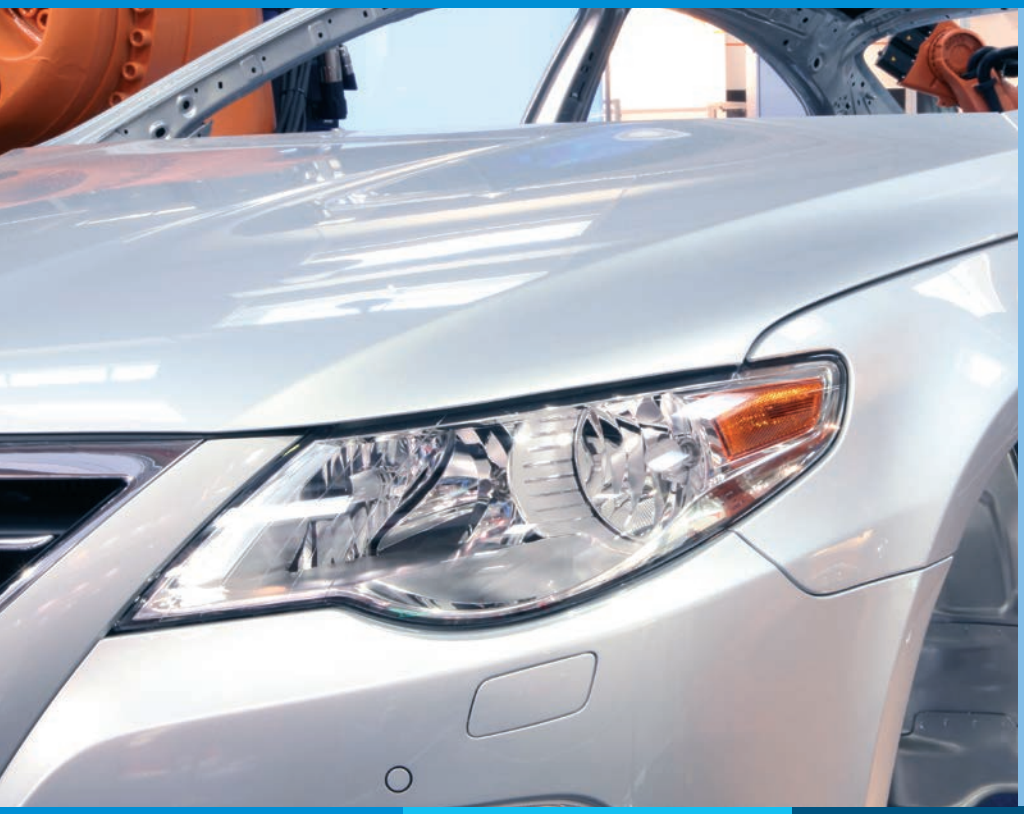
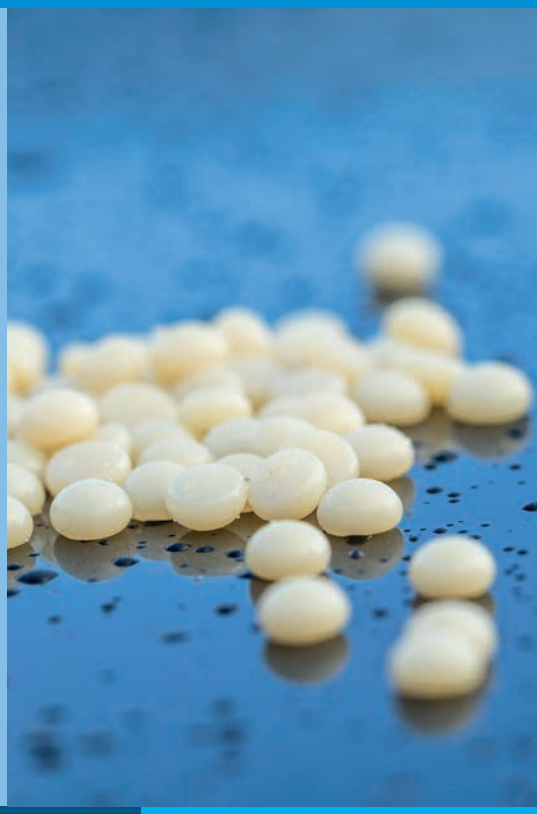
VOELPKER | polish series

WAX ADDITIVES FOR CAR CARE





Glossy surface

Emulsifying

Viscosity-regulating

Protection

PROTECTION. GLOSS.

Guide to suggested base formulations

VOELPKER: TO MAKE IDEAS WORK

Introduction

With more than 120 years of production history, Voelpker is among the most long-standing wax producers in Europe and is internationally renowned as a reliable and innovative manufacturer and supplier of wax additives.
True to the motto “to make ideas work”, we do everything to improve and optimize our customers’ products and processes.

When performance counts

Car polishing is essential. Every day, the paint of cars is radiated by the sun and in constant contact with environmental pollution like acid rain, salt and other contaminants. The care and preservation of vehicle bodywork requires compounds that clean, restore the gloss and colour of the paintwork and leave behind them a hard, water-resistant protective film.

Bleached montan waxes fulfil these requirements perfectly as components of automotive polishes. They act as protective, hard waxes and also add gloss. It is widely used in daily chemical industry, wax polish industry, plastics industry, coatings industry, sinter metal industry and many other industries using wax. Due to its excellent physical and chemical properties, montan wax is often an ideal substitute for the expensive and price-volatile Carnauba wax.

