ROKAcet KO400G

PEG-6 Glyceryl Cocoate

Local. Global. Integrated.


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

About Us

PCC Exol SA is a major player in the European surfactants market. In the eastern and central-eastern part of the continent, it is the undisputed leader in its industry. Most of the production facilities and the company's headquarters are located in Brzeg Dolny, Poland. Here we develop, test and manufacture a wide range of anionic, non-ionic and amphoteric surfactants and speciality industrial formulations. New products are continuously added to the portfolio in response to market trends and individual customer requirements. The surfactants produced at the plants have a very wide range of industrial applications.

They are used as wetting agents, emulsifiers, auxiliaries in paper, metallurgy and many other industries, as well as in household chemicals, personal care products and textiles. PCC EXOL pays special attention to the issue of sustainable development, which is one of the key elements of the company's strategy. In order to strengthen its competitive position in the surfactants market, the company is committed to promoting responsible production and consumption throughout the value chain. The concept of sustainable development is therefore a key aspect of all the company's management and operational processes.

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PCC PCG OXYALKYLATES IRPC

Polyols

- Polyether polyols
- Polyester polyols
- Prepolymers
- Polyurethane Systems

PCC ROKITA SA

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- 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

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

PCC SYNTEZA

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- Nonylphenol
- Dodecylphenol
- Tristyrylphenol

PCC CONSUMER PRODUCTS SA

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PCC ROKITA SA

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Silicon

- Microsillica
- Silicon Metal

PCC SE

Holding & Projects

- Portfolio Management
- Project Development

ROKAcet KO400G

Chemical description

ROKAcet KO400G is a nonionic surfactant, mainly used in detergent applications. This product is based on renewable plant raw materials, such as polyoxyethylene fatty acid esters and glycerine.

The active substance content exceeds 99%. This surfactant is in the form of a straw to light yellow liquid, with a low viscosity and a solidification temperature below -10°C, which makes it easier to handle in process conditions.

Benefits:

- based on plant crops
- safe, not classified (clp / ghs)
- complies with ecolabel and nordic swan requirements
- high biodegradability
- concentrated form

Physicochemical parameters

• Appearance at temperature (20-25°C)	liquid
• Colour (Haznen units) (20-25°C)	Max 120
• pH of 5% solution	5.0-7.0
• Saponification value, mg KOH/g	57-62
• Hydroxyl number, mg KOH/g	285-305

Hydrotrope

ROKAcet KO400G is an excellent product for use in detergent formulations with very high concentration. The use of this product in the formulation eliminates the need for the use of solvents. In order to present its very good hydrotroping properties, a formula of concetrated heavy duty liquid detergent was prepared.

The use of ROKAcet KO400G allowed to obtain a stable, clear formulation. The appearance of the formulations with the use of Laureth-7 and C13-15 pareth-7 is also presented below - the effect of using these products is to obtain cloudy systems or even as a gel.

Concentration heavy duty liquid detergent

Product name	with ROKAcet KOO400G	with Laureth-7 ROKAnol L7	with C13-15 pareth-7 ROKAnol TMP7
SULFOROKAnol L390/1M	20	20	20
ROKAcet KO400G	30	–	–
ROKAnol L7	–	30	–
ROKAnol TMP7	–	–	30
Sodium citrate	2	2	2
Water	up to 100	up to 100	up to 100
Appearance (Visual method)	clear liquid	cloudy gel	cloudy liquid

with **ROKAcet KOO400G** | with **Laureth-7** | with **C13-15 pareth-7**

with **ROKAcet KOO400G** | with **Laureth-7** | with **C13-15 pareth-7**

Washing liquid detergent

Heavy duty liquid detergent, HDLD – ecolabel

Inci name	Brand name	Concentration [%]	Function
Sodium Laureth Sulfate	**SULFOROKAnol L227/1**	**30.0**	**Removes stains/ foaming agent**
PEG-6 Glyceryl Cocoate	**ROKAcet KO400G**	**10.0**	**Breaks down stains**
Potassium Cocoate	**EXOsoft PC35**	**3.0**	**Breaks down stains**
Tetrasodium Glutamate Diacetate	N,N-Dicarboxymethyl glutamic acid tetrasodium salt (GLDA), 40%	2.0	Chelator
Sodium Citrate	Sodium citrate	2.5	Chelator
Fluorescent Brightener	Fluorescent brightener	0.1	Optical brightener
Enzymes	Multi-enzyme blend, liquid	0.2	Breaks down different types of stains
Aqua	Water	up to 100.0	Solvent

