters

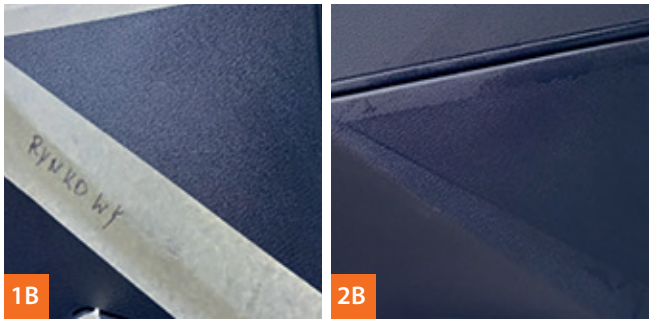
physical appearance	Milky, white emulsion
pH at 25°C	9-10
Viscosity at 20°C, cP	< 10
Solidification point, °C	Approx. 1

Before After



Shine agent

Before After



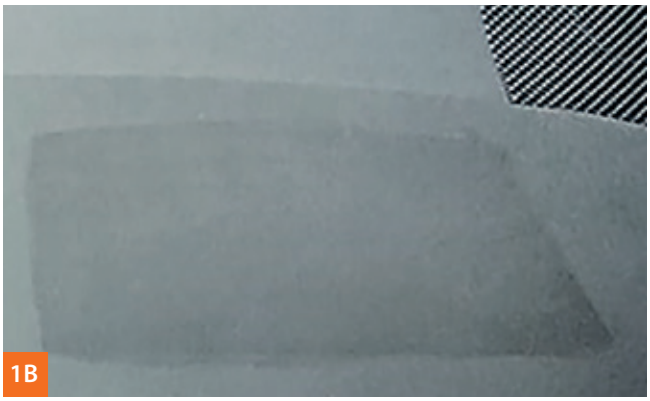
Market product

Photographs of the inside of a plastic door with applied market preparation and„polishing agent" formulation – before and after versions.

Preparations for plastic parts – test summary

Matte agent – market product	Gloss	●●●●○	Matt
	Faded	●●●●○	Blackened
Matte agent (ROKAnol GA5)	Gloss	●●●●○	Matt
	Faded	●●●●○	Blackened
Matte agent (ROKAnol IT6)	Gloss	●●●●○	Matt
	Faded	●●●●●	Blackened
Shine agent – market product	Gloss	●○○○○	Matt
	Faded	●●●○○	Blackened
Shine agent	Gloss	●●○○○	Matt
	Faded	●●●○○	Blackened

Market preparation – shine



Market preparation – matting

Shine agent

Matting agent (ROKANOL GA5)

Photographs of a plastic dashboard showing the effect after the application of preparations.

03 / Products for removing stubborn stains

Traffic film remover, Rim cleaners, Tyre cleaner, Bug removers, Degreasers, Paste for cleaning chrome-plated parts

3.1 Traffic film remover

environmentally frendly *

Ingredient	Percentage [%]	Function
ROKAnol L7	8.0	Cleaning agent, wetting agent
ROKAnol LP2227	3.0	Cleaning agent
EXOlat MC60	2.0	Sequestrant
Methoxydipropanol	3.0	Solvent
Citric acid monohydrate	0.1	pH regulator
Water	up to 100%	Solvent

Ready-to-use product.

Preparation procedure

1. Add **ROKAnol L7** and **ROKAnol LP2227** to water, mixing each time.
2. Then add **EXOlat MC60**, mix until uniform, and add methoxydipropanol.
3. Finally, add citric acid and mix.

Parameters

physical appearance	Clear, colourless liquid
pH at 25°C	6-7
Viscosity at 20°C, cP	< 10
Solidification point, °C	approx. 0
Nordic Swan	√

3.2 Rim cleaner – acidic pH

environmentally frendly *

Ingredient	Percentage [%]	Function
ROKAnol IT6	7.0	Cleaning agent, wetting agent
ROKAnol NL8/NL9	3.0	Cleaning agent, degreasing agent
Citric acid monohydrate	8.0	pH regulator
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Ready-to-use product.

Preparation procedure

1. Dissolve citric acid in water.
2. Add **ROKAnol IT6** and **ROKAnol NL8/NL9** (in that order) to the solution.
3. Mix until uniform

Parameters

physical appearance	Clear colourless liquid
pH at 25°C	1-3
Viscosity at 20°C, cP	< 10
Solidification point, °C	< – 5
Nordic Swan	√

Rim cleaner – alkaline pH

environmentally frendly *

Ingredient	Percentage [%]	Function
ROKAnol TMP7	5.0	Cleaning agent
ROKAmina K30	6.0	Foaming agent
EXOlat C40	4.0	Sequestrant
HEDP*Na4 (diluted sodium salt of etidronic acid)	3.0	Chelating agent
NaOH (50%)	2.0	pH regulator
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Ready-to-use product.

Preparation procedure

1. Add the 50% NaOH solution to water.
2. Then add **ROKAnol TMP7** and **ROKAmina K30** (in that order) to the solution, mixing each time
3. Add **EXOlat C40** and then HEDP*Na4 to the mixture, mixing after each addition.

Parameters

physical appearance	Clear colourless liquid
pH at 25°C	10-12
Viscosity at 20°C, cP	< 10
Solidification point, °C	Approx. 0
Nordic Swan	√

Rim cleaners – in-use tests

Market product

Wheel rim after soiling

Rim cleaner – alkaline pH (environmentally friendly)

Rim cleaner – acidic pH (environmentally friendly)

Test methodology:

The rim was soiled with approx. 100 g of previously prepared dirt. After two days, the undiluted preparation was applied to the rim and left on for approx. 5 minutes. After this time, the rim was rinsed with water and a comparison photo was taken.