Wax additives for car care applications

	Chemical nature	Drop point (°C)	Acid number (mg KOH/g)	Viscosity @120 °C (mPas)	Applications (examples)
WARADUR® S	Montanic acids C28 - C32	ca. 85	ca. 140	ca. 15	Car polish
WARADUR® B	Montanic acids C28 - C32	ca. 86	ca. 114	ca. 15	Car polish
WARADUR® ELE	Ethylene glycol esters of montanic acids, emulsifier	ca. 85	ca. 26	ca. 15	Car shampoo, wash preserver
WARADUR® LGE	Ethylene glycol esters of montanic acids, emulsifier	ca. 85	ca. 24	ca. 15	Car shampoo, wash preserver
CEVO®-care P-2714	Ethylene glycol esters of montanic acids, fatty acid esters, emulsifier	ca. 86	ca. 22	ca. 15	Car shampoo, wash preserver
WARADUR® E	Ethylene glycol esters of montanic acids	ca. 85	ca. 18	ca. 15	Water based car polish, Solvent based car polish
CEVO®-care P-6211	Proprietary wax blend	ca. 108	ca. 11	ca. 100	Solvent based car polish (liquid/ paste)

Table 1: Chemical nature, physical data and typical car care applications of VOELPKER® wax additives

MONTAN WAXES

Structure

WARADUR® S mainly consists of linear montanic acids (C28 - 32). WARADUR® E consists of esters of montanic acids with ethylene glycol. As a result of the long, linear carbon chain, the montan waxes exhibit a good thermal stability and a low volatility.

General information on Car care

Automotive care agents should restore and refresh the bodywork and paintwork of vehicles, which under daily use of the vehicle takes on a dull and unsightly appearance due to dirt, wet, exposure to sunlight and other effects.

Car care agents maintain the gloss of the surface finish, have a preserving effect on the bodywork itself and protect against corrosion. It should be decided in each individual case which product should be used, depending on the age and condition of the paintwork. Old and weathered paintwork that has become matt should be treated with products containing fine ‘cutting’ or abrasive components, in order to remove weathered paintwork and restore the surface finish (cleaners). Polishes using an emulsion basis (emulsions) can be applied both to dry and wet (previously cleaned) paint surfaces. For polishes using a solvent basis (oils), it is recommended that the washed vehicle be thoroughly dried before application. In order to save time, so-called wash preservers can also be used, which are added to the rinsing water after washing the vehicle (after cleaning with washing agents), or auto shampoos, especially those with a continuous lubricating effect.

Other functional raw materials

Silicon oil makes the polishing easier, and also promotes a smooth finish and the depth of the gloss (viscosity 350 - 500 mPas). High-viscosity silicon oil can be used to give better consistency (viscosity 10,000 mPas), and also increases the water-resistant properties of wax polishes. Silicon oil makes the paint surface more weather-resistant, allowing raindrops to run off without leaving a mark. The silicon oil is usually added to the solvent agent.

Abrasives have a cleaning effect. These are usually finely ground and pulverised silicates, such as Kaolin, Aerosil or Neuburg siliceous earths. The particle size and quantity of the abrasive compounds used also has an effect on the consistency of the polishes. Very voluminous abrasive agents (e.g. Aerosil) have a much better filling effect than abrasive compounds with less filling capacity. For the care and maintenance of new bodywork, polishes without abrasive additives are used, or very small quantities of very fine abrasive compound on specific areas.

In the case of older bodywork, so-called cleaners are used (liquid or paste), which contain larger quantities of abrasive agent. It is sometimes necessary to use somewhat coarser abrasive agents, such as siliceous (diatomaceous) earth or coarser gradations of chalk. Such abrasive compounds however should contain no very coarse components, in order to avoid leaving fine scratch marks.

Solvents have a cleaning effect and get rid of oily and greasy dirt. In general, white spirit is used, or more volatile spirit with a boiling range of around 100 - 140 °C. At warm times of the year, this means that the polish can sometimes dry off very quickly. In this case, solvents with a higher boiling point (e.g. petroleum) can be used as additives. These solvent agents hardly attack the paint at all, although the individual types of solvent should still be checked for their possible effects.

Paraffin can also improve the polishing properties of the formulation.