Appearance	visual method	clear liquid
pH		7.0 - 8.0
Viscosity [cP]	Brookfield LV, T: 20°C	up to 100
Stability	1 month at 5°C, 20°C, 40°C	confirmed

Procedure:

1. Mix Optical brightener with water until dissolved.
2. Add Sodium citrate and mix until a homogeneous solution is obtained.
3. Then add SULFOROKAnol L227/1 and mix.
4. Add ROKAcet KO400G and mix.
5. Then add EXOsoft PC35 and mix a homogeneous solution is obtained.
6. Mix GLDA and finally, add the enzyme blend.
7. Mix until a clear liquid is obtained.

Washing liquid detergent

Universal liquid detergent, ULD – ecolabel

Inci name	Brand name	Concentration [%]	Function
Sodium Laureth Sulfate	**SULFOROKAnol L227/1**	**40.0**	**Removes stains/ foaming agent**
Magnesium Laureth Sulfate	**EXOsoft MG**	**5.0**	**Removes stains/ foaming agent**
PEG-6 Glyceryl Cocoate	**ROKAcet KO400G**	**10.0**	**Breaks down stains**
Potassium Oleate	**EXOsoft PO30**	**3.0**	**Breaks down stains**
Glycerin	Glycerin	6.0	Prevents products from drying out
Tetrasodium Glutamate Diacetate	N,N-Dicarboxymethyl glutamic acid tetra-sodium salt (GLDA), 40%	2.5	Chelator
Fluorescent Brightener	Fluorescent brightener	0.1	Optical brightener
Enzymes	Multi-enzyme blend, liquid	0.2	Breaks down different types of stains
Aqua	Water	up to 100.0	Solvent

Appearance	visual method	clear liquid
pH		7.0 - 8.0
Viscosity [cP]	Brookfield LV, T: 20°C	up to 100
Stability	1 month at 5°C, 20°C, 40°C	confirmed

Procedure:

1. Mix Optical brightener with water until dissolved.
2. Add SULFOROKAnol L227/1 and EXOsoft MG.
3. Mix until a homogeneous solution is obtained
4. Then add ROKAcet KO400G and mix.
5. Then add EXOsoft PC35 and mix a homogeneous solution is obtained.
6. Mix Glycerin and GLDA.
7. Finally, add the enzyme blend and mix until a clear liquid is obtained.

Detergency

Detergency - the ability of the detergent to remove soils from the fabric surface during the laundering process. Detergency tests were performed using our own method, with a different soils:

Enzymatic
- Blood, aged
- Chocolate ice cream, aged

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

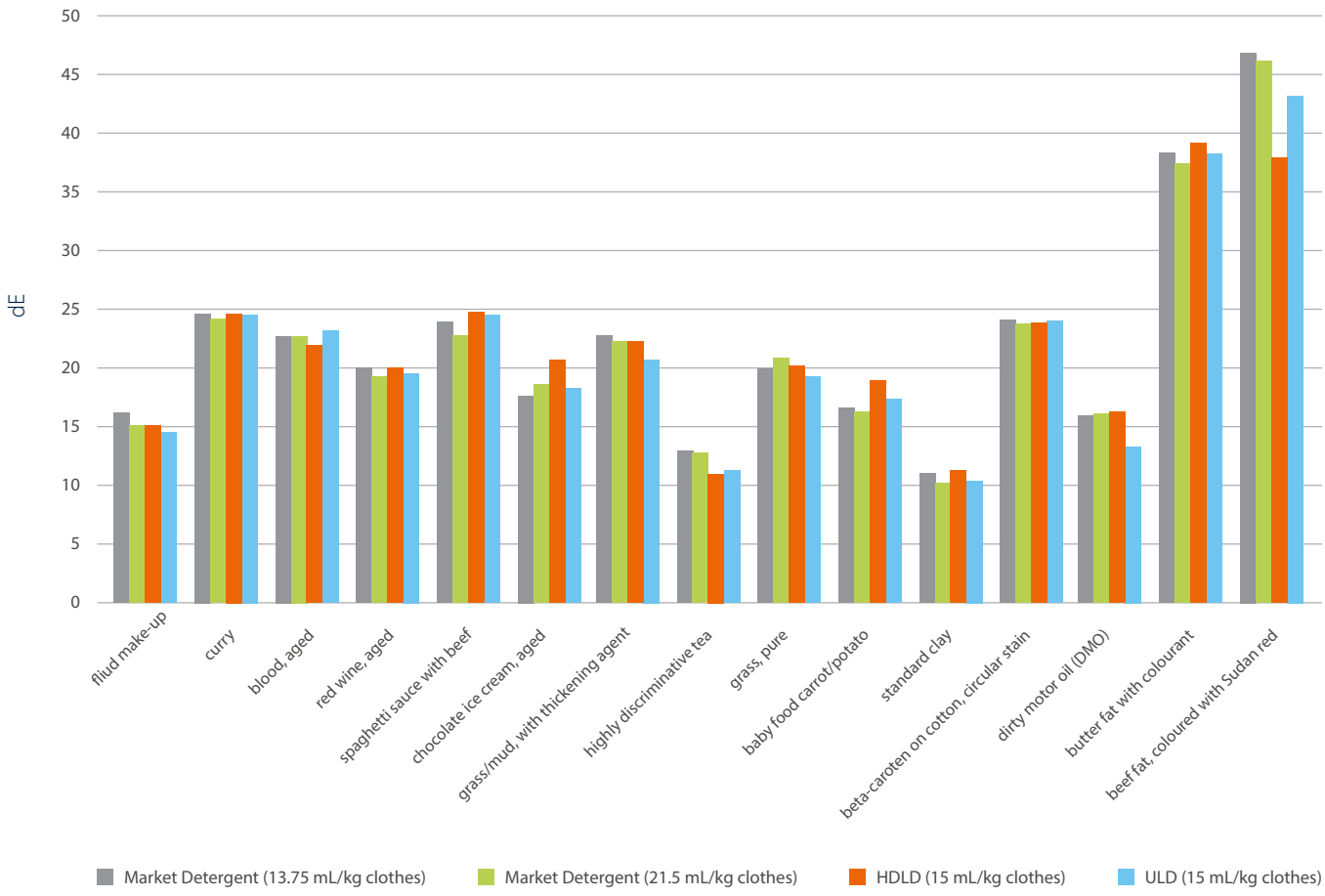
Greasy
- Fluid make-up
- Spaghetti sauce with beef
- Butter with colorant
- Beef fat, colored with Sudan Red
- Dirty Motor Oil (DMO)

Test conditions:

- automatic washmachine
- 40°C or cold water (with one of the formulations)
- water hardness 13 °dH
- cotton program
- load - calculated for 2 kg of dry, white towels
- the dosing of the market product was verified with the information on the label
- fabric soiled with standard dirt

After the washing process was performed, the standardly disturbed fabrics were dried and ironed, and then the degree of washing was assessed by measuring parameter dE from the CIE LAB scale, as the difference between the initially disturbed stain and the degree of its washing. The greater dE value, the better the washing outcome.

