

Luviquat[®] Polymer Grades

® = Registered trademark
of BASF Aktiengesellschaft

Quaternized copolymers for hair and skin care

cosmetic
INGREDIENTS

- Hair Care
- Skin Care
- Oral Care

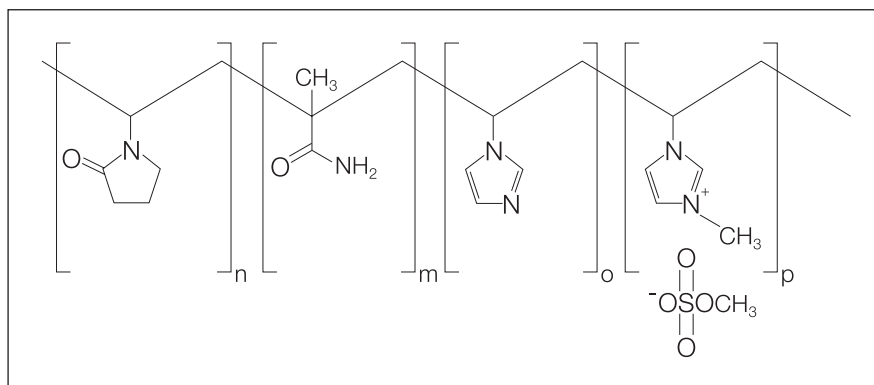
Range

The Luviquat® grades are aqueous solutions of cationic polymers of different charge density and different degrees of setting and conditioning.

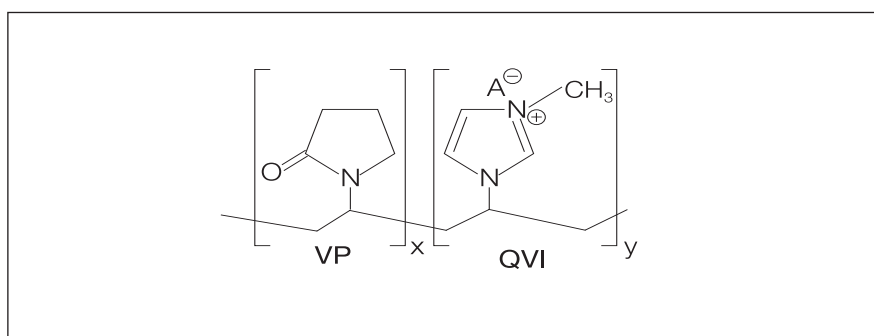
Product	INCI name	CAS number
Luviquat® Supreme	Polyquaternium-68	827346-45-2
Luviquat® UltraCare	Polyquaternium-44	150599-70-5
Luviquat® Hold	Polyquaternium-46	174761-16-1
Luviquat® PQ 11 PN	Polyquaternium-11	53633-54-8
Luviquat® HM 552	Polyquaternium-16	95144-24-4
Luviquat® Style	Polyquaternium-16	95144-24-4
Luviquat® FC 370	Polyquaternium-16	95144-24-4
Luviquat® FC 550	Polyquaternium-16	95144-24-4
Luviquat® Excellence	Polyquaternium-16	95144-24-4

Chemical description**Polyquaternium-68**

Quaternized copolymers of vinylpyrrolidone (VP), methacrylamide (MAM), vinylimidazole (VI) and quaternized vinylimidazole (QVI).

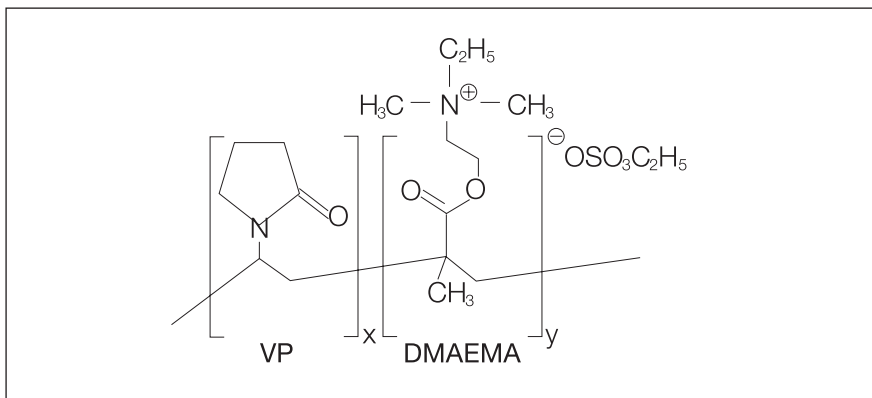
**Polyquaternium-16 and Polyquaternium-44**

Copolymers of vinylpyrrolidone (VP) and quaternized vinylimidazole (QVI) with a range of charge densities, in aqueous solution.

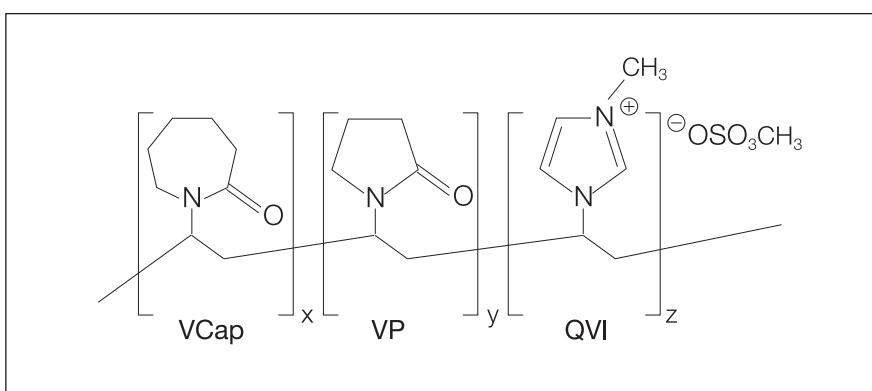


Polyquaternium-11

Quaternized copolymer of vinylpyrrolidone (VP) and dimethylaminoethyl methacrylate (DMAEMA) in aqueous solution.

**Polyquaternium-46**

Copolymer of vinylcaprolactam (VCap), vinylpyrrolidone (VP) and quaternized vinylimidazole (QVI) in aqueous solution.

**Physicochemical properties****Appearance**

Clear to slightly turbid yellowish viscous liquids

Odour

Slight, characteristic

Solubility

Miscible with water

Molecular weight

See table 1

Charge density

See table 1

Table 1: Composition, molecular weight and charge density of Luviquat® range

Luviquat	Composition, % weight						Anion	Solids content %	Molecular weight (by light scattering)	Charge density meq/g at pH 7
	VP	VI	MAM	QVI	DMAEMA	VCap				
Luviquat® Supreme	55	10	29	6			Methylsulfate	19-21	ca. 300,000	0.5 ^{a)}
Luviquat® UltraCare	80			20			Methylsulfate	12.5-13.5	ca. 200,000	1.0
Luviquat® Hold	40			10		50	Methylsulfate	19-21	ca. 700,000	0.5
Luviquat® PQ 11 PN	67				33		Ethylsulfate	19-21	ca. 1,000,000	0.8
Luviquat® HM 552	55			45			Chloride	19-21	ca. 400,000	3.0
Luviquat® Style	55			45			Chloride	19-21	ca. 400,000	3.0
Luviquat® FC 370	70			30			Chloride	38-42	ca. 100,000	2.0
Luviquat® FC 550	50			50			Chloride	38-42	ca. 80,000	3.3
Luviquat® Excellence	5			95			Chloride	38-42	ca. 40,000	6.1

^{a)} Charge density is a function of the pH-value: 0.9 meq/g at pH 5 and 0.6 meq/g at pH 6