APPLICATION EXAMPLES

Car polish, soft paste, good cleaning effect

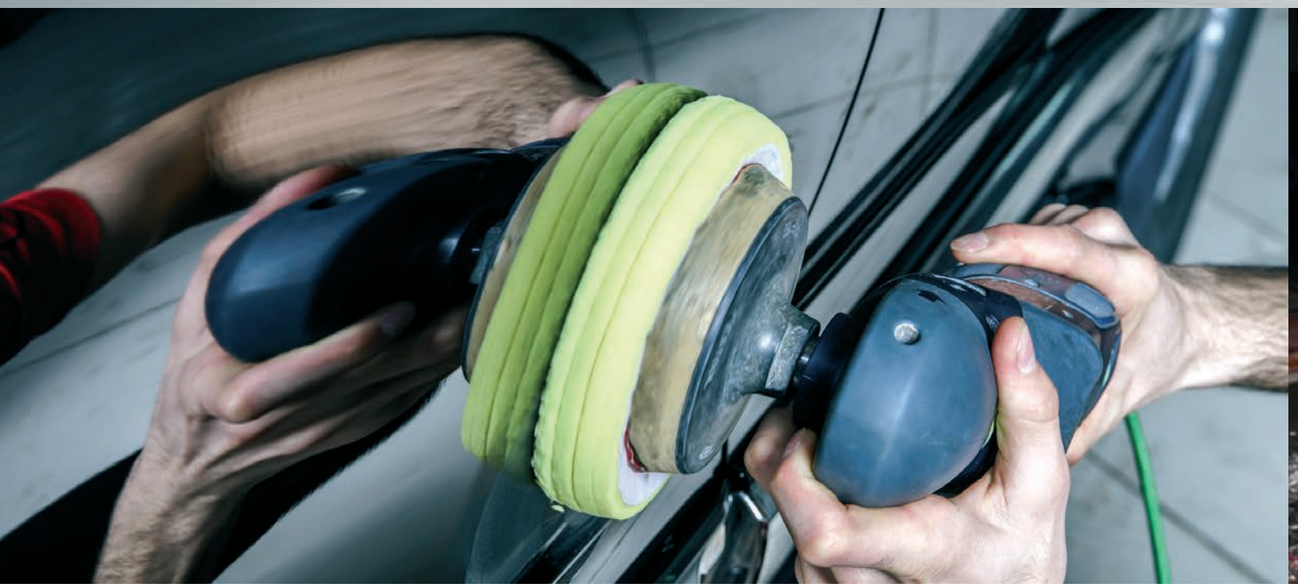
% by weight	Raw material
6.5	WARADUR® S (or WARADUR® B)
0.5	Oleic acid
1.0	Stearic acid
6.0	Silicon oil AK 350
6.0	Petroleum
0.8	Diethylaminoethanol (DEAE)
53.2	Softened water
15.0	Snow Floss

Manufacture:
Wax melting: melt WARADUR® S, oleic acid and stearic acid at 85 °C; add the silicon oil to the solvent agent. Add the hot solvent to the melted wax while agitating. Then add the diethyl-amino-ethanol to the clear solution. Pre-heat the water/abrasive agent mixture to about 50 °C and add the mixture while stirring. Continue stirring while allowing the emulsion to cool down to about 45 °C, and then fill into cans or tubes.

Car polish, liquid, can be manufactured cold

% by weight	Raw material
45.4	Water
0.2	Carbopol EZ
5.0	Sillitin N 85
7.6	Tegopolish additive E 3400/5
8.6	Tegopolish additive E 35
33.2	WARADUR® ELE wax emulsion (12 %, APEO free) or CEVO®-care P-2714 wax emulsion

Manufacture:
Prepare the water. Mix the Carbopol thoroughly with siliceous earth and slowly stir into the water. When this mixture is homogenous, add the silicon components slowly one after the other, and finally the wax emulsion. The acrylate polymerises and thickens due to the basic amino-siloxan. The wax emulsion is prepared in advance using the spreading process.



Car polish, liquid

% by weight	Raw material
2.4	WARADUR® S (B)
1.0	Oleic acid
3.0	Silicon oil Tegiloxan 1000
1.0	Silicon oil emulsion E 10
43.5	White spirit (crystal oil K 60)
1.0	Morpholin
44.6	Softened water
3.5	Snow Floss

Manufacture:
Wax melting: melt WARADUR® S and oleic acid at 85 °C; add the silicon oil to the solvent agent. Add the hot solvent to the melted wax while agitating. Then add the diethylaminoethanol to the clear solution. Pre-heat the water/silicon oil emulsion/abrasive agent mixture to about 50 °C and add the mixture while stirring. Continue stirring while allowing the emulsion to cool down to about 45 °C, and then fill into cans or tubes.

Car polish, thick liquid/creme

% by weight	Raw material
8.0	WARADUR® S (B)
1.0	Oleic acid
2.0	Silicon oil Tegiloxan 1000
2.0	Silicon oil Tegiloxan 10000
4.0	Silicon oil emulsion E 10
18.0	Benzine 100/140
10.0	Crystal oil K 60
1.0	Morpholin
44.0	Softened water
10.0	Snow Floss

Manufacture:
Wax melting: melt WARADUR® S and oleic acid at 85 °C; add the silicon oil to the solvent agent. Add the hot solvent to the melted wax while agitating. Then add the diethylaminoethanol to the clear solution. Pre-heat the water/silicon oil emulsion/abrasive agent mixture to about 50 °C and add the mixture while stirring. Continue stirring while allowing the emulsion to cool down to about 45 °C, and then fill into cans or tubes.

Car shampoo

% by weight	Raw material
20.0	Lutensol ON 70
10.0	Lutensid A-LBA
45.0	Water
25.0	WARADUR® LGE wax emulsion (12 %) or WARADUR® ELE wax emulsion (12 %, APEO free) or CEVO®-care P-2714 wax emulsion (12 %)