Bloody rim

Ingredient	Percentage [%]	Function
SULFOROKAnol L270/1	5.0	Cleaning agent, foaming agent
ROKAmid KAD/2A	2.0	Rheology regulator
ROKAnol NL9	4.0	Cleaning agent, wetting agent
ROKAnol IT9	5.0	Wetting agent
Sodium mercaptoacetate (46%)	30.0	Complexing agent for iron ions
Water	up to 100%	Solvent

Ready-to-use product.

Preparation procedure

1. Pour a measured quantity of water into a vessel, then add **SULFOROKAnol L270/1** and mix until a clear solution is obtained.
2. Add **ROKAnol IT9** and **ROKAnol NL9** to the solution (in that order), mixing each time.
3. Add sodium mercaptoacetate and mix
4. Add **ROKAmid KAD/2A** and mix until uniform.

Parameters

physical appearance	Colourless liquid
pH at 25°C	12-13
Viscosity at 20°C, cP	< 100
Density at 20oC, g/cm^3	Approx. 1.03
Solidification point, °C	Approx. 1.03

3.3 Tyre cleaner

Ingredient	Percentage [%]	Function
ROKwin 80	16.0	Emulsifier
EXOantifoam S100	1.0	Anti-foaming agent
Glycerine	6.0	Rheology modifier
Ethyl alcohol	5.0	Solvent
Dearomatised mixture of short-chain hydrocarbons	24.0	Cleaning agent, preservative
Water	up to 100%	Solvent

Ready-to-use product.

Preparation procedure

1. Pour the mixture of dearomatised short-chain hydrocarbons into a vessel, add ethyl alcohol and glycerine.
2. In a separate vessel, prepare an aqueous mixture of **ROKwin 80**, which should be heated to approx. 80°C. After thorough mixing, add **EXOantifoam S100**, mixing continuously and heating at the desired temperature.
3. The final step is to homogenise using a hand-held homogeniser at high speed, with simultaneous heating. Slowly add to the first vessel, via dripping, the hot mixture prepared in item 2. Homogenise the preparation continuously. After pouring in the entire mixture, homogenise for some more time while slowly cooling the final product. Then leave to cool.

Parameters

physical appearance	White, milky liquid
pH at 25°C	7-8
Viscosity at 20°C, cP	68
Solidification point, °C	0.5

3.4 Bug remover – pro

Ingredient	Percentage [%]	Function
EXOlat C40	10.0	Sequestrant
ROKAmin K15K	3.0	Hydrophobic agent
ROKAnol IT7	2.0	Cleaning agent
Sodium cumensulfonate	5.0	Solubiliser
2-butoxyethanol (BG)	3.0	Solvent/Solubiliser
Sodium carbonate	2.0	Detergency enhancer
NaOH (30%)	1.0	pH regulator
Water	up to 100%	Solvent

Use a dilution between 1:10 and 1:20 for weak staining and 1:3 for severe staining.

This product removes the remains of insects and other road dirt from the car body.

Preparation procedure

1. Add sodium carbonate to a weighed quantity of water and mix until a homogeneous liquid is formed.
2. Then add 2-butoxyethanol (BG), **Rokanol IT7, EXOlat C40**, sodium cumensulfonate and **ROKAmin K15K**, mixing the sample each time.
3. Mix until uniform.
4. Slowly add NaOH and mix thoroughly.

Parameters

physical appearance	Clear liquid
pH at 25°C	~13
Viscosity at 20°C, cP	< 10
Solidification point, °C	Approx. 1.06

Bug remover – pro – in-use tests

Before applying the pro remover.

During action of the pro remover.

After washing with the pro remover.

Test methodology:

The product was diluted with water in a 1:3 ratio. The cleaned, cold surface was sprayed with the diluted solution. A period of 30 s to 1 min was allowed to elapse, without allowing the product to dry. The surface was then rinsed with a jet of water.

Bug remover – standard

Ingredient	Percentage [%]	Function
SULFOROKAnol L227/1	18.0	Cleaning agent, foaming agent
ROKAmid MRZ17	3.0	Detergency enhancer
EXOlat C40	2.5	Sequestrant
Glycerine	10.0	Stabiliser/detergency enhancer
Methoxydipropanol	5.0	Solubiliser
2-butoxyethanol (BG)	4.0	Solvent
D-glucopyranose, oligomers, C8-10 glucosides	2.0	Wetting agent/hydrotrope
NaOH (30%)	1.0	pH regulator
Water	up to 100%	Solvent

Ready-to-use product.

Preparation procedure

1. Add S**ULFOROKAnol L227/1** to a weighed quantity of water and mix until a homogeneous liquid is formed.
2. Then add d-glucopyranose and 2-butoxyethanol (BG), and mix. Next, add **ROKAmid MRZ17**, glycerine, methoxydipropanol and **EXOlat C40**, mixing the sample each time. Mix until uniform.
3. Slowly add NaOH and mix thoroughly.

Parameters

physical appearance	Clear liquid
pH at 25°C	~13
Viscosity at 20°C, cP	< 10
Solidification point, °C	Approx. 1.04

Bug remover – standard – in-use tests

Before applying the standard remover.

During action of the standard remover.

After washing with the standard remover.

Test methodology:

The cleaned, cold surface was sprayed with the ready-to-use product. A period of 30 s to 1 min was allowed to elapse, without allowing the product to dry. The surface was then rinsed with a jet of water.

Bug remover – economic

Ingredient	Percentage [%]	Function
ROKAnol DB7	1.0	Cleaning agent/wetting agent
EXOlat C40	4.0	Sequestrant
2-(2-butoxyethoxy)ethanol (BDG)	3.0	Solubiliser
NaOH (30%)	1.0	pH regulator
Mixture of isothiazolins (CIT/MIT)	0.1	Preservative
Water	up to 100%	Solvent

Ready-to-use product.