Table 2: Specifications

Luviquat	Method	Supreme	UltraCare	Hold	PQ 11 PN	HM 552	Style	FC 370	FC 550	Excellence
Solids content, %	02/0003.00	19.0–21.0	12.5-13.5	19.0–21.0	19.0–21.0	19.0–21.0	19.0–21.0	38.0–42.0	38.0–42.0	38.0–42.0
Colour (Gardner)	02/0004.00	–	≤ 2	≤ 2	≤ 3	≤ 3	≤ 3	≤ 5	≤ 5	≤ 5
pH value (10% in water)	02/0005.00	5.5–7.0	5.0–7.0 ¹⁾	5.0–8.0	5.0–7.0	4.5–7.5	4.5–7.5	5.0–8.0	5.0–8.0	5.0–8.0
K-value	02/0006.00	–	–	–	–	72–82	72–82	41–49	42–48	27–33
Viscosity, mPa · s	02/0007.00	3 000–20 000	4 000–18 000	1 500–4 000	10 000–40 000	–	–	–	–	–
Cl, as % solids content	02/0008.00	–	–	–	–	10.5–13.5	10.5–13.5	6.5–8.0	10.0–12.5	20.0–22.5
NVP, mg/kg	02/0009.00	≤ 50	≤ 50	≤ 50	≤ 50	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100
VCap, mg/kg	02/0009.00	–	–	≤ 50	–	–	–	–	–	–
MAM, mg/kg	PM 075401	≤ 10	–	–	–	–	–	–	–	–
Total aerobes	Ph. Eur.	³⁾	²⁾	³⁾	²⁾	Not detectable	²⁾	Not detectable	Not detectable	Not detectable
Yeasts/moulds	Ph. Eur.	³⁾	²⁾	³⁾	²⁾	Not detectable	²⁾	Not detectable	Not detectable	Not detectable

¹⁾ Luviquat® Ultra Care: 2% solids for this pH-measurement

²⁾ Contains 0.5% Phenoxyethanol (and) Methylparaben (and) Ethylparaben (and) Butylparaben (and) Propylparaben (and) Isobutylparaben as a preservative (e.g. Euxyl K300)

³⁾ Contains 0.75% Phenoxyethanol (and) Methylparaben (and) Ethylparaben (and) Butylparaben (and) Propylparaben (and) Isobutylparaben as a preservative (e.g. Euxyl K300)

Applications and technical properties

The Luviquat® range covers a wide spectrum of applications (Table 3), which enables the formulator to select exactly the right product for his requirements.

Table 3 gives the basic applications and the recommended Luviquat® grades.

Table 3: Applications

	INCI designation	Hair styling			Hair and skin conditioning		Skin care
		Mousse, Lotion	Gel	Spray	Conditioning rinse, Hair treatment	Shampoo Shower products	Body Lotion, Shaving preparations
Luviquat® Supreme	Polyquaternium-68	■ ■ ■ ■	■	□	□	□	□
Luviquat® UltraCare	Polyquaternium-44	■ ■	□	□	■ ■	■ ■ ■ ■	■ ■ ■ ■
Luviquat® Hold	Polyquaternium-46	■ ■ ■ ■	■ ■	■ ■	■	■	■
Luviquat® PQ 11 PN	Polyquaternium-11	■ ■ ■ ■	■	□	■ ■	■ ■	■ ■
Luviquat® HM 552	Polyquaternium-16	■ ■ ■ ■	□	□	■ ■	■ ■	■ ■ ■ ■
Luviquat® Style	Polyquaternium-16	■ ■ ■ ■	□	□	■ ■	■ ■	■ ■ ■ ■
Luviquat® FC 370	Polyquaternium-16	■ ■	□	■ ■	■ ■ ■ ■	■	■ ■
Luviquat® FC 550	Polyquaternium-16	■ ■	□	■ ■	■ ■ ■ ■	■	■ ■
Luviquat® Excellence	Polyquaternium-16	■ ■	□	■ ■	■ ■	■ ■	■ ■

■ ■ ■ ■ especially recommended
 ■ ■ recommended
 ■ dependant on the formulation
 □ not recommended

The Luviquat® polymers are substantive cationic compounds for use as conditioners and styling products in hair and skin care preparations.

Hair care

As components in conditioners, shampoos, hair setting products, rinsing, waving, bleaching and dyeing agents, the Luviquat® polymers improve the wet combability of the hair and prevent electrostatic charging when the hair is dry. They also protect the hair, as the polymer forms a shield around each hair so that its surface is less readily attacked.

The technical properties of the Luviquat® grades are determined by their cationic charge, molecular weight and the kind of monomers.

Hair setting

Luviquat® Supreme, Luviquat® Hold, Luviquat® PQ 11 PN and Luviquat® Style are especially recommended for styling products, e.g. hair mousses and lotions. Their high molecular weight and their specific composition provide a good setting effect (Fig. 1).

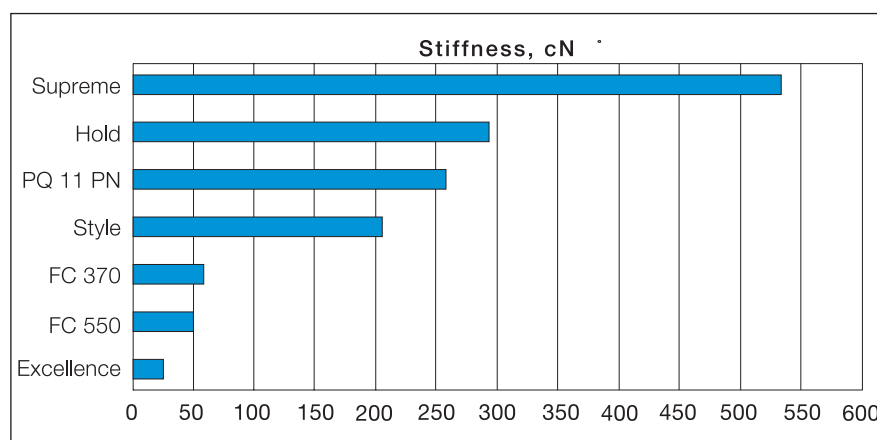


Fig. 1: Setting effect (Stiffness test, 2.2% polymer content, 65% rel.hum.)

Hair mousses

Hair mousses are usually expected to provide a setting effect as well as a conditioning effect. For this reason, the high molecular weight products, Luviquat® Supreme, Luviquat® Hold, Luviquat® Style and Luviquat® PQ 11 PN are suitable.

Luviquat Supreme is an innovative styling polymer for hair mousse. It provides ultrastrong hold and outstanding curl retention even at high humidity levels. In addition, Luviquat Supreme has impressive conditioning properties and gives even the finest hair more volume.

Another highlight is the combination of Luviquat Supreme and Panthenol. The result is a highly flexible polymer film with a tremendous resistance to breaking that ensures a natural, flexible hold regardless of the weather.

The benefits of Luviquat Supreme in detail:

- Maximum setting even in the most extreme conditions
- Strong hold all the way to natural, flexible hold with additives
- Excellent curl retention
- Very low tackiness
- Quick foam development
- Rich and creamy foam
- Hair that feels smooth
- Improves combability
- Increased volume for fine hair
- Easy solubility in water
- Combines styling and conditioning properties

Luviquat® Supreme exhibits highest Curl Retention values even at 90% rel. hum., 25°C (Fig. 2)

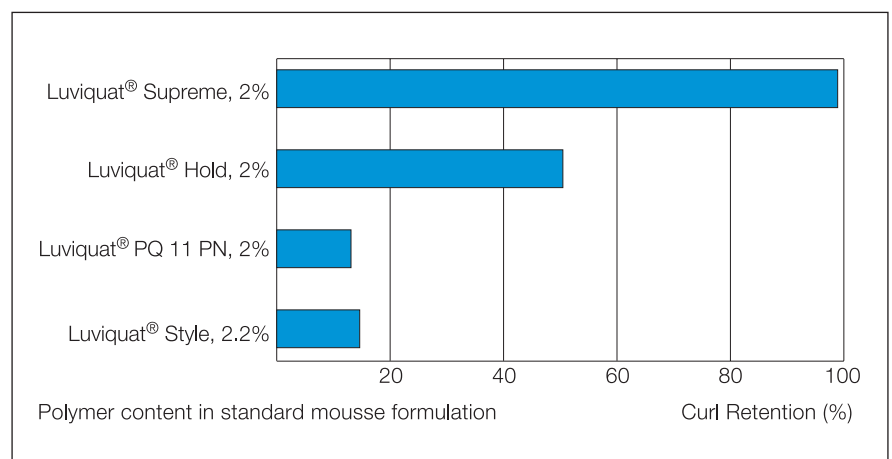


Fig. 2: Curl Retention at 90% rel.hum., 25°C

Hair Gels

Luviquat® Hold is recommended for hair gels with setting and conditioning properties (Fig. 3)