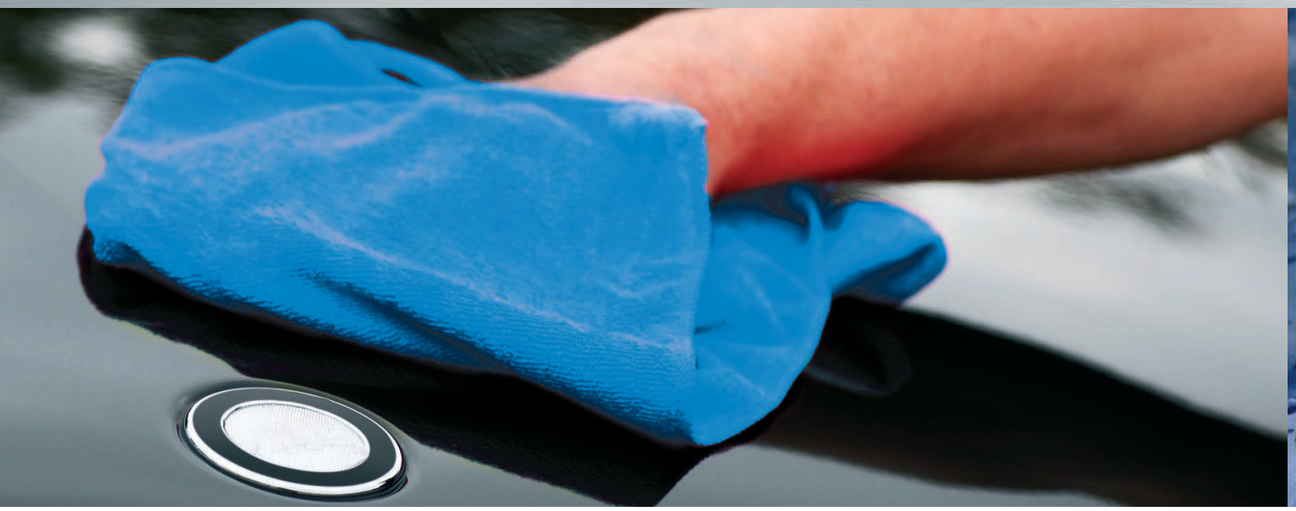
Manufacture:
The active washing agents are dissolved in warm water and then added to the wax emulsion. The wax emulsion is prepared in advance using the spreading process.

Wash preserver

% by weight	Raw material
8.0	WARADUR® LGE or WARADUR® ELE (APEO free)
2.5	Emulan A
1.5	Lutensol AP 10
15.0	White spirit
8.0	Spindle oil
4.0	Latekoll D 4 %

Manufacture:
The wax emulsion is prepared in advance using the spreading process. Lutensol AP 10 is first added to the hot water. Boil briefly before stirring in the mixture of emulsifier, spindle oil and benzine. Then allow to cool and finally add the thickening agent.

The wash preserver is added to the rinsing water when washing the vehicle (approx. 0.2 vol %).



Car polish, liquid

% by weight	Raw material
3.8	CEVO®-care P-6211
0.6	Silicon oil Tegiloxan 350
0.4	Dow Corning fluid 530
2.2	Dow Corning fluid 531
63.0	Benzine 100/140
30.0	White spirit 140/200

Manufacture:
For the manufacture of fine-particle wax dispersions, melt CEVO®-care P-6211 at approx. 110 °C. Then add the solvent agent, in which the silicon oils have first been dissolved, while stirring gently, at such a rate as to produce a clear solution. The temperature should not be allowed to fall below 75 - 80 °C. Then cool down to room temperature as quickly as possible while still stirring thoroughly. Further homogenisation (Ultra-Turrax) produces dispersions which create specially tight-sealing wax films.

If the clear wax solutions are cooled only until they begin to cloud, and then allowed to cool more slowly, this generally produces semi-solid pastes or gels, which however still consist of very fine particles.

Car polish, paste

% by weight	Raw material
2.0	CEVO®-care P-6211
0.5	WARADUR® E
4.5	Luwax A
3.0	Micro hard wax (85 - 92 °C)
17.0	Paraffin 52/54
2.0	Silicon oil Tegiloxan 350
71.0	White spirit 140/200

Manufacture:
For the manufacture of fine-particle wax dispersions, melt CEVO®-care P-6211 together with the other waxes at approx. 110 °C. Then add the solvent agent, in which the silicon oils have first been dissolved, while stirring gently, at such a rate as to produce a clear solution. The temperature should not be allowed to fall below 75 - 80 °C. The clear wax solutions are then cooled only until they begin to cloud, and then allowed to cool more slowly.

Car polish, solvent free

% by weight	Raw material
4.1	WARADUR® ESL
82.1	Softened water
1.5	Genapol OX 70
0.3	Kelzan S
6.0	Wacker AK 350
6.0	Sillitin N 85

Manufacture:
Melt WARADUR® ESL, emulsifyer and Wacker AK 350 silicone oil at approx. 85-90 °C. Then add hot water (90° C) in portions, while stirring. Then gradually stir in the other ingredients und subsequently let cool down slowly.

Car polish, solvent free

% by weight	Raw material
12.0	WARADUR® ELE
1.0	Tego SMP (Sorbitanmonopalmitate)
29.0	Softened water
2.0	Tegopren 7008 (Cetyl Dimethicone Copolyol)
0.2	Carbomer (Acrylic Acid Polymer)
5.0	Sillikoloid P 87 (Siliceous Earth)
6.0	Tego Polish additive WE 50 (O/W Emulsion based on avocado oil)
5.0	Tego Polish additive ASl 60 (O/W Emulsion based on silicone oils)
39.8	Softened water

Manufacture:
Melt WARADUR® ESL, emulsifyer and Wacker AK 350 silicone oil at approx. 85-90 °C. Then add hot water (90° C) in portions, while stirring. Then gradually stir in the other ingredients und subsequently let cool down slowly.