Preparation procedure

1. Add **ROKAnol DB7** and BDG to a weighed quantity of water and mix until a homogeneous liquid is formed.
2. Then add **EXOlat C40** and mix until uniform.
3. Slowly add NaOH and mix thoroughly.
4. Finally, add the preservative CIT/MIT.

Parameters

physical appearance	Clear liquid
pH at 25°C	~13
Viscosity at 20°C, cP	< 10
Solidification point, °C	Approx. 1.01

Bug remover – economic – in-use tests

Before applying the economic remover.

During action of the economic remover.

After washing with the economic remover.

Test methodology:

The cleaned, cold surface was sprayed with the ready-to-use product. A period of 30 s to 1 min was allowed to elapse, without allowing the product to dry. The cleaned surface was then rinsed with a jet of water.

3.5 Degreasers

Car body degreaser environmentally frendly * version 1

Ingredient	Percentage [%]	Function
ROKAnol GA8	3.0	Cleaning agent
ROKAnol IT9	0.5	D-limonene solvent
D-limonene	1.0	Degreasing agent, aroma
2-(2-butoxyethoxy)ethanol (BDG)	2.0	Solubiliser
NaOH	0.5	pH stabiliser
trisodium salt of methylglycinediacetic acid (MGDA*Na4)	2.0	Chelating agent
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Ready-to-use product.

Preparation procedure

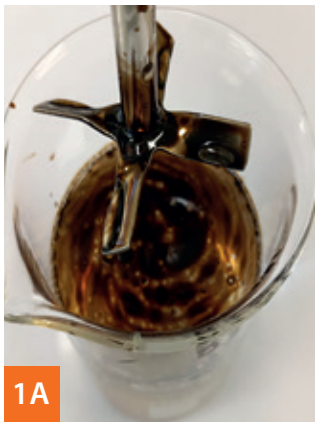
1. Weigh out an appropriate quantity of water and add BDG, then mix.
2. Then add **ROKAnol GA8** and **ROKAnol IT9** (in that order), mixing each time.
3. Add d-limonene and mix.
4. Slowly add NaOH and mix until a clear solution is obtained.

Parameters

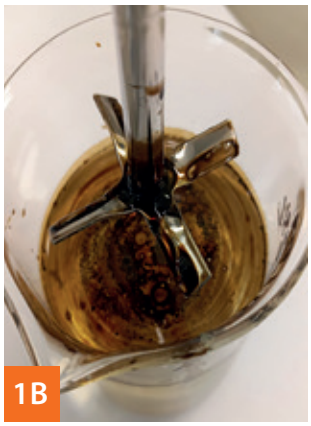
physical appearance	Clear liquid
pH at 25°C	12-13
Viscosity at 20°C, cP	< 10
Solidification point, °C	approx. 1.5
Nordic Swan	√

Car body degreaser version 1 – dynamic degreasing

Product 1

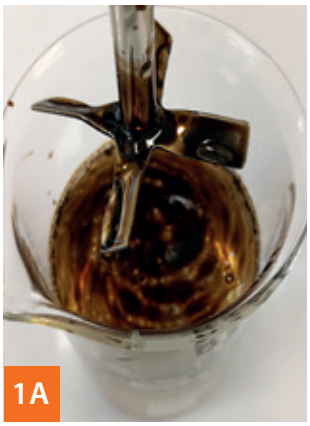


Degreaser 1 after 2 minutes

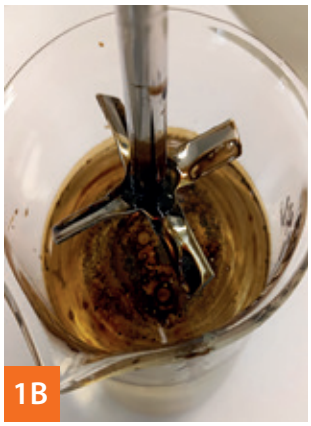


Degreaser 1 after 5 minutes

Market product



Product after 2 minutes



Product after 5 minutes

Dynamic degreasing:

A method of assessing the degreasing ability of a given preparation. Performed by rotating an agitator in a solution of 5g of product/l. The agitator is first immersed in used engine oil, after which the degreasing process takes place in the solution through rotations of the agitator. Visual evaluation is conducted after the second and fifth minute of rotating.

Car body degreaser environmentally frendly * version 2

Ingredient	Percentage [%]	Function
ROSULfan E	9.5	Cleaning agent, foaming agent
ROKAnol NL6	5.0	Cleaning agent
ROKAnol IT8	5.0	Cleaning agent, degreasing agent
2-butoxyethanol (BG)	2.0	Solubiliser
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Ready-to-use product.

Preparation procedure

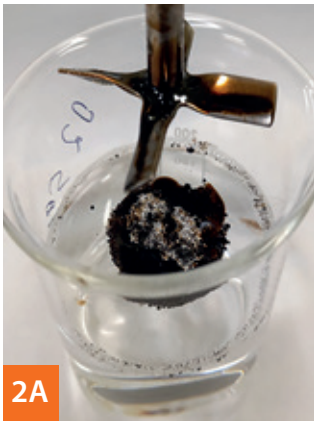
1. Weigh out an appropriate quantity of water and add BG, then mix.
2. Then add surfactants, i.e. **ROSULfan E, ROKAnol NL6** and **ROKAnol IT8**, mixing each time.
3. Mix until uniform.