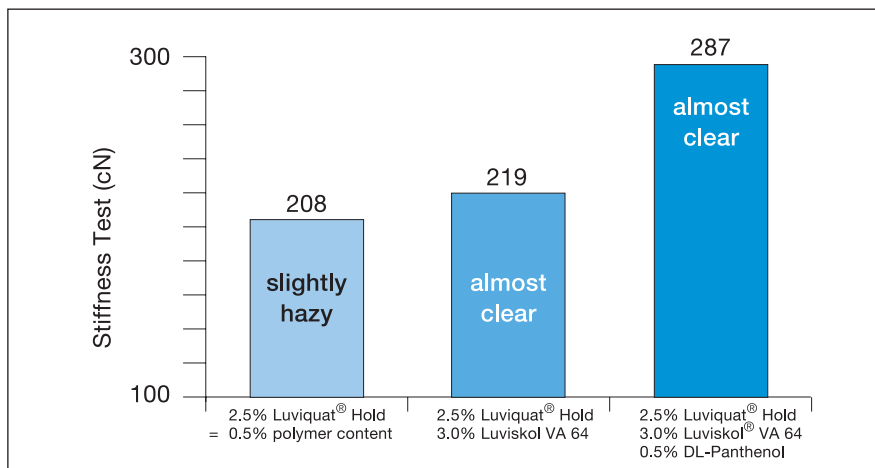


Fig. 3: Carbomer Gels with Luviquat® Hold (0.5% Carbopol 940)

The carbomer compatibility of cationic polymers is very important if they are to be used in hair gels. Luviquat® Hold has a particularly low charge density and is therefore ideal for use in transparent hair gels.

Rinses, Treatments

The Luviquat® FC-grades and especially Luviquat® Excellence are recommended for rinses and hair treatments. Their relatively high cationic charge is responsible for the good combability and for a strong conditioning effect (Fig. 4).

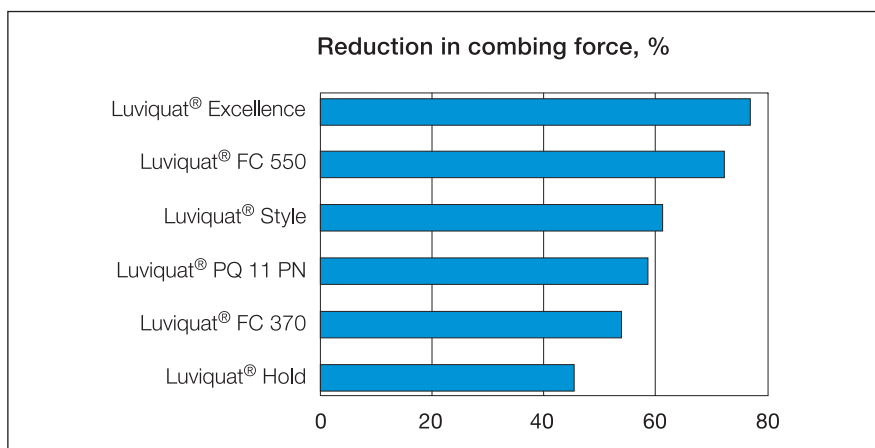


Fig. 4: Wet combability

After treatment with a 1% aqueous solution of the active substance, and rinsing with water

Shampoos and cleansing products

Luviquat® UltraCare has been developed to specifically address the needs for a conditioning agent, providing improved benefits in cleansing formulations for hair and skin care, e.g. shampoos, shower gels and body washes. This polymer has been especially designed to follow the „dilution-precipitation“ mechanism according to Lochhead (Cosmetics & Toiletries, Vol 103, Dec. 1988) which is important to be effective as a conditioning agent in surfactant-based formulations.

Luviquat® UltraCare improves the overall performance in Shampoos (Fig. 5). It improves the wet and dry combability and provides a smooth silky feel to the hair. The lather creaminess is significantly improved. Benefits are more pronounced with damaged hair. There are no drawbacks with fine hair regarding volume, accumulation and build-up.

The recommended use level is 0.1-0.2% for fine and normal hair and up to 0.5% for damaged hair resp. up to 1.0% for strong Asian hair.

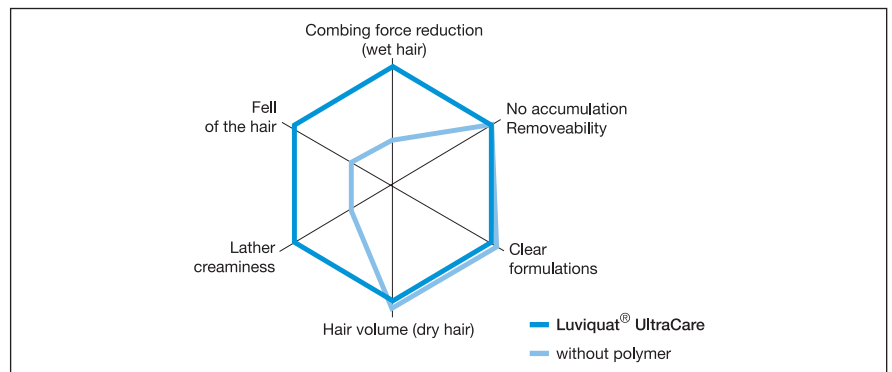


Fig. 5: Performance of Luviquat® UltraCare in Shampoos

Luviquat® UltraCare visibly reduces skin irritation caused by sodium lauryl sulfate (SLS). This could be demonstrated in the established in-vivo Duhring chamber test by means of a visual assessment of the skin irritation (Fig. 6) and by measuring the transepidermal water loss.

Counterirritant

Product	Erythema	Δ TEWL	Chromametry Values
Water	0	0.3	- 0.5
0.2% SLS without polymer	1.5	3.9	2.9
0.2% SLS + 0.5% solids Luviquat® UltraCare	0	1.5	1.3
0.2% SLS + 1.0% solids Luviquat® UltraCare	0	1.1	1.0

Fig. 6: Luviquat® UltraCare - an effective counterirritant
Study by Derma Consult

Δ TEWL = Transepidermal water loss, increase relative to initial value
Chromametry Values (Redness), increase relative to initial value.

Recommended formulations**Hair Mousses****Styling mousse with Luviquat® Supreme****No. 02/00479**

	%	Ingredients	Supplier	INCI name
A	2.00	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	q.s.	Perfume		
B	78.00	Water dem.		Aqua dem.
	10.00	Luviquat® Supreme	(1)	Polyquaternium-68
	q.s.	Preservative		
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production:

Mix phase A. Add components of phase B one after the other and dissolve them. Fill with phase C.

Properties:

pH value: 7.0

Styling mousse with Luviquat® Supreme and Luviquat® Style**No. 02/00485**

	%	Ingredients	Supplier	INCI name
A	2.00	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	q.s.	Perfume		
B	78.00	Water dem.		Aqua dem.
	2.50	Luviquat® Style	(1)	Polyquaternium-16
	7.50	Luviquat® Supreme	(1)	Polyquaternium-68
	q.s.	Preservative		
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production:

Mix phase A. Add components of phase B one after the other and dissolve them. Fill with phase C.

Properties:

pH value: 7.0

Styling Mousse with Luviquat® Supreme and Luviquat® Clear**No. 02/00487**

	%	Ingredients	Supplier	INCI name
A	2.00	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	q.s.	Perfume		
B	78.00	Water dem.		Aqua dem.
	5.00	Luiset® Clear	(1)	VP/Methacrylamide/Vinyl Imidazole Copolymer
	5.00	Luviquat® Supreme	(1)	Polyquaternium-68
	q.s.	Preservative		
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production:

Mix phase A. Add components of phase B one after the other and dissolve them. Fill with phase C.

Properties:

pH value: 7.0

Styling mousse with Luviskol VA 64 and Luviquat® Supreme**No. 02/00491**

	%	Ingredients	Supplier	INCI name
A	2.00	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	q.s.	Perfume		
B	82.50	Water dem.		Aqua dem.
	3.00	Luviskol® VA 64 P	(1)	PVP/VA Copolymer
	2.50	Luviquat® Supreme	(1)	Polyquaternium-68
	q.s.	Preservative		
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production: Mix phase A. Add components of phase B one after the other and dissolve them. Fill with phase C.