WARADUR® MONTAN WAXES: GENERAL ADVANTAGES AT A GLANCE

- **Ideal for polish applications**
- **Act as protective, hard waxes and also add gloss**
- **Ideal for high quality applications**
- **Easy to emulsify**
- **Excellent physical and chemical properties**
- **Ideal substitute for the expensive and price-volatile Carnauba wax**

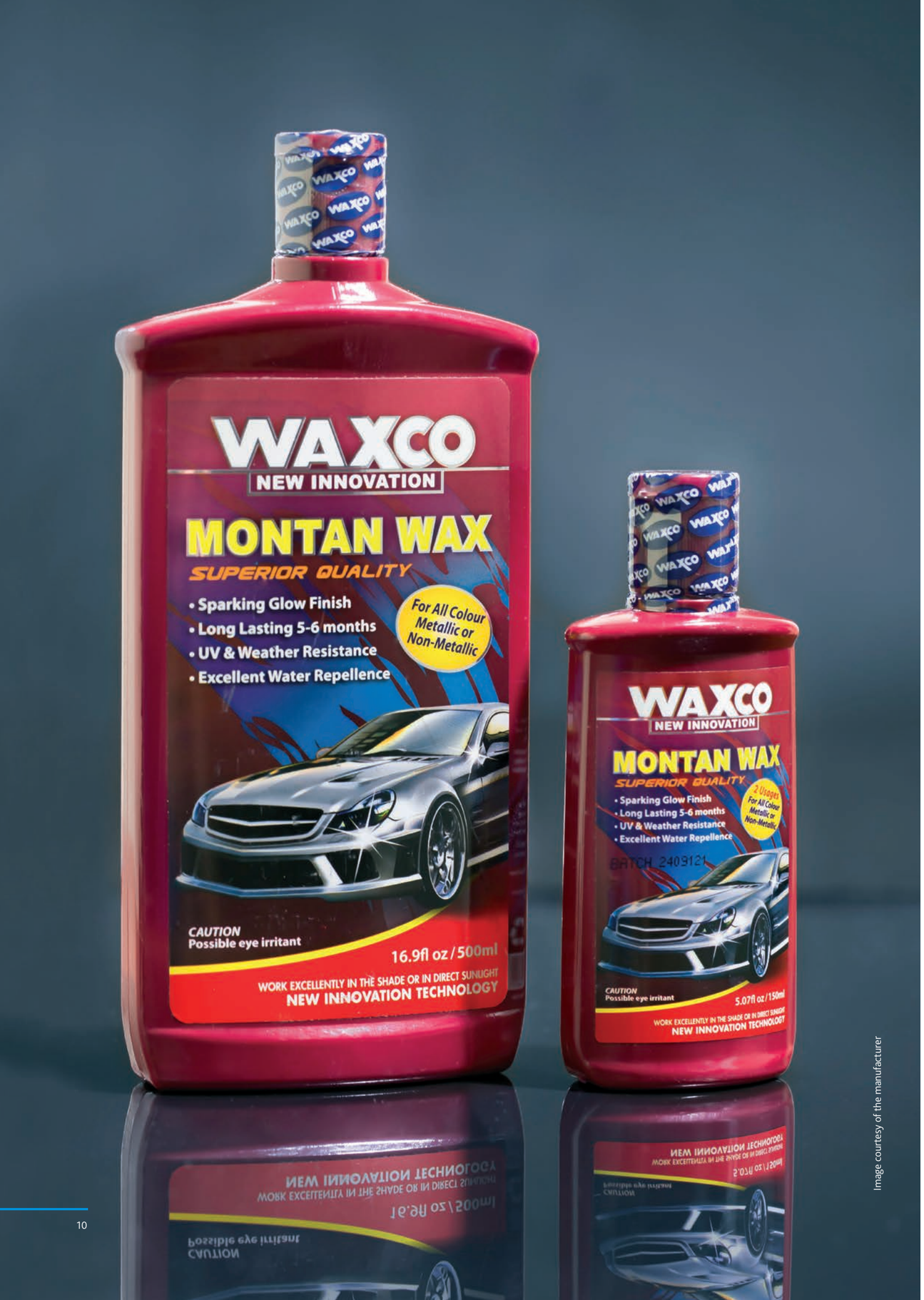


Image courtesy of the manufacturer

VOELPKER | polish series

PRODUCT INFORMATION

WARADUR® S

Product Description

WARADUR® S mainly consists of straight-chained monocarboxylic acids with a chain length in the range of mainly C28 – C32. INCI: Montan Acid Wax.

General Advantages

High polarity, high hardness, easy to saponify, easy to emulsify (pressureless vessel).

Examples of Use

- Polishes
- Anionic, water-based emulsions (liquid/creamy/pasty): car polish, shoe polish.

Delivery Specifications *

Characteristics	Unit	Target value	Method
Acid value *	mg KOH/g	135 – 160	ISO 2114
Saponification value *	mg KOH/g	155 – 180	ISO 3681
Drop point *	°C	82 – 88	ASTM 3954
Colour	–	pale yellow	AA 3.2.1.505
Viscosity @ 120 °C	mPas	10 – 15	AA 3.2.1.520
Density	g/cm^3	1.00 – 1.02	Ph. Eur. 2.2.5

Packaging and Handling

Physical form	Flakes or powder
Packaging	Paper bag or Big Bag
Storage	Store at ambient temperature on a dry place. Protect from heat/overheating and direct sunlight. The maximum shelf life is 5 years after production. Thereafter, tests of the chemical characteristics are recommended. After delivery, a minimum remaining shelf life at the customer of 1.5 years is warranted.

Safety

WARADUR® S
- is made from a fossil biological source
- is not classified as carcinogenic, mutagenic or reprotoxic; no health or environmental hazards are known, provided it is applied in industrial and professional settings

Delivery Time and Availability

Standard delivery time: 2 – 3 weeks. Preconditions can be met for achieving shorter delivery times on standard products when demanded by the market.

