Technical Information

May 2012
Supersedes issue dated April 2011

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Luviquat® Polymer Grades

® = Registered trademark of BASF in many countries.

Quaternized copolymers for hair and skin care

BASF
We create chemistry

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-No.	PRD-No.	Preservative*
Luviquat Supreme	Polyquaternium-68	827346-45-2	30245053	0.75% Phenonip
Luviquat Supreme AT 1	Polyquaternium-68	827346-45-2	30500238	1% Euxyl® PE 9010
Luviquat UltraCare	Polyquaternium-44	150599-70-5	30212365	0.5% Phenonip
Luviquat UltraCare AT 1	Polyquaternium-44	150599-70-5	30500962	0.75% Euxyl PE 9010
Luviquat Hold AT 2	Polyquaternium-46	174761-16-1	30054342	0.2% Euxyl K220
Luviquat Hold.	Polyquaternium-46	174761-16-1	30238602	0.75% Phenonip
Luviquat PQ 11 AT 1	Polyquaternium-11	53633-54-8	30492732	0.75% Euxyl PE 9010
Luviquat PQ 11 PN	Polyquaternium-11	53633-54-8	30060812	0.5% Phenonip
Luviquat HM 552	Polyquaternium-16	95144-24-4	30034753	No
Luviquat Style	Polyquaternium-16	95144-24-4	30054527	0.5% Phenonip
Luviquat Style AT 1	Polyquaternium-16	95144-24-4	30502492	0.75% Euxyl PE 9010
Luviquat FC 370	Polyquaternium-16	95144-24-4	30035095	No
Luviquat FC 550	Polyquaternium-16	95144-24-4	30035096	No
Luviquat Excellence	Polyquaternium-16	95144-24-4	30035097	No

* Phenonip (Clariant) or Euxyl K300 (Schülke & Mayr): Phenoxyethanol, Methylparaben, Ethylparaben, Butylparaben, Propylparaben, iso-Butylparaben Water (see Q&RPI)

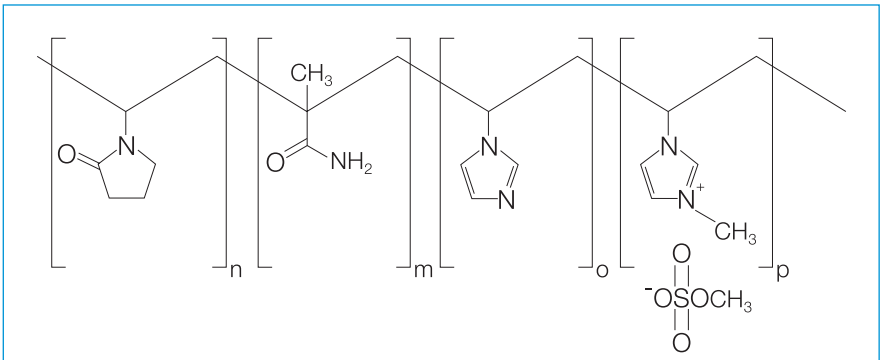
Euxyl K220: 80 – 90% Ethylhexylglycerin, 7 – 8% 2-Methyl-isothiazolinon, Water (see Q&RPI)

Euxyl PE 9010: Phenoxyethanol/Ethylhexylglycerin: 90:10 (see Q&RPI)