Properties: pH value: 7.0

Pump mousse with Luviquat® Supreme**No. 02/00494**

	%	Ingredients	Supplier	INCI name
A	2.00	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	q.s.	Perfume		
B	88.00	Water dem.		Aqua dem.
	10.00	Luviquat® Supreme	(1)	Polyquaternium-68
	q.s.	Preservative		

Production: Mix phase A. Add components of phase B one after the other and dissolve them. Fill with phase C.

Properties: pH value: 7.0

Styling mousse with Luviquat® Supreme**No. 02/00500**

	%	Ingredients	Supplier	INCI name
A	2.00	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	q.s.	Perfume		
B	80.30	Water dem.		Aqua dem.
	5.00	Luviquat® Supreme	(1)	Polyquaternium-68
	0.50	D-Panthenol USP	(1)	Panthenol
	2.00	1,2-Propylene glycol Care	(1)	Propylene Glycol
	0.20	Natrosol 250 HR	(4)	Hydroxyethylcellulose
	q.s.	Preservative		
	q.s.	Phosphoric acid 85%		Phosphoric Acid
	C	10.00	Propane/Butane 3.5 bar (20°C)	

Production: Mix phase A. Add components of phase B one after the other and dissolve them. Adjust the pH value to about 6. Fill with phase C.

Properties: pH value: 6.2

Styling Mousse „Re-style“ with Luviquat® Style**No. 02/00044**

	%	Ingredients	Supplier	INCI name
A	q.s.	Perfume		
	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	79.50	Water, dem.		Aqua
B	10.00	Luviquat® Style	(1)	Polyquaternium-16
	0.50	Luviquat® Mono CP	(1)	Hydroxyethyl Cetyldimonium Phosphate
	q.s.	Preservative		
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production:

Solubilize phase A. Weigh phase B into phase A and dissolve clearly. Adjust the pH value to 6-7. Fill into appropriate containers and charge with phase C.

Properties:

pH value: 6.0

„Professional“ Conditioning mousse with Luviquat® PQ 11 and Luviquat® Mono CP**No. 02/00287**

	%	Ingredients	Supplier	INCI name
A	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	q.s.	Perfume		
	69.50	Water dem.		Aqua
B	10.00	Luviquat® PQ 11	(1)	Polyquaternium-11
	0.50	Luviquat® Mono CP	(1)	Hydroxyethyl Cetyldimonium Phosphate
	10.00	Ethanol 96%		Alcohol
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production:

Solubilize phase A. Weigh phase B into phase A and dissolve clearly. Adjust the pH value to 6-7. Fill into appropriate containers and charge with phase C.

Properties:

pH value: 7.0

„Professional“ Setting Mousse**No. 02/00364**

	%	Ingredients	Supplier	INCI name
A	2.00	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	q.s.	Perfume		
B	78.00	Water dem.		Aqua
	10.00	Luviquat® Hold	(1)	Polyquaternium-46
	q.s.	Preservative		
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production:

Mix phase A. Add phase B to phase A. Stir in phase C. Adjust the pH-value to 6-7. Fill into appropriate containers and charge with phase D.

Properties:

pH value: 7.0

Strong Setting Conditioning Mousse**No. 02/00365**

	%	Ingredients	Supplier	INCI name
A	q.s	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	q.s.	Perfume		
	81.50	Water dem.		Aqua
B	5.00	Luviquat® PQ 11	(1)	Polyquaternium-11
	3.00	Luviskol® VA 64	(1)	VP/VA Copolymer
	0.50	Luviquat® Mono CP	(1)	Hydroxyethyl Cetyldimonium Phosphate
	q.s	Preservative		
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production:

Solubilize phase A. Weigh phase B into phase A and dissolve clearly. Adjust the pH-value to 6-7. Fill into appropriate containers and charge with phase C.

Properties:

pH value: 6.0

„Invisible hold“ Pump mousse**No. 02/00407**

	%	Ingredients	Supplier	INCI name
A	1.50	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	q.s.	Perfume		
B	90.80	Water dem.		Aqua
	0.30	AMP	(56)	Aminomethyl Propanol
	3.40	Luviflex® Soft	(1)	Acrylates Copolymer
	4.00	Luviquat® Hold	(1)	Polyquaternium-46
	q.s.	Preservative		

Production:

Mix the components of phase A. Add the components of phase B one after another and dissolve them clearly.

Properties:

pH value: 6.0

Styling Mousse „Hair Balance“ with Luviquat® Hold**No. 02/00341**

	%	Ingredients	Supplier	INCI name
A	q.s.	Perfume		
	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	64.30	Water, dem.		Aqua
B	2.50	Luviquat® Style	(1)	Polyquaternium-16
	7.50	Luviquat® Hold	(1)	Polyquaternium-46
	0.50	Luviquat® Mono CP	(1)	Hydroxyethyl Cetyldimonium Phosphate
	0.20	Cremophor® A 25	(1)	Cetareth-25
	15.00	Ethanol abs.		Alcohol
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/ Butane

Production:

Solubilize the components of phase A. Weigh phase B into phase A and stir until homogeneous. Adjust the pH value to 6-7. Fill into appropriate containers and charge with phase C.

„Creamy Feel“ Styling Foam**No. 02/00349**

	%	Ingredients	Supplier	INCI name
A	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	q.s.	Perfume		
	78.10	Water dem.		Aqua
B	10.00	Luviquat® Hold	(1)	Polyquaternium-46
	0.50	Luviquat® Mono CP	(1)	Hydroxyethyl Cetyldimonium Phosphate
	q.s.	Preservative		
	0.50	D-Panthenol USP	(1)	Panthenol
	0.50	Pluracare E 400	(1)	PEG-8
	0.20	Cremophor® A 25	(1)	Cetareth-25
	0.20	Natrosol 250 HR	(4)	Hydroxyethylcellulose
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production:

Solubilize phase A. Add the components of phase B one after another and dissolve them clearly. Fill into appropriate containers and charge with phase C.

Properties:

pH value: 7.0

Setting Conditioning Mousse**No. 02/00368**

	%	Ingredients	Supplier	INCI name
A	q.s	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	q.s.	Perfume		
	81.50	Water dem.		Aqua
B	5.00	Luviquat® HM 552	(1)	Polyquaternium-16
	3.00	Luviskol® VA 64	(1)	VP/VA Copolymer
	0.50	Luviquat® Mono CP	(1)	Hydroxyethyl Cetyldimonium Phosphate
	q.s	Preservative		
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production:

Solubilize phase A. Weigh phase B into phase A and dissolve clearly. Adjust the pH-value to 6-7. Fill into appropriate containers and charge with phase C.

Properties:

pH value: 6.0

„Feel the Hold“ Setting/Conditioning Mousse**No. 02/00426**

	%	Ingredients	Supplier	INCI name
A	2.00	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	q.s.	Perfume		
B	7.00	Luviquat® Hold	(1)	Polyquaternium-46
	2.00	Luviquat® PQ 11	(1)	Polyquaternium-11
	0.20	Cremophor® A 25	(1)	Ceteareth-25
	0.50	D-Panthenol USP	(1)	Panthenol
	0.05	Uvinul® MS 40	(1)	Benzophenone-4
	0.20	Dow Corning 949 Cationic Emulsion	(16)	Amodimethicone, Cetrimonium Chloride, Trideceth-12
	0.20	Natrosol 250 HR	(4)	Hydroxyethylcellulose
	15.00	Ethanol 96%		Alcohol
	62.85	Water dem.		Aqua
C	10.00	Propane/Butane 3.5 bar (20°C)		Propane/Butane

Production:

Mix the components of phase A. Dissolve phase B and stir it into phase A. Adjust the pH value to 6-7. Fill into appropriate containers and charge with phase C.

Properties:

pH value: 7.0

Styling/Conditioning Hair Mousse**No. 02/00457**

	%	Ingredients	Supplier	INCI name
A	2.00	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	q.s.	Perfume		
B	73.00	Water, dem.		Aqua
	5.00	Luviquat® Hold	(1)	Polyquaternium-46
	10.00	Luviset® Clear	(1)	VP/Methacrylamide/ Vinyl Imidazole Copolymer
	q.s.	Preservative		
C	10.00	Propane/butane 3.5 bar (20°C)		Propane/Butane

Production:

Mix phase A and add the components of phase B one after the other until a clear solution is formed. Pressurize with phase C.