Parameters

physical appearance	Clear liquid
pH at 25°C	5-6
Viscosity at 20°C, cP	< 10
Solidification point, °C	1.5
Nordic Swan	√

Car body degreaser version 2 – dynamic degreasing

Product 2



Degreaser 2 after 2 minutes

Degreaser 2 after 5 minutes

Market product

Product after 2 minutes

Product after 5 minutes

Dynamic degreasing:

A method of assessing the degreasing ability of a given preparation. Performed by rotating an agitator in a solution of 5g of product/l. The agitator is first immersed in used engine oil, after which the degreasing process takes place in the solution through rotations of the agitator. Visual evaluation is conducted after the second and fifth minute of rotating.

Car body degreaser environmentally frendly * version 3

Ingredient	Percentage [%]	Function
SULFOROKAnol L270/1	3.8	Cleaning agent, foaming agent
ROKAnol GA7	1.2	Cleaning agent, degreasing agent
Propylene glycol	2.0	Solubiliser
Water	up to 100%	Solvent

* Environmentally friendly in the sense of meeting the requirements of the Nordic Swan Ecolabel certification.

Ready-to-use product.

Preparation procedure

1. Weigh out an appropriate quantity of water. Then add surfactants, i.e. **SULFOROKAnol L270/1**, and mix thoroughly.
2. Then add **ROKAnol GA7** and propylene glycol, mixing each time.
3. Mix until uniform.

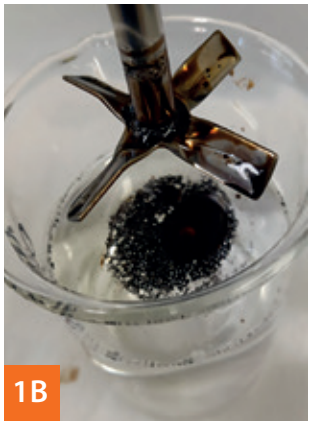
Parameters

physical appearance	Clear liquid
pH at 25°C	6-7
Viscosity at 20°C, cP	< 10
Solidification point, °C	1
Nordic Swan	√

Car body degreaser version 3 – dynamic degreasing

Product 3

Degreaser 3 after 2 minutes



Degreaser 3 after 5 minutes

Market product

Product after 2 minutes

Product after 5 minutes

Dynamic degreasing:

A method of assessing the degreasing ability of a given preparation. Performed by rotating an agitator in a solution of 5g of product/l. The agitator is first immersed in used engine oil, after which the degreasing process takes place in the solution through rotations of the agitator. Visual evaluation is conducted after the second and fifth minute of rotating.

3.6 Paste for cleaning chrome-plated parts

Ingredient	Percentage [%]	Function
ROKwin 80	10.0	emulsifier
ROKAnol IT9	10.0	cleaning agent
ROKAnol NL9	5.0	cleaning agent, wetting agent
Dearomatised mixture of short-chain hydrocarbons	30.0	glossing agent
Water	up to 100%	Solvent

Ready-to-use product.

Preparation procedure

1. Prepare an aqueous mixture of **ROKwin 80, ROKAnol NL9** and **ROKAnol IT9**, mixing after each ingredient is added. Heat the mixture to approx. 60°C.
2. Into a vessel with a weighed quantity of the mixture of short-chain hydrocarbons slowly add, via dripping, the mixture prepared in item 1 at 60°C. The preparation should be continuously homogenised using a hand-held laboratory homogeniser.
3. After adding the entire mixture, cool the preparation (while continuing to homogenise) until a paste forms.

Parameters

physical appearance	White paste
pH at 25°C	6-8
Viscosity at 20°C, cP	> 6000
Solidification point, °C	-

04 / Air fresheners

Air freshener in an applicator, Spray air freshener

Air freshener in an applicator

Ingredient			Mass ratio	Percentage [%]
ROKAnol ROKAnol L4/ ROKAnol L5P5*	:	Vegetable Oil (sunflower, castor and rapeseed oils tested)	6:1	99/98
			4:1	
			2:1	
			1:1	
Ethanol				0/1**
Fragrance composition				1

* Choice of ROKAnol L4 or ROKAnol L5P5 mixed with oil in the ratios as indicated, with a total content of 99% or 98%, depending on the quantity of ethanol used.

** Adding ethanol to the formulation improves the fragrance properties of the air freshener, but is not necessary for the formulation.

Spray air freshener

Ingredient	Percentage [%]
Water : IPA/ethanol (8:1)*	89
ROKAcet HR40 W/ EXOcare HTW/ ROKwinol 20/ ROKAnol L5P5	10
Fragrance composition	1

* Mixture of water and alcohol in the stated mass ratio, which constitutes the stated percentage of the complete formulation

Air freshener – odour evaluation

In the tested fragrance composition.

Air freshener in an applicator

Formulation *	Odour evaluation
Oil+ROKAnol L4	Weak odour
Oil + ethanol + ROKAnol L4	Perceptible odour
Oil + ROKAnol L5P5	Strong odour
Oil + ethanol + ROKAnol L5P5	Strong odour

Spray air freshener

Formulation *	Odour evaluation
Water: alcohol + ROKAcet HR40W	Strong odour
Water: alcohol + EXOcare HTW	Strong odour
Water: alcohol + ROKwinol 20	Strong odour
Water: alcohol + ROKAnol L5P5	Strong odour