Chemical description

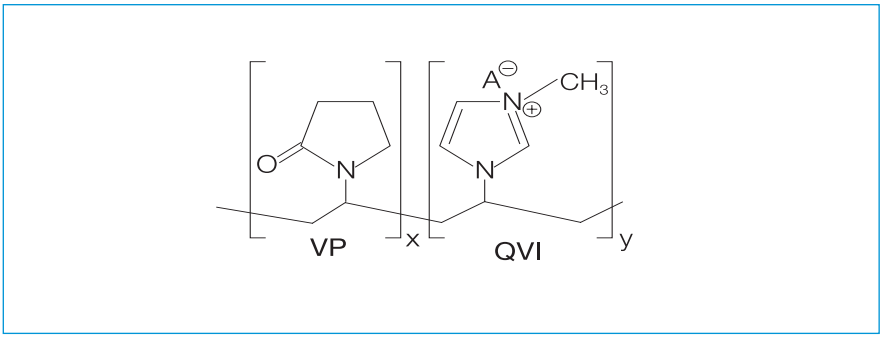
Polyquaternium-68

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



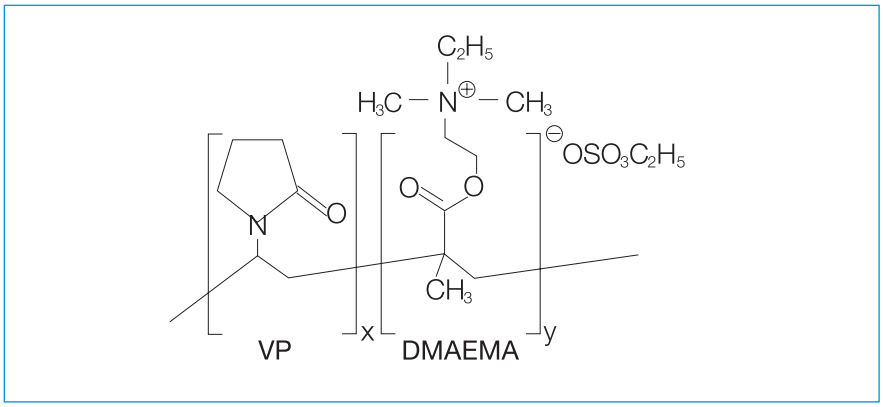
Polyquaternium-16 and Polyquaternium-44

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



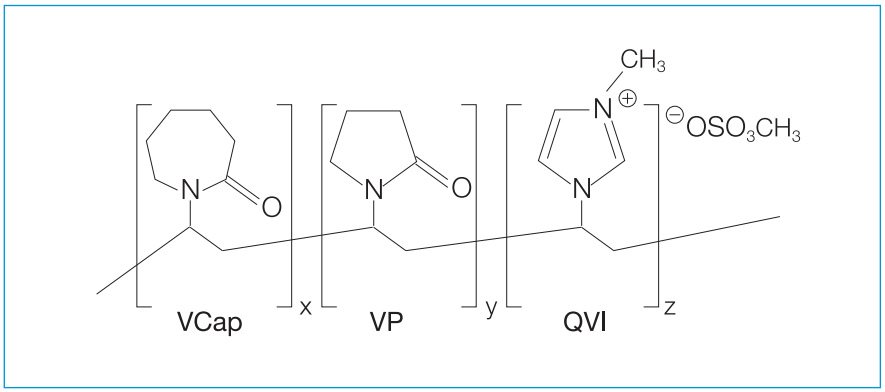
Polyquaternium-11

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.



Specifications

See separate document: “Standard Specification” (not for regulatory purposes) available via BASF’s WorldAccount: https://worldaccount.basf.com (registered access).

Physicochemical properties

Appearance

Clear to slightly turbid yellowish viscous liquids

Odor

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/Supreme AT 1	55	10	29	6			Methylsulfate	19 – 21	appr. 300,000	0.5[a)]
Luviquat UltraCare/UltraCare AT 1	80			20			Methylsulfate	12.5 – 13.5	appr. 200,000	1.0
Luviquat Hold AT 2/Hold.	40			10		50	Methylsulfate	19 – 21	appr. 700,000	0.5
Luviquat PQ 11 AT 1	67				33		Ethylsulfate	19 – 21	appr. 1,000,000	0.8
Luviquat PQ 11 PN	67				33		Ethylsulfate	19 – 21	appr. 1,000,000	0.8
Luviquat HM 552	55			45			Chloride	19 – 21	appr. 400,000	3.0
Luviquat Style/Style AT 1	55			45			Chloride	19 – 21	appr. 400,000	3.0
Luviquat FC 370	70			30			Chloride	38 – 42	appr. 100,000	2.0
Luviquat FC 550	50			50			Chloride	38 – 42	appr. 80,000	3.3
Luviquat Excellence	5			95			Chloride	38 – 42	appr. 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

Applications and technical properties

The Luviquat range covers a wide spectrum of applications (Table 2), which enables the formulator to select exactly the right product for his requirements.

Table 2 gives the basic applications and the recommended Luviquat grades.