Washing liquid



Washing liquid detergent

Liquid detergent for low temperature use, ldfltu – ecolabel

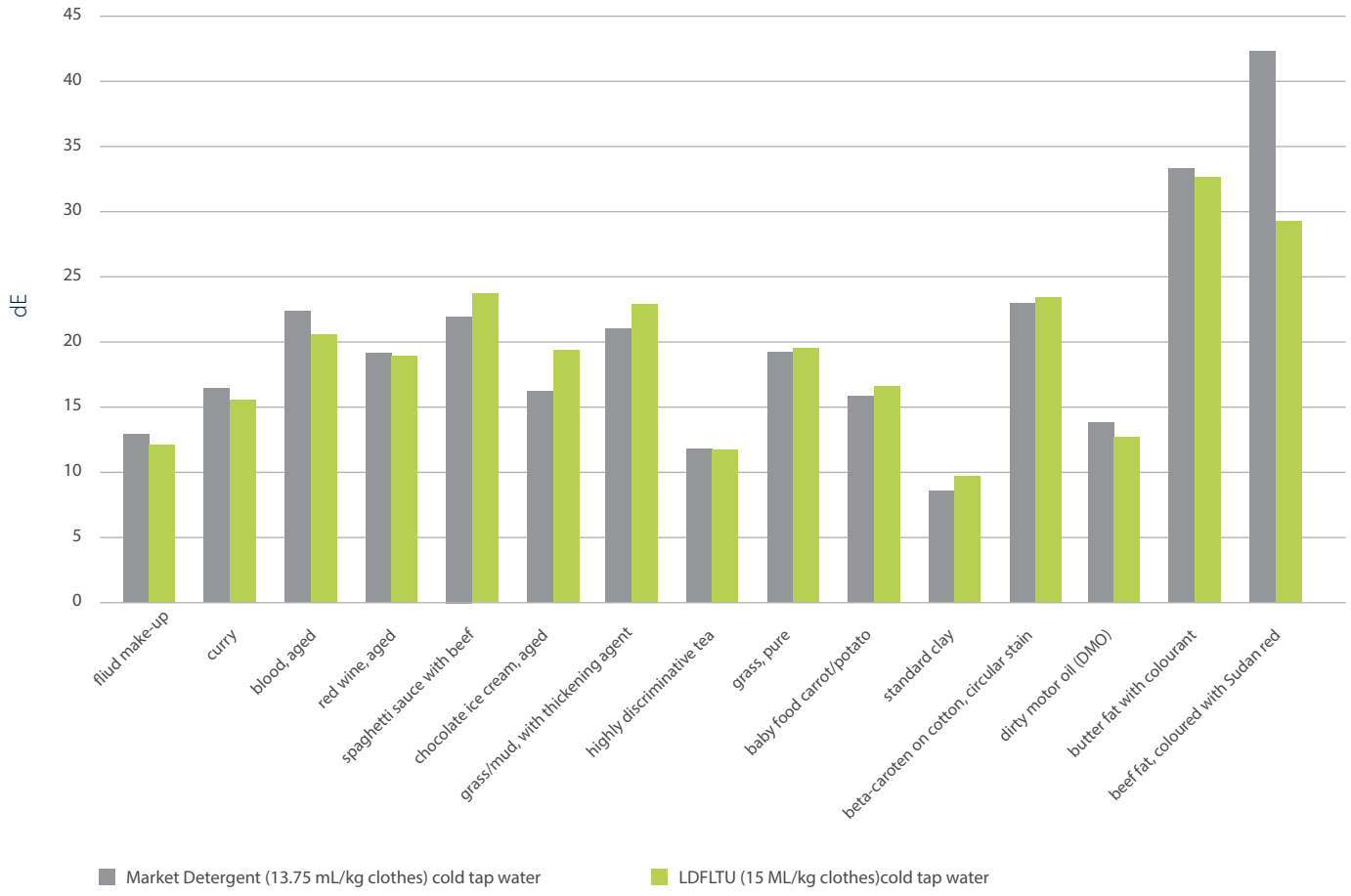
Inci name	Brand name	Concentration [%]	Function
Sodium Laureth Sulfate	**SULFOROKAnol L227/1**	**38.0**	**Removes stains/ foaming agent**
PEG-6 Glyceryl Cocoate	**ROKAcet KO400G**	**9.0**	**Breaks down stains**
Potassium Cocoate	**EXOsoft PC35**	**7.0**	**Breaks down stains**
Tetrasodium Glutamate Diacetate	N,N-Dicarboxymethyl glutamic acid tetrasodium salt (GLDA), 40%	3.0	Chelator
Sodium Citrate	Sodium citrate	2.5	Chelator
Fluorescent Brightener	Fluorescent brightener	0.1	Optical brightener
Enzymes	Multi-enzyme blend, liquid	0.5	Breaks down different types of stains
Aqua	Water	up to 100.0	Solvent