05 / Roles of surfactants in vehicle cleaning and maintenance preparations

Emulsifier

Thickener

Detergent

Complexing Agent

Foam Stabilizer

Drying Agent

Antifoaming Agent

Solubilizer

Foaming Agent

Wetting agent

Antistatic Agent

Rinse aid agent

Degreasing Agent

Emulsifier – easier oil and water phases connection

Product name	Chemical structure	CAS	Freezing point	Acid resistance	HLB
ROKAnol NL9	Alcohols, C9-C11, ethoxylated	68439-46-3	15°C	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	14.1
ROKAnol K18	Alcohols, C16-18 even and C18-unsaturated, ethoxylated	68920-66-1	35°C	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	15.8
ROKwin 80	Sorbitane monooleate	1338-43-8	-14°C	-	4.3
EXOemul OM4	Mixture of surfactants	Mixture of surfactants	<–20°C	HCl – Lack of resistance in the tested range	8.7
ROKAnol IT7	Alcohols, C13, branched, ethoxylated	69011-36-5	2°C	HCl – Lack of resistance in the tested range	12.1
ROKwinol 20	Sorbitan monolaurate, ethoxylate	9005-64-5	-	HCl – Lack of resistance in the tested range	16.7
ROKAcet R26	Ricinus oil, ethoxylated	61791-12-6	0°C	H_2SO_4(VI)–140 ml/l	11.0
ROKAcet R40	Ricinus oil, ethoxylated	61791-12-6	21°C	H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	13.0
ROKAmin K5	C12-18 alkyl amine, ethoxylated	61791-14-8	-	-	6.0

HCl (hydrochloric acid) and H_2SO_4 (sulphuric acid(VI)): acid test concentration is 25% (10 ml/l is the minimum tested quantity of hydrochloric acid solution in the product, 225 ml/l is the maximum tested quantity of acid in the product).

Solubilizer (hydrotropic solubilization) – increased water solubility of ingredients

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance
ROKAmin K15K	Ethoxylated and quaternized fatty amine	68989-03-7	< 0°C	NaOH–140g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
EXOtrope CS	Ethoxylated and quaternized fatty amine	68989-03-7	-19°C	NaOH–140g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAnol L4	Alcohols, C12-14, ethoxylated	68439-50-9	-3°C	Lack of resistance in the tested concentration range	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAnol L5P5	Lauryl alcohol alkoxylate	68439-51-0	-20°C	NaOH–20g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAcet HR40W	Hydrogenated castor oil, ethoxylated	61788-85-0	5°C	NaOH–10g/l	HCl–80 ml/l H_2SO_4(VI)–140 ml/l
EXOcare HTW	Mixture of surfactants	Mixture of surfactants	-4°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKwinol 20	Sorbitan monolaurate, ethoxylate	9005-64-5	-5°C	NaOH–10g/l	HCl–Lack of resistance in the tested range
ROKAnol IT9	Alcohols, C13, branched, ethoxylated	69011-36-5	10°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROSULfan E	2-Ethylhexanol Sulfate Sodium Salt	126-92-1	-7°C	NaOH–170g/l	HCl–140 ml/lH_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)

NaOH (sodium hydroxide): tested hydroxide concentration: 30% (10 g/l is the minimum tested quantity of NaOH solution in the product, 390 g/l is the maximum tested quantity of NaOH solution in the product) HCl (hydrochloric acid) and
H_2SO_4 (sulphuric acid(VI)): acid test concentration is 25% (10 ml/l is the minimum tested quantity of hydrochloric acid solution in the product, 225 ml/l is the maximum tested quantity of acid in the product)

Thickener – increased formulation viscosity

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance
ROKAmid KAD/2A	Amides, C8-18 (even) and C18 unsaturated, N,N-bis(hydroxyethyl)	68155-07-7	6°C	Lack of resistance in the tested concentration range	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAmid RAD	Amides, C16-18 (even) and C18 unsaturated, N,N-bis(hydroxyethyl)	68603-38-3	4°C	Lack of resistance in the tested concentration range	-
SULFOROKAnol L270/1	Alcohols, C12-C14, ethoxylated (<2.5 TE), sulphated, sodium salts	68891-38-3	10°C	NaOH – 20 g/l	HCl–100 ml/l H_2SO_4(VI)–140 ml/l

NaOH (sodium hydroxide): tested hydroxide concentration: 30% (10 g/l is the minimum tested quantity of NaOH solution in the product, 390 g/l is the maximum tested quantity of NaOH solution in the product)
HCl (hydrochloric acid) and H_2SO_4 (sulphuric acid(VI)): acid test concentration is 25% (10 ml/l is the minimum tested quantity of hydrochloric acid solution in the product, 225 ml/l is the maximum tested quantity of acid in the product)

Foaming agent – improved formulation foaming properties

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance	Ross-Miles foaming power–1 g/l of active substance after 180 s–demi water	Ross-Miles foaming power–1 g/l of active substance after 180 s–hard water
ROSUfan D	Sodium salt of sulphated decyl alcohol	142-87-0	0°C	NaOH–90g/l	HCl–140 ml/l H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	220ml	380ml
ROSULfan A	Ammonium salt of sulphated lauryl alcohol	90583-11-2	Approx. 0°C	NaOH–30g/l	HCl–120 ml/l H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	420ml (5g/l)	60ml (5g/l)
ROSULfan L	Sodium salt of sulphated lauryl alcohol	85586-07-8	Approx. 0°C	NaOH–20g/l	HCl–120 ml/l H_2SO_4(VI) – 140 ml/l	180ml	30ml
ROKAmina K30	1-Propanaminium, 3-amino-N-(carboxymethylo)-N,N-dimethyl-, even N-C8-18-acyl derivatives, hydroxides, inert salts	97862-59-4	-7°C	NaOH–220g/l	H_2SO_4(VI)–140 ml/l	290ml	280ml
ROKAmina K40HC	1-Propanaminium, 3-amino-N-(carboxymethylo)-N,N-dimethyl-, even N-C8-18-acyl derivatives, hydroxides, inert salts	61789-40-0	-15°C	NaOH–200g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	320ml	310ml
SULFOROKAnol L270/1	Alcohols, C12-C14, ethoxylated (<2.5 TE), sulphated, sodium salts	68891-38-3	10°C	NaOH–20g/l	HCl–100 ml/l H_2SO_4(VI)–140 ml/l	350ml	420ml
SULFOROKAnol L227/1	Alcohols, C12-C14, ethoxylated (<2.5 TE),sulphated, sodium salts	68891-38-3	0°C	NaOH–20g/l	HCl–100 ml/l H_2SO_4(VI)–130 ml/l	350ml	420ml
EXOcon B27	Mixture of surfactants	Mixture of surfactants	-3°C	NaOH–20g/l	HCl–100 ml/l H_2SO_4(VI)–130 ml/l	240ml	250ml
EXOclean APC	Mixture of surfactants	Mixture of surfactants	0°C	NaOH–10g/l	HCl–100 ml/l H_2SO_4(VI)–130 ml/l	240ml	250ml
ROKAnol NL9	Alcohols, C9-C11, ethoxylated	68439-46-3	15°C	NaOH–90g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	220ml	220ml
ROKAnol NL12W/80	Alcohols, C9-C11, ethoxylated	68439-46-3	-13°C	NaOH–80g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	230ml	230ml
ROKAnol L7	Alcohols, C12-14, ethoxylated	68439-50-9	10°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	250ml	250ml
ROKAnol L10/80	Alcohols, C12-14, ethoxylated	68439-50-9	2°C	NaOH–90g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	240ml	240ml