Table 2: Applications

		Hair styling			Hair and skin conditioning		Skin care
	INCI designation	**Mousse, Lotion**	**Gel**	**Spray**	**Conditioning rinse, Hair treatment**	**Shampoo Shower products**	**Body Lotion, Shaving preparations**
Luviquat Supreme/Supreme AT 1	Polyquaternium-68	■■■	■	□	□	□	□
Luviquat UltraCare/UltraCare AT 1	Polyquaternium-44	■■	□	□	■■	■■■	■■■
Luviquat Hold AT 2/Hold.	Polyquaternium-46	■■■	■■	■■	■	■	■
Luviquat PQ 11 PN/Luviquat PQ 11 AT 1	Polyquaternium-11	■■■	■	□	■■	■■	■■
Luviquat HM 552	Polyquaternium-16	■■■	□	□	■■	■■	■■■
Luviquat Style/Style AT 1	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/Supreme AT 1, Luviquat Hold AT 2/Hold., Luviquat PQ 11 PN, Luviquat PQ 11 AT 1 and Luviquat Style/Style AT 1 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).

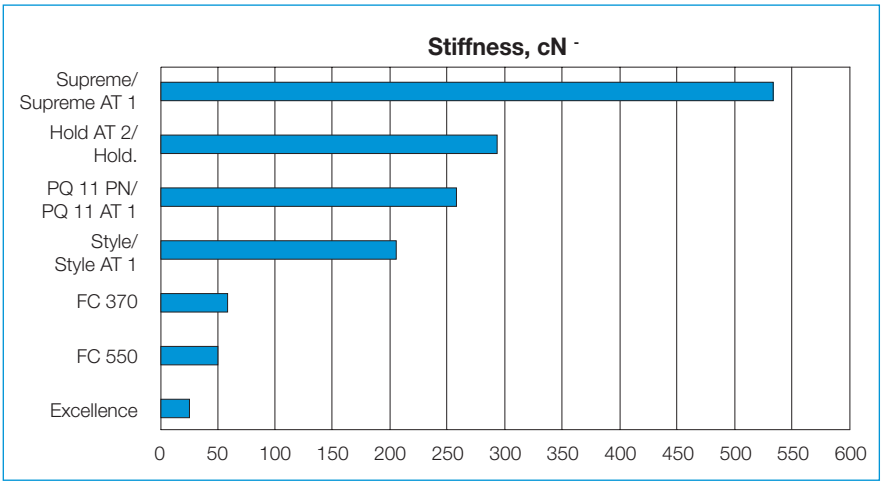


Fig. 1: Setting effect *(Stiffness test, 2.2% polymer content, 65% rel.hum.)*

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/Supreme AT 1, Luviquat Hold AT 2/Hold., Luviquat Style/Style AT 1 and Luviquat PQ 11 PN/Luviquat PQ 11 AT 1 are suitable.

Luviquat Supreme/Supreme AT 1 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/Supreme AT 1 has impressive conditioning properties and gives even the finest hair more volume.

Another highlight is the combination of Luviquat Supreme/Supreme AT 1 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/Supreme AT 1 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/Supreme AT 1 exhibits highest Curl Retention values even at 90% rel. hum., 25 °C (Fig. 2)

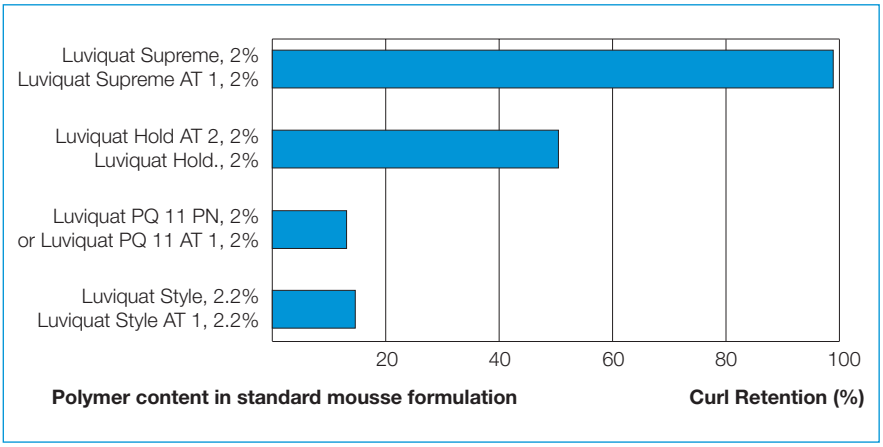


Fig. 2: Curl Retention at 90% rel.hum., 25 °C

Hair Gels

Luviquat Hold AT 2/Hold. is recommended for hair gels with setting and conditioning properties (Fig. 3).