Appearance	visual method	clear liquid
pH		7.5-8.5
Viscosity [cP]	Brookfield LV, T: 20°C	up to 100
Stability	1 month at 5°C, 20°C, 40°C	confirmed

Procedure:

1. Mix optical brightener with water until dissolved.
2. Add sodium citrate and mix until a homogeneous solution is obtained.
3. Then add SULFOROKAnol L227/1 and mix.
4. Add ROKAcet KO400G and mix.
5. Then add EXOsoft PC35 and mix a homogeneous solution is obtained.
6. Mix GLDA and finally, add the enzyme blend.
7. Mix until a clear liquid is obtained.

Washing liquid - low temperature



Hand dishwashing liquid detergent

Economic hand dishwashing liquid – ecolabel

Inci name	Brand name	Concentration [%]	Function
Sodium Laureth Sulfate	**SULFOROKAnol L277/1**	**13.5**	**Removes stains/ foaming agent**
PEG-6 Glyceryl Cocoate	**ROKAcet KO400G**	**4.0**	**Cleaning agent**
Cocamidopropyl Betaine	**ROKAmina K30**	**3.0**	**Foaming agent/cleaning agent**
Sodium Citrate	Sodium citrate	1.0	Chelator
Citric Acid	Citric acid, monohydrate, 50%	0.08	pH adjuster
Sodium Chloride	Sodium chloride	0.8	Thickener
Aqua	Water	up to 100.0	Solvent

Appearance	visual method	clear liquid
pH		5.5-6.5
Viscosity [cP]	Brookfield LV, T: 20°C	3000-3500
Stability	1 month at 5°C, 20°C, 40°C	confirmed

Procedure:

1. Mix water with sodium citrate until dissolved.
2. Add SULFOROKAnol L227/1 and ROKAcet KO400G
- mix until a homogeneous solution is obtained.
3. Then add citric acid solution and ROKAmina K30 - mix.
4. Add NaCl and mix a homogeneous solution is obtained.

Hand dishwashing liquid detergent

Natural hand dishwashing liquid – ecolabel

Inci name	Brand name	Concentration [%]	Function
Ammonium Lauryl Sulfate	**ROSULfan A70**	**6.7**	**Removes stains/ foaming agent**
PEG-6 Glyceryl Cocoate	**ROKAcet KO400G**	**1.0**	**Cleaning agent**
Cocamidopropyl Betaine	**ROKAmina K30**	**3.0**	**Foaming agent/cleaning agent**
Sodium Polyacrylate	**EXOlat ZA**	**0.4**	**Sequestrant**
Sodium Chloride	Sodium chloride	0.4	Thickener
Aqua	Water	up to 100.0	Solvent

Appearance	visual method	clear liquid
pH		5.5-6.5
Viscosity [cP]	Brookfield LV, T: 20°C	3500-3700
Stability	1 month at 5°C, 20°C, 40°C	confirmed

Procedure:

1. Mix water with ROSULfan A70 until dissolved.
2. Add EXOlat ZA and ROKAcet KO400G
– mix until a homogeneous solution is obtained.
3. Then add ROKAmina K30 - mix.
4. Add NaCl and mix a homogeneous solution is obtained.