NaOH (sodium hydroxide): tested hydroxide concentration: 30% (10 g/l is the minimum tested quantity of NaOH solution in the product, 390 g/l is the maximum tested quantity of NaOH solution in the product)
HCl (hydrochloric acid) and H_2SO_4 (sulphuric acid(VI)): acid test concentration is 25% (10 ml/l is the minimum tested quantity of hydrochloric acid solution in the product, 225 ml/l is the maximum tested quantity of acid in the product)

Detergent – surface cleaning, reduced surface tension

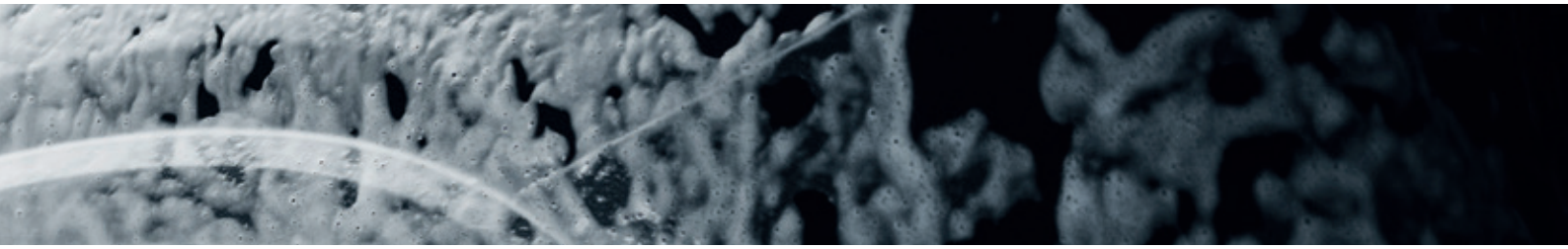
Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance	Detergency–2 g/l of product at 40°C on EMPA 125 fabric
ROKAnol GA8	Alcohols, C10, ethoxylated	160875-66-1	6°C	NaOH–40g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	23 dL
ROKAnol GA9	Alcohols, C10, ethoxylated	160875-66-1	12°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	22 dL
ROSULfan E	2-Ethylhexanol Sulfate Sodium Salt	126-92-1	-7°C	NaOH–170g/l	HCl–140 ml/l H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	21 dL
ROKAnol NL6	Alcohols, C9-C11, ethoxylated	68439-46-3	5°C	NaOH–40g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	21 dL
ROKAnol GT8	Alcohols, C9-C16, ethoxylated	97043-91-9	4°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	19 dL
ROKAnol TMP7	Alcohols, C13-15, branched and linear, ethoxylated	157627-86-6	12°C	NaOH–60g/l	HCl–140 ml/l H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	19 dL
ROKAnol IT9	Alcohols, C13, branched, ethoxylated	69011-36-5	10°C	NaOH–40g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	18 dL
ABSNa 30	Benzenemonosulfonic acids, C10-13 alkyl derivatives, sodium salts	68411-30-3	< 0°C	NaOH–10g/l	HCl–100 ml/l H2SO4(VI)–140 ml/l	17 dL *(tested on ABSNa 50)
ABSNa 60	Benzenemonosulfonic acids, C10-13 alkyl derivatives, sodium salts	68411-30-3	-	NaOH–10g/l	HCl–100 ml/l H2SO4(VI)–140 ml/l	17 dL *(tested on ABSNa 50)
ROSULfan L	Sodium lauryl sulfate	85586-07-8	7°C	NaOH–10g/l	HCl–100 ml/l H2SO4(VI)–140 ml/l	17 dL (2 g/l of product) 19 dL (2 g/l of active substance)
ROKAnol IT8	Alcohols, C13, branched, ethoxylated	69011-36-5	11°C	NaOH–30g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	17 dL
ROKAnol GA7	Alcohols, C10, ethoxylated	160875-66-1	20°C	Lack of resistance	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	17 dL
ROKAnol GT9	Alcohols, C9-C16, ethoxylated	97043-91-9	8°C	NaOH–30g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	17 dL
ROKAnol L7	Alcohols, C12-14, ethoxylated	68439-50-9	10°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	17 dL
ROKAnol IT7	Alcohols, C13, branched, ethoxylated	69011-36-5	3°C	NaOH–30g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	16 dL

NaOH (sodium hydroxide): tested hydroxide concentration: 30% (10 g/l is the minimum tested quantity of NaOH solution in the product, 390 g/l is the maximum tested quantity of NaOH solution in the product)
HCl (hydrochloric acid) and H_2SO_4 (sulphuric acid(VI)): tested acid concentration is 25% (10 ml/l is the minimum tested quantity of hydrochloric acid solution in the product, 225 ml/l is the maximum tested quantity of acid in the product)