Legislation

Food contact legislation:
- FDA 175.105 Adhesives
- FDA 177.2600 Rubber articles intended for repeated use
- FDA 176.210 Defoaming agents used in the manufacture of paper and paperboard
- Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food

Other legislation:
- REACH, RoHS and CONEG compliant
- Listed in all relevant national inventories

For further information, please contact application@voelpker.com.

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PRODUCT INFORMATION

WARADUR® B

Product Description

WARADUR® B mainly consists of straight-chained monocarboxylic acids with a chain length in the range of mainly C28 – C32. INCI: Montan Acid Wax.

General Advantages

High polarity, high hardness, easy to saponify, easy to emulsify (pressureless vessel). Due to its high acid value, WARADUR® B can easily be saponified and is therefore ideally suited for the production of stable emulsions; best gloss properties due to the high proportion of native wax esters; wax coatings are very resistant and polishable several times.

Examples of Use

- Polishes
- Anionic, water-based emulsions (liquid/creamy/pasty): car polish, shoe polish.

Delivery Specifications *

Characteristics	Unit	Target value	Method
Acid value *	mg KOH/g	90 – 120	ISO 2114
Saponification value *	mg KOH/g	135 – 155	ISO 3681
Drop point *	°C	82 – 88	ASTM 3954
Colour	–	pale yellow – yellow	AA 3.2.1.505
Viscosity @ 120 °C	mPas	10 – 15	AA 3.2.1.520
Density	g/cm³	1.00 – 1.02	Ph. Eur. 2.2.5

Packaging and Handling

Physical form	Flakes
Packaging	Paper bag or Big Bag
Storage	Store at ambient temperature on a dry place. Protect from heat/overheating and direct sunlight. The maximum shelf life is 5 years after production. Thereafter, tests of the chemical characteristics are recommended. After delivery, a minimum remaining shelf life at the customer of 1.5 years is warranted.

Safety

WARADUR® B
- is made from a fossil biological source
- is not classified as carcinogenic, mutagenic or reprotoxic; no health or environmental hazards are known, provided it is applied in industrial and professional settings

For more information, consult SDS.

Delivery Time and Availability

Standard delivery time: 2 – 3 weeks. Preconditions can be met for achieving shorter delivery times on standard products when demanded by the market.

Legislation

Food contact legislation:
- Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food

Other legislation:
- REACh, RoHS and CONEG compliant
- Listed in all relevant national inventories

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PRODUCT INFORMATION

WARADUR® ELE

Product Description

WARADUR® ELE is a special wax blend, consisting of esters of long-chain fatty acids (mainly C28 – C32) with multihydroxyl alcohols. The corresponding esters exhibit chain length in the range of mainly C34 – C66. Product for the preparation of aqueous dispersions. A proprietary emulsifier mixture (APEO-free) is already incorporated in this blend.

General Advantages

WARADUR® ELE is easy to emulsify. Non-ionic emulsions can prepared up to concentrations of 25 – 30 %. Because the wax is self-emulsifying, emulsions are easily prepared by stirring the solid flakes into hot water.
Technical support available upon request: application@voelpker.com

Examples of Use

- Polishes: emulsions of WARADUR® ELE can be used in dry-bright floor polishes and cleaners for household, industrial and institutional use. They can also be used in leather polishes and car care products.
- Leather industry: additive for leather finishes, for improving handle, flexibility, gloss. Dressing for shoes.
- Technical information brochure about emulsions preparation available upon request.

Delivery Specifications *

Characteristics	Unit	Target value	Method
Acid value *	mg KOH/g	25 – 35	ISO 2114
Saponification value *	mg KOH/g	110 – 140	ISO 3681
Drop point *	°C	82 – 88	ASTM 3954
Colour	–	pale yellow	AA 3.2.1.505
Viscosity @ 120 °C	mPas	10 – 20	AA 3.2.1.520
Density	g/cm³	1.00 – 1.02	Ph. Eur. 2.2.5

Packaging and Handling

Physical form	Flakes
Packaging	Paper bag or Big Bag
Storage	Store at ambient temperature on a dry place. Protect from heat/overheating and direct sunlight. The maximum shelf life is 5 years after production. Thereafter, tests of the chemical characteristics are recommended. After delivery, a minimum remaining shelf life at the customer of 1.5 years is warranted.

Safety

Consult SDS.

Delivery Time and Availability

Standard delivery time: 2 – 3 weeks. Preconditions can be met for achieving shorter delivery times on standard products when demanded by the market.

Remark: Voelpker's R&D department is permanently developing new special wax blends for the preparation of aqueous dispersions. Please contact us for your individual requirements.

Legislation

Food contact legislation:
- Product for technical applications

Other legislation:
- REACh compliant; all components registered or exempt (polymers, salts of fatty acids)
- RoHS and CONEG compliant
- Ingredients listed in all relevant national inventories

For further information, please contact application@voelpker.com.

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PRODUCT INFORMATION

WARADUR® LGE

Product Description

WARADUR® LGE is a special wax blend, consisting of esters of long-chain fatty acids (mainly C28 – C32) with multihydroxyl alcohols. The corresponding esters exhibit chain length in the range of mainly C34 – C66. Product for the preparation of aqueous dispersions. A proprietary emulsifier mixture is already incorporated in this blend.

General Advantages

WARADUR® LGE is easy to emulsify. Non-ionic emulsions can prepared up to concentrations of 25 – 30 %. Because the wax is self-emulsifying, emulsions are easily prepared by stirring the solid flakes into hot water.
Technical support available upon request: application@voelpker.com.