Properties:

pH value: 6.9

Volumizing Mousse (VOC 6)**No. JLB 1043A**

	%	Ingredients	Supplier	INCI name
A	10.00	Luviset® Clear	(1)	VP/Methacrylamide/Vinyl Imidazole Copolymer
	5.00	Luviquat® Hold	(1)	Polyquaternium-46
	47.50	Water, dem.		Aqua dem.
	q.s.	Preservative		
B	30.00	Water, dem.		Aqua dem.
	0.20	Cremophor® A 25	(1)	Cetareth-25
	0.40	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	0.70	Rhodasurf® L-3	(41)	Laureth-3
	q.s.	Perfume		
C	6.00	Propane/Butane (Propellant A70)		

Procedure:

Add ingredients of phase A in order listed with adequate agitation, making sure all components are completely dissolved before adding the next. Premix ingredients of phase B until homogeneous. Add phase B to phase A with adequate agitation. Fill into appropriate containers and charge with propellant (phase C).

Packaging info:

White Coated Aluminium Can (Peerless Tube Corporation).

Hair Lotions**Styling water with Luviquat® Supreme****No. 02/00493**

	%	Ingredients	Supplier	INCI name
A	0.70	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	0.20	Perfume		
	93.60	Water dem.		Aqua dem.
B	5.00	Luviquat® Supreme	(1)	Polyquaternium-68
	0.50	D-Panthenol USP	(1)	Panthenol
	q.s.	Preservative		

Production: Solubilize phase A. Add components of phase B one after the other and dissolve them clear. Fill with phase C.

Properties: pH value: 7.0

Dry Blowing Lotion**No. 02/00073**

	%	Ingredients	Supplier	INCI name
	0.20	Luviquat® Excellence	(1)	Polyquaternium-16
	4.00	Luviskol® VA 37 E	(1)	VP/VA Copolymer
	q.s.	Perfume		
	35.00	Ethanol abs.		Alcohol
	ad 100	Water, dem.		Aqua

Production: Weigh out the components and stir until a homogeneous solution is obtained.

Properties: pH value: 7.0

Conditioning lotion**No. 02/00111**

	%	Ingredients	Supplier	INCI name
A	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	q.s.	Perfume		
	74.50	Water dem.		Aqua
B	5.00	Luviquat® Style	(1)	Polyquaternium-16
	0.50	Luviquat® Mono CP	(1)	Hydroxyethyl Cetyldimonium Phosphate
	20.00	Ethanol 96%		Alcohol

Production: Solubilize phase A. Weigh phase B into phase A and dissolve clearly. Adjust the pH value to 6-7.

Properties: pH value: 7.0

Setting Lotion**No. 02/00233**

%	Ingredients	Supplier	INCI name
1.00	Luviquat® FC 550	(1)	Polyquaternium-16
6.00	Luviskol® VA 37 E	(1)	VP/VA Copolymer
q.s.	Perfume		
35.00	Ethanol 96%		Alcohol
ad 100	Water, dem.		Aqua

Production: Weigh out the components and stir until a homogeneous solution is obtained.

Blow-wave lotion with Luviquat® Mono LS**No. 02/00354**

	%	Ingredients	Supplier	INCI name
A	2.00	Luviquat® Mono LS	(1)	Cocotrimonium Methosulfate
	0.20	Perfume		
B	92.80	Water, dem.		Aqua
	5.00	Luviquat® Hold	(1)	Polyquaternium-46
	q.s.	Preservative		

Production: Mix phase A, then add phase B and mix until homogeneous.

Properties: pH value: 6.0

Emulsions**Blow Drying Lotion****No. 02/00141**

	%	Ingredients	Supplier	INCI name
A	q.s.	Perfume		
	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	68.30	Water, dem.		Aqua
B	1.50	Luviskol® K 30	(1)	PVP
	0.20	Luviquat® Excellence	(1)	Polyquaternium-16
	30.00	Ethanol		Alcohol

Production: Solubilize the components of phase A. Weigh phase B into phase A and stir until clear and homogeneous.

Blow Drying Lotion „Feel your hair“**No. 02/00402**

	%	Ingredients	Supplier	INCI name
A	3.00	Luviquat® Style	(1)	Polyquaternium-16
	5.00	Luviskol® VA 64 W	(1)	VP/VA Copolymer
	1.00	1,2-Propylene Glycol Care	(1)	Propylene Glycol
	30.00	Ethanol 96%		Alcohol
	ad 100	Water, dem.		Aqua
	q.s.	Perfume		

Production:

Weigh out the components of phase A and dissolve them clearly. Adjust the pH value to 6-7.

Properties:

pH value: 6.0

„Hair treatment“ emulsion**No. 03/00008**

	%	Ingredients	Supplier	INCI name
A	1.50	Cremophor® A 6	(1)	Ceteareth-6, Stearyl Alcohol
	1.50	Cremophor® A 25	(1)	Ceteareth-25
	6.00	Luvitol® EHO	(1)	Cetearyl Ethylhexanoate
	3.00	Lanette O	(27)	Cetearyl Alcohol
B	3.00	Luviquat® Excellence	(1)	Polyquaternium-16
	0.50	Citric Acid	(20)	Citric Acid
	2.00	1,2-Propylene Glycol Care	(1)	Propylene Glycol
	q.s.	Preservative		
	82.50	Water dem.		Aqua
C	q.s.	Perfume		

Production:

Heat phases A and B separately to about 80°C. Stir phase B into phase A and homogenize. Cool to about 40°C, add phase C and homogenize again.

Properties:

Viscosity: 2000 mPas Haake Viscotester VT-02
pH value: 2.0

Cream rinse**No. 03/00023**

	%	Ingredients	Supplier	INCI name
A	1.00	Cremophor® A 6	(1)	Ceteareth-6, Stearyl Alcohol
	1.00	Cremophor® A 25	(1)	Ceteareth-25
	2.00	Lanette O	(27)	Cetearyl Alcohol
	2.00	Cutina GMS	(27)	Glyceryl Stearate
	3.00	Paraffin Oil		Mineral Oil
	5.00	Luvitol® EHO	(1)	Cetearyl Ethylhexanoate
B	5.00	1,2 Propylene Glycol Care	(1)	Propylene Glycol
	4.00	Luviquat® FC 550	(1)	Polyquaternium-16
	q.s.	Preservative		
	77.00	Water dem.		Aqua
C	q.s.	Perfume		

Production:

Heat phases A and B separately to about 80°C. Stir phase B into phase A and homogenize. Cool to about 40°C, add phase C and homogenize again.

Properties:

Viscosity: 10000 mPas Haake Viscotester VT-02
pH value: 6.0

Conditioning emulsion**No. 03/00030**

	%	Ingredients	Supplier	INCI name
A	1.00	Cremophor® A 6	(1)	Ceteareth-6, Stearyl Alcohol
	1.00	Cremophor® A 25	(1)	Ceteareth-25
	1.50	Lanette O	(27)	Cetearyl Alcohol
	1.50	Cutina GMS	(27)	Glyceryl Stearate
	3.00	Paraffin Oil		Mineral Oil
	5.00	Luvitol® EHO	(1)	Cetearyl Ethylhexanoate
B	5.00	1,2-Propylene Glycol Care	(1)	Propylene Glycol
	4.00	Luviquat® Style	(1)	Polyquaternium-16
	q.s.	Preservative		
	78.00	Water dem.		Aqua
C	q.s.	Perfume		

Production:

Heat phase A and B separately to 80°C. Stir phase B into phase A and homogenize. Cool to about 40°C whilst stirring. Add phase C and homogenize again.

Properties:

pH value: 6.0
Viscosity: 3000 mPa·s Haake Viscotester VT-02

Hair gels**“Hair Gum”****No. 03/00113**

	%	Ingredients	Supplier	INCI name
A	0.50	Glucamate SSE-20	(3)	PEG-20 Methyl Glucose
	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	q.s.	Perfume		
	30.00	Water, dem.		Aqua
B	10.00	Luviquat® Hold	(1)	Polyquaternium-46
	2.00	Luviskol® K 90	(1)	PVP
	0.30	Germall 115	(9)	Imidazolidinyl Urea
	0.10	Euxyl K 100	(42)	Benzyl Alcohol, Methyl-chloroisothiazolinone Methylisothiazolinone
	0.50	D-Panthenol USP	(1)	Panthenol
	5.00	Pluracare E 6000	(1)	PEG 90
	3.00	1,2 Propylene Glycol Care	(1)	Propylene Glycol
	46.10	Water, dem.		Aqua
C	2.50	Natrosol 250 HR	(4)	Hydroxyethylcellulose

Production:

Solubilize the components of phase A. Dissolve phase B and stir it into phase A. Stir phase C into the solution of the combined phases A and B.