Detergent – surface cleaning, reduced surface tension

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance	Detergency–2 g/l of product at 40°C on EMPA 125 fabric
ROKAnol DB7	Alcohols, C12-15, ethoxylated	68131-39-5	17°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	16 dL
ROKAnol L5P5	Alcohols, C12-14, ethoxylated propoxylated	68439-51-0	-20°C	NaOH–20g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	16 dL
ROKAnol NL9	Alcohols, C9-C11, ethoxylated	68439-46-3	15°C	NaOH–90g/l	HCl–140 ml/l H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	15 dL
ROKAnol IT5	Alcohols, C13, branched, ethoxylated	69011-36-5	-3°C	Lack of resistance	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	15 dL
ROKAnol IT6	Alcohols, C13, branched, ethoxylated	69011-36-5	2°C	NaOH–20g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	15 dL
ROKAnol NL8	Alcohols, C9-C11, ethoxylated	68439-46-3	13°C	NaOH–120g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	14 dL
ROKAnol GA5	Alcohols, C10, ethoxylated	160875-66-1	10°C	NaOH–40g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	13 dL
ROKAnol GA7W	Alcohols, C10, ethoxylated	160875-66-1	0°C	Lack of resistance	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	13 dL
SULFOROKAnol L270/1	Alcohols, C12-C14, ethoxylated (<2.5 TE), sulphated, sodium salts	68891-38-3	10°C	NaOH–20g/l	HCl–100 ml/l H_2SO_4(VI)–140 ml/l	13 dL
SULFOROKAnol L227/1	Alcohols, C12-C14, ethoxylated (<2.5 TE), sulphated, sodium salts	68891-38-3	1°C	NaOH–140g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	13 dL
ROSULfan O	Sodium octyl sulfate	142-31-4	-4°C	NaOH–170g/l	HCl–100 ml/l H_2SO_4(VI)–130 ml/l	11 dL (2 g/l of product) 15 dL (2 g/l of active substance)
EXOcon B27	Mixture of surfactants	Mixture of surfactants	-3°C	NaOH–20g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	11 dL
ROSUlfan D	Sulphated decyl alcohol sodium salt	142-87-0	-8°C	NaOH–40g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	9 dL (2 g/l of product) 15 dL (2 g/l of active substance)
ROKAnol LP2227	Oxiran, 2-methyl-, polymer with oxiran, mono 2-propylheptyl ether	166736-08-9	-3°C	NaOH–20g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4((VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	6 dL
ROKAtend LS	N-lauroyl sarcosine sodium salt	137-16-6	-7°C	NaClO–110g/l	Lack of resistance	5 dL (2g/l of product) 6 dL (2g/l commercial product)

NaOH (sodium hydroxide): tested hydroxide concentration: 30% (10 g/l is the minimum tested quantity of NaOH solution in the product, 390 g/l is the maximum tested quantity of NaOH solution in the product)
HCl (hydrochloric acid) and H_2SO_4 (sulphuric acid(VI)): tested acid concentration is 25% (10 ml/l is the minimum tested quantity of hydrochloric acid solution in the product, 225 ml/l is the maximum tested quantity of acid in the product)



Wetting agent – improved distribution effect and liquid penetration by reduced surface tension

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance	Wettability 1 g/l
ROKAnol IT8	Alcohols, C13, branched, ethoxylated	69011-36-5	11°C	NaOH–30g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H2SO4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	10 s
ROKAnol IT7	Alcohols, C13, branched, ethoxylated	69011-36-5	2°C	NaOH–10g/l	Lack of resistance	11 s
ROKAnol IT6	Alcohols, C13, branched, ethoxylated	69011-36-5	2°C	NaOH–20g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	12 s
ROKAnol GA7	Alcohols, C10, ethoxylated	160875-66-1	20°C	Lack of resistance	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	13 s
ROKAnol GT9	Alcohols, C9-C16, ethoxylated	97043-91-9	8°C	NaOH–30g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	15 s
ROKAnol IT9	Alcohols, C13, branched, ethoxylated	69011-36-5	10°C	NaOH–40g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	15 s
ROKAnol NL9	Alcohols, C9-C11, ethoxylated	68439-46-3	15°C	NaOH–90g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	16 s
ROKAnol NL6	Alcohols, C9-C11, ethoxylated	68439-46-3	5°C	NaOH–40g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	17 s
ROKAnol ID7	Alcohols, C9-11-iso-, C-10-rich, ethoxylated	78330-20-8	6°C	NaOH–60g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	19 s
ROKAnol LP3135	Alcohols, C9-11-iso-, C10-rich, ethoxylated, propoxylated	154518-36-2	-6°C	NaOH–10g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	20 s
ROKAnol DB7	Alcohols, C12-15, ethoxylated	68131-39-5	17°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	21 s
ROKAnol IT5	Alcohols, C13, branched, ethoxylated	69011-36-5	-3°C	Lack of resistance	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–Lack of resistance in the tested concentration range	25 s
ROKAnol NL8	Alcohols, C9-C11, ethoxylated	68439-46-3	13°C	NaOH–120g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	31 s

NaOH (sodium hydroxide): tested hydroxide concentration: 30% (10 g/l is the minimum tested quantity of NaOH solution in the product, 390 g/l is the maximum tested quantity of NaOH solution in the product)
HCl (hydrochloric acid) and H_2SO_4 (sulphuric acid(VI)): tested acid concentration is 25% (10 ml/l is the minimum tested quantity of hydrochloric acid solution in the product, 225 ml/l is the maximum tested quantity of acid in the product)

Complexing agent – reduced water hardness by bonding metal ions and solving scale on the surface of equipment