Examples of Use

- Polishes: emulsions of WARADUR® LGE can be used in dry-bright floor polishes and cleaners for household, industrial and institutional use. They can also be used in leather polishes and car care products.
- Leather industry: additive for leather finishes, for improving handle, flexibility, gloss. Dressing for shoes.
- Technical information brochure about emulsions preparation available upon request.

Delivery Specifications *

Characteristics	Unit	Target value	Method
Acid value *	mg KOH/g	20 – 30	ISO 2114
Saponification value *	mg KOH/g	127 – 147	ISO 3681
Drop point *	°C	82 – 88	ASTM 3954
Colour	–	pale yellow	AA 3.2.1.505
Viscosity @ 120 °C	mPas	10 – 20	AA 3.2.1.520
Density	g/cm³	1.00 – 1.02	Ph. Eur. 2.2.5

Packaging and Handling

Physical form	Flakes
Packaging	Paper bag or Big Bag
Storage	Store at ambient temperature on a dry place. Protect from heat/overheating and direct sunlight. The maximum shelf life is 5 years after production. Thereafter, tests of the chemical characteristics are recommended. After delivery, a minimum remaining shelf life at the customer of 1.5 years is warranted.

Safety

Consult SDS.

Delivery Time and Availability

Standard delivery time: 2 – 3 weeks. Preconditions can be met for achieving shorter delivery times on standard products when demanded by the market.

Remark: Voelpker's R&D department is permanently developing new special wax blends for the preparation of aqueous dispersions. Please contact us for your individual requirements.

Legislation

Food contact legislation:
- Product for technical applications

Other legislation:
- REACh compliant; all components registered or exempt (polymers, salts of fatty acids)
- RoHS and CONEG compliant
- Ingredients listed in all relevant national inventories

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PRODUCT INFORMATION

CEVO®-care P-2714

Product Description

CEVO-care P-2714 is a special wax blend, consisting of esters of long-chain fatty acids (C16 – C32) with multihydroxyl alcohols. The corresponding esters exhibit chain length in the range of C34 – C66. Product for the preparation of aqueous dispersions. A proprietary emulsifier mixture (APEO-free) is already incorporated in this blend.

General Advantages

CEVO-care P-2714 is easy to emulsify. Non-ionic emulsions can prepared up to concentrations of 25 – 30 %. Because the wax is self-emulsifying, emulsions are easily prepared by stirring the solid pastilles into hot water.
Technical support available upon request.

Examples of Use

- Polishes: Emulsions of CEVO-care P-2714 can be used in dry-bright floor polishes and cleaners for household, industrial and institutional use. They can also be used in leather polishes and car care products.
- Leather industry: additive for leather finishes, for improving handle, flexibility, gloss. Dressing for shoes.
- Technical information brochure about emulsions preparation available upon request.

Delivery Specifications *

Characteristics	Unit	Target value	Method
Acid value *	mg KOH/g	17 – 25	ISO 2114
Saponification value *	mg KOH/g	105 – 125	ISO 3681
Drop point *	°C	85 – 88	ASTM 3954
Colour	–	pale yellow	AA 3.2.1.505
Viscosity @ 120 °C	mPas	10 – 20	AA 3.2.1.520
Density	g/cm³	1.00 – 1.02	Ph. Eur. 2.2.5

Packaging and Handling

Physical form	Pastilles
Packaging	Paper bag or Big Bag
Storage	Store at ambient temperature on a dry place. Protect from heat/overheating and direct sunlight. The maximum shelf life is 5 years after production. Thereafter, tests of the chemical characteristics are recommended. After delivery, a minimum remaining shelf life at the customer of 1.5 years is warranted.

Safety

Consult SDS.

Delivery Time and Availability

Standard delivery time: 2 – 3 weeks. Preconditions can be met for achieving shorter delivery times on standard products when demanded by the market.

Remark: Voelpker's R&D department is permanently developing new special wax blends for the preparation of aqueous dispersions. Please contact us for your individual requirements.

Legislation

Food contact legislation:
- Product for technical applications

Other legislation:
- REACh compliant; all components registered or exempt (polymers, salts of fatty acids)
- RoHS and CONEG compliant
- Ingredients listed in all relevant national inventories

For further information, please contact application@voelpker.com.

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PRODUCT INFORMATION

WARADUR® E

Product Description

WARADUR® E is a hard ester wax with a crystalline structure, consisting of esters of montanic acids with multihydroxyl alcohols. Montanic acids are straight chained monocarboxylic acids with a chain length in the range of mainly C28 – C32. The corresponding esters exhibit chain length in the range of mainly C58 – C66.

General Advantages

WARADUR® E is easy to saponify and emulsify (pressureless vessel) and can be buffed to a high gloss. Also provides good paste- and dispersion forming properties with organic solvents.

Examples of Use

- WARADUR® E can be used to manufacture polishes based on aqueous emulsions of (saponified) wax with or without emulsifiers. It is used in its saponified form in leather care products, polishes and abrasive pastes (e.g. car polishes), etc. It performs particularly well in co-emulsions of wax and solvents in water. WARADUR® E can be used in combination with microcrystalline waxes, paraffin wax, hydrogenated plant oils and others.
- Other applications: paper coating, metal work, compacting aids in powder metallurgy.