Properties:

Viscosity: 48.000 mPas Brookfield RVD VII+
pH value: 6.0

Gel spray with Luviquat® Hold**No. 04/00083**

	%	Ingredients	Supplier	INCI name
A	0.15	Carbopol 940	(6)	Carbomer
	50.00	Water dem.		Aqua dem.
B	0.20	Triethanolamine Care	(1)	Triethanolamine
C	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	q.s.	Perfume		
	20.00	Ethanol 96%		Alcohol
	20.15	Water dem.		Aqua dem.
	6.00	Luviskol® VA 64 W	(1)	PVP/VA Copolymer
	0.50	Luviquat® Hold	(1)	Polyquaternium-46
	3.00	1.2-Propylene glycol Care	(1)	Propylene Glycol

Production:

Allow phase A to swell and neutralize with phase B. Dissolve phase C and stir into phase A+B.

Strong Styling/Conditioning Cream Gel**No. 04/00091**

	%	Ingredients	Supplier	INCI name
A	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	87.40	Water dem.		Aqua
	q.s.	Perfume		
B	0.50	D-Panthenol USP	(1)	Panthenol
	10.00	Luviquat® Hold	(1)	Polyquaternium-46
	0.10	Dow Corning 190 Surfactant	(16)	PEG/PPG-18/18 Dimethicone
	q.s.	Preservative		
C	2.00	Natrosol 250 HR	(4)	Hydroxyethylcellulose

Production:

Solubilize the components of phase A. Add phase B and stir until a homogeneous solution is obtained. Dissolve phase C into the solution of phases A and B.

Properties:

Viscosity: 18800 mPa·s Brookfield RVD VII+
pH value: 7,0

Hair gel with Luviquat® Clear and Luviquat® Hold**No. 04/00122**

	%	Ingredients	Supplier	INCI name
A	48.95	Water dem.		Aqua dem.
	q.s.	Preservative		
B	0.50	Ultrez 21	(6)	Acrylates/C10-30 Alkyl Acrylate Crosspolymer
C	0.75	Triethanolamine Care	(1)	Triethanolamine
D	30.10	Water dem.		Aqua dem.
	q.s.	Perfume		
	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
E	15.00	Luviset® Clear	(1)	VP/Methacrylamide/Vinyl Imidazole Copolymer
	2.50	Luviquat® Hold	(1)	Polyquaternium-46
	2.00	1,2-Propylene glycol Care	(1)	Propylene Glycol
	0.10	Uvinul® P 25	(1)	PEG-25 PABA
	0.10	Silikon oil SF 1288	(195)	PEG-12 Dimethicone

Production:

Intersperse phase B into phase A and allow to swell until powder is dropped down. Neutralize with phase C and stir until homogeneous. Solubilize phase D. Weigh in components of phase E and phase D and stir until dissolved. Stir solution of phase D and E slowly into the mixture of phase A, B and C until homogeneous.

Viscosity:

44000 mPa·s Brookfield RVD VII+

Sprays**Conditioning pump spray****No. 01/00060**

%	Ingredients	Supplier	INCI name
2.00	Luviquat® FC 550	(1)	Polyquaternium-16
2.50	Luviskol® VA 37 E	(1)	VP/VA Copolymer
q.s.	Perfume		
35.00	Ethanol abs.		Alcohol
ad 100	Water, dem.		Aqua

Production: Weigh out the components and stir until a homogeneous solution is obtained.

Styling Pump Spray**No. 01/00481**

%	Ingredients	Supplier	INCI name
2.00	Luviquat® FC 370	(1)	Polyquaternium-16
10.00	Luviskol® VA 37 E	(1)	VP/VA Copolymer
q.s.	Perfume		
50.00	Ethanol abs.		Alcohol
ad 100	Water, dem.		Aqua

Production: Weigh out the components and stir until a homogeneous solution is obtained.

„Conditioning“ Aerosol spray**No. 01/00497**

	%	Ingredients	Supplier	INCI name
A	8.0	Luviskol® VA 37 E	(1)	VP/VA Copolymer
	0.50	Luviquat® Excellence	(1)	Polyquaternium-16
	0.10	Perfume		
	51.40	Ethanol		Alcohol
B	40.00	Dimethyl Ether		Dimethyl Ether

Production: Weigh out the components of phase A and stir until a homogeneous solution is obtained. Fill into appropriate containers and charge with phase B.

Properties: Pressure: 2.7 bar (20°C)
Density: 0.7632 g/ml
Cloud point: -35°C clear

„Setting and Conditioning“ Pump spray**No. 02/00325**

	%	Ingredients	Supplier	INCI name
A	5.00	Luviquat® Hold	(1)	Polyquaternium-46
	q.s.	Perfume		
	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	0.10	Uvinul® P-25	(1)	PEG-25 PABA
	0.50	D-Panthenol 50 P	(1)	Panthenol, Propylene Glycol
	94.40	Water dem.		Aqua
	q.s.	Preservative		

Production: Weigh out the ingredients and dissolve them clearly.

Properties: pH value: approx. 7

Pump-Spray „Magic Style“**No. 02/00447**

	%	Ingredients	Supplier	INCI name
A	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	q.s.	Perfume		
	75.50	Water dem.		Aqua dem.
B	0.60	AMP	(56)	Aminomethyl Propanol
	6.70	Luviflex® Soft	(1)	Acrylates Copolymer
C	1.00	1.2-Propylene glycol Care	(1)	Propylene Glycol
	0.20	Uvinul® P 25	(1)	PEG-25 PABA
	1.00	Luviquat® Style	(1)	Polyquaternium-16
	15.00	Ethanol 96%		Alcohol

Production:

Solubilize phase A. Add components of phase B one after the other and dissolve them clear. Add phase C and stir until dissolved clear.

Shampoos**Conditioner shampoo with Luviquat® UltraCare****No. 08/00611**

	%	Ingredients	Supplier	INCI name
A	40.00	Texapon NSO	(27)	Sodium Laureth Sulfate
	5.00	Plantacare 2000	(27)	Decyl Glucoside
	5.00	Tego Betain L 7	(44)	Cocamidopropyl Betaine
	q.s.	Perfume		
B	45.50	Water dem.		Aqua dem.
	1.50	Luviquat® UltraCare	(1)	Polyquaternium-44
	0.50	D-Panthenol USP	(1)	Panthenol
	q.s.	Citric acid	(20)	Citric Acid
	q.s.	Preservative		
	0.50	Rewopal LA 3	(47)	Laureth-3
	2.00	Sodium chloride	(20)	Sodium Chloride

Production:

Mix phase A. Add components of phase B one after the other and dissolve clear. Adjust the pH value to about 6-7.

Properties:

pH value: 6.0
Viscosity: 4800 mPa s Brookfield RVD VII+

Clear Conditioning Shampoo for fine hair**No. 08/00612**

	%	Ingredients	Supplier	INCI name
A	40.00	Texapon NSO	(27)	Sodium Laureth Sulfate
	5.00	Tego-Betain L7	(44)	Cocamidopropyl Betaine
	5.00	Plantacare 2000	(27)	Decyl Glucoside
	q.s.	Perfume		
B	0.80	Luviquat® UltraCare	(1)	Polyquaternium-44
	q.s.	Citric Acid pH 6-7	(20)	Citric Acid
	2.00	Sodium Chloride	(20)	Sodium Chloride
	q.s.	Preservative		
	47.20	Water, dem.		Aqua

Production:

Weigh out the components of phase A and mix them.
Add the components of phase B one after another and dissolve them clearly. Adjust the pH value to 6-7.