Hand dishwashing liquid detergent

Hand dishwashing liquid – ecolabel

Inci name	Brand name	Concentration [%]	Function
Sodium Lauryl Sulfate	**ROSULfan L**	**9.0**	**Removes stains/ foaming agent**
Sodium Laureth Sulfate	**SULFOROKanol L170/1**	**4.9**	**Foaming agent/cleaning agent**
PEG-6 Glyceryl Cocoate	**ROKAcet KO400G**	**4.0**	**Cleaning agent**
Cocamidopropyl Betaine	**ROKAmina K30**	**4.8**	**Foaming agent/cleaning agent**
Sodium Polyacrylate	**EXOlat ZA**	**0.3**	**Sequestrant**
Glycerine	Glycerine	5.0	Solvent
Aqua	Water	up to 100.0	Solvent

Appearance	visual method	clear liquid
pH		5.5-6.5
Viscosity [cP]	Brookfield LV, T: 20°C	3500-4500
Stability	1 month at 5°C, 20°C, 40°C	confirmed

Procedure:

1. Mix water with ROSULfan L and SULFOROKAnol L170/1 until dissolved.
2. Add EXOlat ZA, ROKAcet KO400G and glycerine - mix until a homogeneous solution is obtained.
3. Then add ROKAmina K30 and mix a homogeneous solution is obtained.

Hand dishwashing liquid detergent

Highly concentrated hand dishwashing liquid

Inci name	Brand name	Concentration [%]	Function
Ammonium Lauryl Sulfate	**ROSULfan A70**	**20.0-25.0**	**Removes stains/ foaming agent**
PEG-6 Glyceryl Cocoate	**ROKAcet KO400G**	**5.0**	**Cleaning agent**
Laureth-7	**ROKAnol L7**	**2.0**	**Cleaning agent**
Cocamidopropyl Betaine	**ROKAmina K30**	**3.0-10. 0**	**Foaming agent/cleaning agent**
Sodium Polyacrylate	**EXOlat ZA**	**1.0**	**Sequestrant**
Glycerine	Glycerine	5.0	Solvent
Aqua	Water	57.0-59.0	Solvent

Appearance	visual method	clear liquid
pH		5.5-6.5
dry matter, %		approx. 31
Viscosity [cP]	Brookfield LV, T: 20°C	1500-4000
Stability	1 month at 5°C, 20°C, 40°C	confirmed

Procedure:

1. Mix ROSULfan A70 with water and glycerine until dissolved.
2. Add ROKAcet KO400G and mix until a homogeneous solution is obtained.
3. Then add ROKAnol L7 and mix.
4. Add EXOlat ZA and mix.
5. Then add ROKAmina K30 and mix a homogeneous solution is obtained.

Hand dishwashing liquid detergent

Highly concentrated hand dishwashing liquid – 2 anionic surfactants

Inci name	Brand name	Concentration [%]	Function
Ammonium Lauryl Sulfate	**ROSULfan A70**	**20.0**	**Removes stains/ foaming agent**
Magnesium Laureth Sulfate	**EXOsoft MG**	**11.0**	**Cleaning agent/foaming agent**
PEG-6 Glyceryl Cocoate	**ROKAcet KO400G**	**5.0**	**Cleaning agent**
Laureth-7	**ROKAnol L7**	**2.0**	**Cleaning agent**
Cocamidopropyl Betaine	**ROKAmina K30**	**5.0**	**Foaming agent/cleaning agent**
Sodium Polyacrylate	**EXOlat ZA**	**1.0**	**Sequestrant**
Glycerine	Glycerine	5.0-9.0	Solvent
Aqua	Water	41.0-51.0	Solvent

Appearance	visual method	clear gel
pH		5.5-6.5
dry matter, %		approx. 40
Viscosity [cP]	Brookfield LV, T: 20°C	3500-3400
Stability	1 month at 5°C, 20°C, 40°C	confirmed

Procedure:

1. Mix ROSULfan A70 with water and glycerine until dissolved.
2. Add EXOsoft MG and mix until a homogeneous solution is obtained.
3. Then add ROKAcet KO400G and ROKAnol L7 - mix.
4. Add EXOlat ZA and mix.
5. Then add ROKAmina K30 and mix a homogeneous solution is obtained.

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