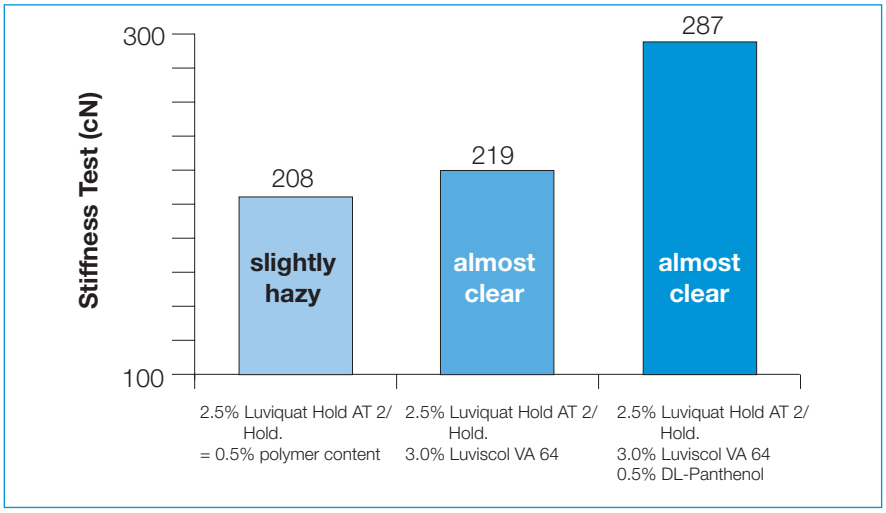


Fig. 3: Carbomer Gels with Luviquat Hold AT 2/Hold. *(0.5% Carbopol 940)*

The carbomer compatibility of cationic polymers is very important if they are to be used in hair gels. Luviquat Hold AT 2/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).

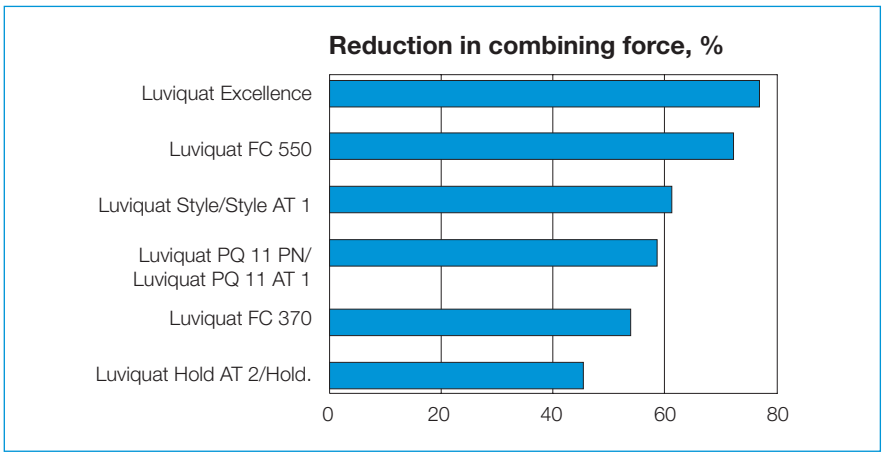


Fig. 4: Wet combability
After treatment with a 1% aqueous solution of the active substance, and rinsing with water

Shampoos and cleansing products

Luviquat UltraCare/UltraCare AT 1 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/UltraCare AT 1 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 rsp. up to 1.0% for strong Asian hair.

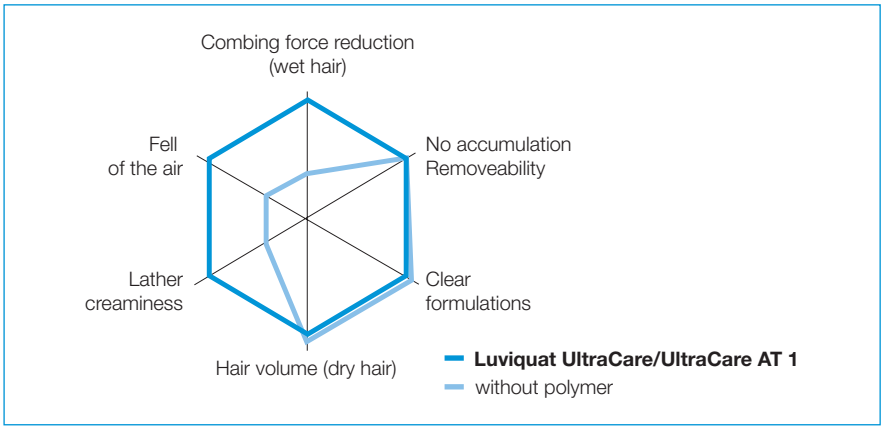


Fig. 5: Performance of Luviquat UltraCare/UltraCare AT 1 in Shampoos

Luviquat UltraCare/UltraCare AT 1 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	△ 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/UltraCare AT 1	0	1.5	1.3
0.2% SLS + 1.0% solids Luviquat UltraCare/UltraCare AT 1	0	1.1	1.0