Properties:

Viscosity: 2 300 mPa s Brookfield RVD VII+
pH value: 5.4

Clear Conditioning Shampoo for damaged hair and sensitive scalp**No. 08/00613**

	%	Ingredients	Supplier	INCI name
A	5.00	Plantacare 2000	(27)	Decyl Glucoside
	q.s.	Perfume		
	11.30	Texapon N 70	(27)	Sodium Laureth Sulfate
	5.00	Avanel S 150 CG	(1)	Sodium C12-15 Pareth-15 Sulfonate
	0.10	Phytantriol		Phytantriol
B	3.80	Luviquat® UltraCare	(1)	Polyquaternium-44
	q.s.	Citric Acid pH 6-7	(20)	Citric Acid
	2.00	Rewopal LA 3	(47)	Laureth-3
	2.00	Sodium Chloride	(20)	Sodium Chloride
	q.s.	Preservative		
	69.80	Water, dem.		Aqua
	1.00	D-Panthenol USP	(1)	Panthenol

Production:

Weigh out the components of phase A and mix them. Add the components of phase B one after another and dissolve them clearly. Adjust the pH value to 5-6.

Properties:

Viscosity: 2 230 mPa s Brookfield RVD VII+
pH value: 5.6

Anti-Dandruff Shampoo**No. 08/00617**

	%	Ingredients	Supplier	INCI name
A	40.00	Texapon NSO	(27)	Sodium Laureth Sulfate
	10.00	Tego-Betain L7	(44)	Cocamidopropyl Betaine
	5.00	Lamesoft TM Benz	(27)	Glycol Distearate, Coco Glucoside, Glyceryl Oleate, Glyceryl Stearate
	5.00	Rewopol SB FA 30	(47)	Disodium Laureth Sulfosuccinate
	0.50	Crinipan AD	(26)	Climbazole
	q.s.	Perfume		
B	3.80	Luviquat® UltraCare	(1)	Polyquaternium-44
	1.30	Sodium Chloride	(20)	Sodium Chloride
	q.s.	Preservative		
	34.40	Water, dem.		Aqua
	q.s.	Natriumhydroxid in 10% Water		Sodium Hydroxid

Production:

Weigh out the components of phase A and mix them. Add the components of phase B one after another and dissolve them clearly. Adjust the pH value to 6-7.

Properties:

pH value: 6.0
Viskosity: 4 200 mPa s Brookfield RVD VII+

Clear mild conditioning Shampoo**No. 08/00602**

	%	Ingredients	Supplier	INCI name
A	1.25	Luviquat® Excellence	(1)	Polyquaternium-16
	10.00	Amphotensid GB 2009	(159)	Disodium Cocamidodiacetate
	15.00	Tego-Betain L7	(44)	Cocamidopropyl Betaine
	5.00	Plantacare 2000	(27)	Decyl Glucoside
	q.s.	Citric Acid pH 6-7	(20)	Citric Acid
	2.00	Rewopal LA 3	(47)	Laureth-3
	5.00	Cremonphor® PS 20	(1)	Polysorbate 20
	q.s.	Perfume		
	q.s.	Preservative		
	58.75	Water, dem.		Aqua
B	3.00	Stepan PEG 6000 DS	(149)	PEG-150 Distearate

Production:

Weigh out the components of phase A and dissolve them. Adjust the pH value to 6-7. Add phase B and heat the mixture to about 50°C. Cool to room temperature whilst stirring.

Properties:

pH value: 7.0
Viskosity: 2 620 mPa s Brookfield RVD VII+
Pressure: 0.0 bar

Shower gels/Soap**Clear Shower Gel with Luviquat® UltraCare****No. 08/00615**

%	Ingredients	Supplier	INCI name
3.80	Luviquat® UltraCare	(1)	Polyquaternium-44
13.00	Texapon N7O	(27)	Sodium Laureth Sulfate
7.50	Dehyton PK 45	(27)	Cocamidopropyl Betaine
2.00	Cetiol HE	(27)	PEG-7-Glyceryl-Cocoate
q.s.	Citric Acid pH 6-7	(20)	Citric Acid
1.00	D-Panthenol USP	(1)	Panthenol
1.50	Sodium Chloride	(20)	Sodium Chloride
q.s.	Perfume		
q.s.	Preservative		
71.20	Water, dem.		Aqua

Production:

Weigh out the components of phase A and mix them. Add the components of phase B one after another and dissolve them clearly. Adjust the pH value to 5-6.

Properties:

pH value: 5.0
Viskosity: 2 500 mPa s Brookfield RVD VII+

Moisturizing Shower Gel**No. 08/00616**

	%	Ingredients	Supplier	INCI name
A	11.30	Texapon NSO	(27)	Sodium Laureth Sulfate
	6.60	Dehyton PK 45	(27)	Cocamidopropyl Betaine
	3.00	Plantacare 818 UP	(27)	Coco Glucoside
	5.00	Lamesoft TM Benz	(27)	Glycol Distearate, Coco Glucoside, Glyceryl Oleate, Glyceryl Stearate
	0.50	Perfume	(70)	
B	3.80	Luviquat® UltraCare	(1)	Polyquaternium-44
	1.50	Sodium Chloride	(20)	Sodium Chloride
	q.s.	Preservative		
	ad 100	Water, dem.		Aqua
	q.s.	Natriumhydroxid in 10% Water		Sodium Hydroxid

Production:

Weigh out the components of phase A and mix them. Add the components of phase B one after another and dissolve them clearly. Adjust the pH value to 5-6.

Properties:

pH value: 5.1
Viskosity: 5 600 mPa s Brookfield RVD VII+

Shower gel with Luviquat® UltraCare**No. 08/00618**

	%	Ingredients	Supplier	INCI name
A	40.00	Texapon NSO	(27)	Sodium Laureth Sulfate
	10.00	Tego Betain L 7	(44)	Cocamidopropyl Betaine
	10.00	Rewopol SB FA 30	(40)	Disodium Laureth Sulfosuccinate
	3.00	Euperlan PK 771	(27)	Sodium Laureth Sulfate. Glycol Distearate. Cocamide MEA. Laureth-10
	q.s.	Perfume		
B	31.90	Water dem.		Aqua dem.
	3.80	Luviquat® UltraCare	(1)	Polyquaternium-44
	q.s.	Preservative		
	1.30	Sodium chloride	(20)	Sodium Chloride

Production: Weigh in components of phase A and dissolve. Add components of phase B one after the other and dissolve.

Properties: pH value: 6.0
Viscosity: 0 mPa·s Brookfield RVD VII+

Skin care**Body lotion with Luviquat® FC 550****No. 50/00006**

	%	Ingredients	Supplier	INCI name
A	1.00	Cremophor® A 6	(1)	Ceteareth-6, Stearyl Alcohol
	1.00	Cremophor® A 25	(1)	Ceteareth-25
	2.00	Lanette O	(27)	Cetearyl Alcohol
	2.00	Cutina GMS	(27)	Glyceryl Stearate
	3.00	Paraffin Oil		Mineral Oil
	5.00	Luvitol® EHO	(1)	Cetearyl Ethylhexanoate
B	5.00	1,2-Propylene Glycol Care	(1)	Propylene Glycol
	4.00	Luviquat® FC 550	(1)	Polyquaternium-16
	q.s.	Preservative		
	77.00	Water dem.		Aqua
C	q.s.	Perfume		

Production: Heat phases A and B separately to about 80°C. Stir phase B into phase A and homogenize. Cool to about 40°C, add phase C and homogenize again.

Properties: Viscosity: 10000 mPa·s Viscotester VT-02
pH value 6.0

Body Care Mousse**No. 50/00058**

	%	Ingredients	Supplier	INCI name
A	1.50	Cremophor® A 6	(1)	Ceteareth-6 (and) Stearyl Alcohol
	1.50	Cremophor® A 25	(1)	Ceteareth-25
	4.00	Lanette O	(27)	Cetearyl Alcohol
	10.00	Luvitol® EHO	(1)	Cetearyl Ethylhexanoate
	1.00	Abil 350	(44)	Dimethicone
B	2.50	1,2-Propylene Glycol Care	(1)	Propylene Glycol
	2.00	D-Panthenol USP	(1)	Panthenol
	3.00	Luviquat® FC 550	(1)	Polyquaternium-16
	q.s.	Preservative		
	ad 100	Water, dem.		Aqua
C	q.s.	Perfume		

Properties:

Heat phases A and B separately to about 85°C. Stir phase B into phase A and homogenize. Cool to 40°C, add phase C and homogenize again. Cool to room temperature.