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance
EXOlat MC60	Aqueous solution of sodium salts of acrylate-maleic copolymer	Polymer	Approx. 0°C	Lack of resistance in the tested range	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
EXOlat C40	Aqueous solution of sodium salt of polyacrylic acid	9003-04-7	Approx. 0°C	Lack of resistance in the tested range	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)

Antistatic agent – prevention of electrostatic effects on metals and fabrics surfaces

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance
ROKAmin K15K	Ethoxylated and quaternized fatty amine	68989-03-7	< 0°C	NaOH–140g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAmin SRK8	Ethoxylated and quaternized fatty amine	Polymer	-18°C	NaOH–100g/l	H_2SO_4(VI)–140 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAmin SRK8P4	Ethoxylated and quaternized fatty amine	Polymer	-20°C	NaOH–50g/l	H_2SO_4(VI)–140 ml/l (25% acid–max. Laboratory-tested resistance)

Foam stabilizer – production and maintenance of a stable and dense foam

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance	Foam stability–Ross-Miles foaming power–1 g/l of active substance after 30 s/180 s/300 s–demi water	Foam stability–Ross-Miles foaming power–1 g/l of active substance after 30 s/180 s/300 s–hard water
ROKAmina K30	1-Propanaminium, 3-amino-N-(carboxymethyl)-N, N-dimethyl-, N-C8-18(even) acyl derivatives, hydroxides, salts	97862-59-4	-7°C	NaOH–200 g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	320 ml/290 ml/ 270 ml	300 ml/ 270 ml/ 250 ml
ROKAmina K30B	Coco alkyldimethyl betaine	66455-29-6	-10°C	NaOH–200 g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	277 ml/257 ml/ 250 ml	270 ml/255 ml/ 240 ml
ROKAmina K40HC	1-Propanaminium, 3-amino-N--(carboxymethylo)-N,N-dimethy–l-even N-C8-18-acyl derivatives, hydroxides, inert salts	61789-40-0	-15°C	NaOH–200 g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	330 ml/ 320 ml/320 ml	320 ml/310 ml/ 310 ml
ROKAmina K30K	1-Propanaminium, 3-amino-N--(carboxymethylo)-N,N-dimethyl-, even N-C8-18-acyl derivatives, hydroxides, inert salts	61789-40-0	Approx. 0°C	NaOH–200 g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	380 ml/370 ml/ 360 ml	390 ml/370 ml/ 370 ml
ROKAmid KAD/2A	Amides, C8-18 (even) and C18 unsaturated, N,N-bis(hydroxyethyl)	68155-07-7	6°C	Lack of resistance	Lack of resistance	70 ml/60 ml/50 ml	50 ml/40 ml/ 40 ml
ROKAmid MRZ17	Mixture of ethoxylated amides of rape oil acids and ethoxylated glycerine	221045-17-6	20°C	NaOH – 90 g/l	H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)	160 ml/160 ml/ 150 ml	100 ml/100 ml/ 90 ml
ROKAcet KO400G	Glycerides, coconut oil, mono– and di-, ethoxylated	68201-46-7	-13°C	NaOH – 10 g/l	HCl–25 ml/l H_2SO_4(VI)–25 ml/l	130 ml/90 ml/70 ml	120 ml/80 ml/ 60ml

Rinse aid agent – formation of a rinse aid surface polishing layer

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance
ROKAmin K15K	Ethoxylated and quaternized fatty amine	68989-03-7	< 0°C	NaOH–140g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAmin SRK8	Ethoxylated and quaternized fatty amine	Polymer	-18°C	NaOH–100g/l	H_2SO_4(VI)–140 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAcet KO400G	Glycerides, coconut oil, mono– and di-, ethoxylated	68201-46-7	-13°C	NaOH–10g/l	HCl–25 ml/l H_2SO_4(VI)–25 ml/l

Drying agent – making the surface hydrophobic to facilitate the drainage of water drops

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance
ROKAmin K15K	Ethoxylated and quaternized fatty amine	68989-03-7	< 0°C	NaOH–140g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAmin K5	Alkyl amines C12-18, ethoxylated	61791-14-8	-14°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)

Degreasing agent – cleaning of greasy dirt

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance
ROKAnol GA9	Alcohols, C10, ethoxylated	160875-66-1	12°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROSULfan O	Sodium octyl sulphat	142-31-4	-4°C	NaOH–170g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAnol GT8	Alcohols, C9-C16, ethoxylated	97043-91-9	4°C	NaOH–50g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAnol GA5	Alcohols, C10, ethoxylated	160875-66-1	10°C	NaOH–40g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAnol IT8	Alcohols, C13, branched, ethoxylated	69011-36-5	11°C	NaOH–30g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)
ROKAnol L5P5	Alcohols, C12-14, ethoxylated Propoxylated	68439-51-0	-20°C	NaOH–20g/l	HCl–225 ml/l (25% acid–max. Laboratory-tested resistance) H_2SO_4(VI)–225 ml/l (25% acid–max. Laboratory-tested resistance)

Antifoaming agent – extinguishing or reduction of the foam level in formulation

Product name	Chemical structure	CAS	Freezing point	Alkali resistance	Acid resistance	Foam stability–Ross--Miles foaming power–1 g/l of active substance after 30 s/180 s/300 s–demi water	Foam stability–Ross--Miles foaming power–1 g/l of active substance after 30 s/180 s/300 s–hard water
ROKAmer 2000	Block copolymer of ethylene oxide and propylene oxide	9003-11-6	<–20°C	Lack of resistance	HCl – 225 ml/l (25% acid–max. Laboratory-tested resistance)	0/0/0	0/0/0
EXOantifoam S100	Mixture of surfactants	Mixture	0°C	NaOH – absence	HCl – absence in the tested range	0/0/0	0/0/0

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