Delivery Specifications *

Characteristics	Unit	Target value	Method
Acid value *	mg KOH/g	15 – 20	ISO 2114
Saponification value *	mg KOH/g	140 – 160	ISO 3681
Drop point *	°C	82 – 88	ASTM 3954
Colour	–	pale yellow	AA 3.2.1.505
Viscosity @ 120 °C	mPas	15 – 20	AA 3.2.1.520
Density	g/cm³	1.00 – 1.02	Ph. Eur. 2.2.5

Packaging and Handling

Physical form	Flakes, also available as powder
Packaging	Paper bag or Big Bag
Storage	Store at ambient temperature on a dry place. Protect from heat/overheating and direct sunlight. The maximum shelf life is 5 years after production. Thereafter, tests of the chemical characteristics are recommended. After delivery, a minimum remaining shelf life at the customer of 1.5 years is warranted.

Safety

WARADUR® E
- is made from a fossil biological source
- reached the criteria for inherent biodegradability (OECD Guideline 301 D, Closed Bottle Test)
- is not classified as carcinogenic, mutagenic or reprotoxic; no health or environmental hazards are known, provided it is applied in industrial and professional settings

Delivery Time and Availability

Standard delivery time: 2 – 3 weeks. Preconditions can be met for achieving shorter delivery times on standard products when demanded by the market.

Legislation

Food contact legislation:
- FDA 175.105 Adhesives
- FDA 177.2600 Rubber articles intended for repeated use
- FDA 178.3770 For use in lubricants in the fabrication of vinyl chloride plastic food contact articles
- Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food

Other legislation:
- REACh, RoHS and CONEG compliant
- Listed in all relevant national inventories

For further information, please contact application@voelpker.com.

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PRODUCT INFORMATION

CEVO®-care P-6211

Product Description

CEVO®-care P-6211 is a special wax blend, based on polymer waxes, hydrocarbon waxes and stearates.

General Advantages

Depending from the concentration, clear solutions of CEVO®-care P-6211 in hot organic solvents crystallise to form very finely divided liquid dispersions, gels or pastes when the heated solution is cooled under stirring. The received wax preparations have a very slightly solvent retention when the wax dispersion is dried. On a surface they form very dense, buffable films.

Examples of Use

- Very finely divided, liquid wax dispersions can be prepared that dry to form a very glossy and dense, easy to polish film. This is very important for polishes applied to floors and car bodywork or other substrates (other surfaces, furniture, parquetry), which requires a good film formation.
- The consistency of the wax dispersion can be adjusted from liquid to pasty by choosing the adequate proportion and concentration of CEVO®-care P-6211 and if necessary other additional waxes.
- Technical information brochure available upon request.

Delivery Specifications *

Characteristics	Unit	Target value	Method
Acid value *	mg KOH/g	10 – 14	ISO 2114
Drop point *	mg KOH/g	17 – 25	ISO 3681
Acid value *	°C	104 – 112	ASTM 3954
Colour	–	off white	AA 3.2.1.505
Viscosity @ 120 °C	mPas	90 – 120	AA 3.2.1.520
Colour	g/cm³	1.00 – 1.02	Ph. Eur. 2.2.5

Packaging and Handling

Physical form	Pastilles
Packaging	Paper bag or Big Bag
Storage	Store at ambient temperature on a dry place. Protect from heat/overheating and direct sunlight. The maximum shelf life is 5 years after production. Thereafter, tests of the chemical characteristics are recommended. After delivery, a minimum remaining shelf life at the customer of 1.5 years is warranted.

Safety

CEVO®-care P-6211 is not classified as carcinogenic, mutagenic or reprotoxic; no health or environmental hazards are known, provided it is applied in industrial and professional settings.

For more information, consult SDS.

Delivery Time and Availability

Standard delivery time: 2 – 3 weeks. Preconditions can be met for achieving shorter delivery times on standard products when demanded by the market.

Remark: Voelpker's R&D department is permanently developing new (tailor-made) special wax blends for mould release applications. Please contact us for your individual requirements.

Legislation

Food contact legislation:
- Product for technical applications

Other legislation:
- REACh compliant; all components registered or exempt (polymers, salts of fatty acids)
- RoHS and CONEG compliant
- Ingredients listed in all relevant national inventories

For further information, please contact application@voelpker.com.

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Raw material supplier information

Abrasives	
Aerosil	Evonik
Celite Snow Floss	Lehmann &Voss
Kelzan S	CP Kelco
Sillitin N 85	Hoffmann Mineral

Waxes	
CEVO®-care P-2714	VOELPKER
CEVO®-care P-6211	VOELPKER
Luwax A	BASF
Paraffin 52/54	Ter Hell
WARADUR® B	VOELPKER
WARADUR® ELE	VOELPKER
WARADUR® LGE	VOELPKER
WARADUR® S	VOELPKER

Silicon oils	
Dow 530 fluid D	Dow Corning
Dow 531 fluid	Dow Corning
Silicon oil AK 350	Wacker
Silicon oil AK 1000	Wacker
Silicon oil AK 10000	Wacker
Silicon oil emulsion E 10	Wacker
Silicon oil AK 350	Wacker
Tegopolish additive E 3400/5	Evonik
Tegopolish additive E 35	Evonik

Solvents	
Benzine 100/140	Kremer Pigmente
White spirit (Kristallöl K 60)	Shell
Spindle oil	Klueber

Emulsifiers and surfactants	
Emulan A	BASF
Genapol OX 70	Clariant
Lutensol ON 70	BASF
Lutensol AP 10	BASF
Lutensid A-LBA	BASF

Thickeners	
Carbopol EZ-2	Lubrizol
Latekoll D 4 %	BASF

Space for your notes:

VOELPKER | polish series

VOELPKER
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