Filling:

90% active ingredient
10% Propane/Butane 3.5 bar (20°C)

Face cleaning lotion**No. 52/00092**

	%	Ingredients	Supplier	INCI name
	3.00	Cremophor® CO 60	(1)	PEG-60 Hydrogenated Castor Oil
	0.10	Perfume		
	0.10	Bisabolol rac.	(1)	Bisabolol
	0.10	Phytantriol	(1)	Phytantriol
	0.20	Vitamin E-Acetat	(1)	Tocopheryl Acetate
	30.00	Ethanol abs.		Alcohol
	2.00	Luviquat® FC 370	(1)	Polyquaternium-16
	0.01	Uvinul® D 50		Benzophenone-2
	1.00	D-Panthenol USP	(1)	Panthenol
	q.s.	Sicovit® Patent Blue 85 E 131		C. I. 42 051. Acid Blue 3
	63.49	Water dem.		Aqua dem.

Production:

Weigh in components of phase A and dissolve clear.

Properties:

pH value: 7.3

Suppliers

- 1. BASF Aktiengesellschaft**
67056 Ludwigshafen, Germany
Tel.: (0621) 60-0
Fax: (0621) 60-42525
- 3. Amerchol Corporation**
136 Talmadge Road / P.O. Box 4051
Edison, 08818-451 NJ, USA
Tel.: (908)-248-6000
Fax: (908)-287-4186
- 4. Aqualon, A Hercules Incorporated Unit**
1313 North Market Street
DE 19899 Wilmington, USA
Tel.: (302) 594-5000
Fax: (302) 594-6660

German subsidiary:
Aqualon GmbH, Postfach 130125,
40551 Düsseldorf, Germany
Tel.: (0211) 7970
- 6. Noveon Inc.**
9911 Brecksville Road
Cleveland OH 44141-3247, USA
Tel. 1 216 447-5000
- 16. Dow Corning Corporation**
2200 West Salzburg Road, MI 48686 Midland, USA
Tel.: (517) 496-6000
Fax: (517) 496-4586

Dow Corning GmbH
Schwannstraße 10, 40476 Düsseldorf, Germany
Tel.: (0211) 45570
Fax: (0211) 4557156
- 20. Merck KGaA**
Frankfurter Str. 250, 64293 Darmstadt, Germany
Tel.: (06151) 72-0
Fax: (06151) 72-2000
- 27. Cognis Deutschland GmbH**
Care Chemicals
Henkelstr. 67 or Postfach 130164
40551 Düsseldorf, Germany
Tel.: (0211) 9740-0
Fax: (0211) 798-4008
- 41. Rhodia**
Personal Care and Industrial Ingredients
Prospect Plains Road, Building A
NJ 08512 Cranbury, USA
Tel.: (609) 860-4758
Fax: (609) 860-0555
- 42. Schülke & Mayr GmbH**
Robert-Koch-Str. 2, 22851 Norderstedt, Germany
Tel.: (040)52100-0
Fax: (040)52100-238
- 44. Degussa Care Specialities**
710 South 6th Street
Hopewell VA 23860, USA
Tel. 1 800 46-1890

German adress:
Goldschmidtstraße 100
45127 Essen, Germany
Tel. 0201 173-0

- 47. Witco Corporation**
One American Lane, CT 06831-2559, Greenwich, USA
Tel.: (203) 552-3373
Fax: (203) 552-2893
- 56. Angus Chemical Company**
1500 E. Lake Cook Road, IL 60089, Buffalo Grove, USA
Tel.: (847) 215-8600
Fax: (847) 215-8626
- 70. Drom Fragrances International**
Oberdiller Straße 18, 82065 Baierbrunn, Germany
Tel.: 49-89-744-250
Fax: 49-89-793-4966
- 149. Stepan Company**
22 West Frontage Road, Northfield, IL 60093 USA
Tel.: (847) 446-7500
Fax: (847) 501-2100
- European subsidiary:
Stepan Europe
Chemin Jongking, 38340 Voreppe, France
Tel.: 33-4-7650-5100
Fax: 33-4-7650-7165
- 159. Zschimmer & Schwarz GmbH & Co. Chemische Fabriken**
Max-Schwarz-Str. 3 – 5, 56112 Lahnstein, Germany
Tel.: (02621) 12-0
Fax: (02621) 12407
- 212. Symrise GmbH & Co. KG**
Mühlenfeldstraße 1, 6703 Holzminden, Germany
Tel.: (05531) 90-0
Fax: (05531) 1649

Literature

1. Luviquat Grades – The Extensive Range of Cationic Conditioners for Hair Care and Skin Care
Broschüre MER 9953
2. Luviquat Care – An outstanding Conditioning Polymer for Shampoos
Broschüre MER 9848e-699
3. Ethnic Hair Care – BASF-Making Your Ethnic Hair Care products better
Broschüre 2000 BASF Corporation
4. Peter Hoessel, V. André, R. Nörenberg, J. Rieger, Hair Conditioning Polymer/Surfactant Complexes: Structure and Efficacy, IFSCC Berlin 2000, submitted for SÖFW
5. Peter Hoessel, Reinhold Dieing, Michael Gotsche, Axel Jentzsch, W. Schrof: Investigations of polymers for skin care, IFSCC Berlin 2000, submitted for SÖFW
6. Peter Hoessel, Reinhold Dieing, Ralf Noerenberg, Andreas Pfau, Ralf Sander Conditioning Polymers in Todays Shampoo Formulations – Efficacy, Mechnism and Test Methods, Int. J. Cosm. Sci., 22, p 1 (2000)
7. Peter Hoessel, Andreas Pfau, Ralf Sander Scanning Force Microscopy, Parfumerie und Kosmetik 7-8/99, p 14
8. Ellen Pfrommer, Peter Hoessel; Polyquaternium-44 – A New Conditioning Polymer for Shampoos, Seife Öle Fette Wachse, 12/1998, p 832
9. Andreas Pfau, Peter Hoessel, Sabine Vogt, Ralf Sander, Wolfgang Schrepp; The Interaction of Cationic Polymers with Human Hair; Macromol. Symp. 126, p 341 (1997)
10. Peter Hoessel, Ralf Sander, Wolfgang Schrepp; Scanning Force Microscopy; Cosmetics & Toiletries 111, p 57 (1996)

11. Peter Hoessel, Wolfgang Schrepp; Investigation of Conditioning Polymers for Hair Styling; IFSCC Between – Congress Montreux/France 1995
12. Peter Hoessel; Test Methods for polymeric Hair Conditioners; Seife Öle Fette Wachse 14/94, p 847 (1994)
13. Peter Hoessel; Investigation of Conditioning Polymers for Hair Styling; Preprint SCC, New York/USA 12/1998
14. K. Seib, F. G. M. Vogel; A Series of New Cationic Resins; Soap/Cosmetics Chemical Specialities 10/1985
15. Peter Hoessel, Claudia Wood; Luviquat Ultra Care – An Effective Conditioning Polymer for Shampoos, Cosmetic Sciens Technology 2004, P 127-132
16. Peter Hoessel, Claudia Wood, Marianna Pierobon Polyquaternium-68: More than Hairstyling, submitted for SOFW-Journal, May 2005

Remarks

Textile fibers can absorb cationic substances. Contact between cosmetic formulations that contain cationic substances and fabrics should be avoided as interactions with water-soluble dyes or soil during washing may cause spots.

Stability/Storage

The Luviquat-grades have a shelf-life of 18 months.

Microbiology

The microbial purity of the Luviquat grades is given in the specification. See Data Sheet. All polymeric Luviquat grades have been subjected to the DAB/Ph. Eur. bacterial challenge test and found to be adequately resistant to attack.

When containers of aqueous solutions, such as our Luviquat grades are opened, the possibility of contamination cannot be excluded. We therefore recommend that the entire contents be used up at once.

Toxicology

An investigation of the raw material gave no indication of harmful effects to health if the substance is used for the stated applications and concentrations. Due to the large variety of applications and possible combinations with other products, users are responsible for their own safety assessment of their products.

Safety Data Sheet

Safety Data Sheets for our Luviquat grades are available.

Note

„While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use.
NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, OR THAT DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE.
Further, you expressly understand and agree that the descriptions, design, data and information furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability for the description, designs, data and information given or results obtained, all such being given and accepted at your risk.“

November 2005