Fig. 6: Luviquat UltraCare/UltraCare AT 1 – an effective counterirritant
Study by Derma Consult

△ 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/Supreme AT 1 **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
	10.00	Luviquat Supreme/ Supreme AT 1	(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/Supreme AT 1 and Luviquat Style/Style AT 1 **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
	2.50	Luviquat Style/ Style AT 1	(1)	Polyquaternium-16
	7.50	Luviquat Supreme/ Supreme AT 1	(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/Supreme AT 1 and Luviset® Clear/Clear AT 2 **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
	5.00	Luviset® Clear/ Clear AT 2	(1)	VP/Methacrylamide/ Vinyl Imidazole Copolymer
	5.00	Luviquat Supreme/ Supreme AT 1	(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/Supreme AT 1 **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
	3.00	Luviskol® VA 64 P	(1)	PVP/VA Copolymer
	2.50	Luviquat Supreme/ Supreme AT 1	(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/Supreme AT 1 **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
	10.00	Luviquat Supreme/ Supreme AT 1	(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/Supreme AT 1 **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
	5.00	Luviquat Supreme/ Supreme AT 1	(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)		Propane/Butane

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/Style AT 1 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/ Style AT 1	(1)	Polyquaternium-16
	0.50	Luviquat Mono CP/ Mono CP AT 1	(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 AT 1/PQ 11 PN and Luviquat Mono CP/Mono CP AT 1 **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 AT 1/ PQ 11 PN	(1)	Polyquaternium-11
	0.50	Luviquat Mono CP/ Mono CP AT 1	(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 AT 2/ 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.

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 AT 1/ PQ 11 PN	(1)	Polyquaternium-11
	3.00	Luviskol® VA 64	(1)	VP/VA Copolymer
	0.50	Luviquat Mono CP/ Mono CP AT 1	(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 AT 2/ 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./Hold AT 2 **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/ Style AT 1	(1)	Polyquaternium-16
	7.50	Luviquat Hold AT 2/ Hold.	(1)	Polyquaternium-46
	0.50	Luviquat Mono CP/ Mono CP AT 1	(1)	Hydroxyethyl Cetyldimonium Phosphate
	0.20	Cremophor A 25	(1)	Ceteareth-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 homgeneous. 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 AT 2/ Hold.	(1)	Polyquaternium-46
	0.50	Luviquat Mono CP/ Mono CP AT 1	(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)	Ceteareth-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/ Mono CP AT 1	(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 AT 2/ Hold.	(1)	Polyquaternium-46
	2.00	Luviquat PQ 11 AT 1/ PQ 11 PN	(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, Trideeceth-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 AT 2/ Hold.	(1)	Polyquaternium-46
	10.00	Luviset® Clear/ Clear AT 2	(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. 02/00580**

	%	Ingredients	Supplier	INCI name
A	10.00	Luviset® Clear/ Clear AT 2	(1)	VP/Methacrylamide/Vinyl Imidazole Copolymer
	5.00	Luviquat® Hold AT 2/ Hold.	(1)	Polyquaternium-46
	47.70	Water, dem.		Aqua
	q.s.	Preservative		
B	30.00	Water, dem.		Aqua
	0.20	Cremophor® A 25	(1)	Ceteareth-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)		Propane/Butane

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/Supreme AT 1 **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
B	5.00	Luviquat® Supreme/ Supreme AT 1	(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
60.80	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/ Style AT 1	(1)	Polyquaternium-16
	0.50	Luviquat Mono CP/ Mono CP AT 1	(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
58.00	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 AT 2/ 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 Powder/ Luviskol® K 30 Super P	(1)	PVP
	0.20	Luviquat® Excellence	(1)	Polyquaternium-16
	30.00	Ethanol 96%		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/ Style AT 1	(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
	61.00	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: pH value: 2.0
Viscosity: 2,000 mPa·s Haake Viscotester VT-02

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: pH value: 6.0
Viscosity: 10,000 mPa·s Haake Viscotester VT-02

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/ Style AT 1	(1)	Polyquaternium-16
	q.s.	Preservative		
	78.00	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: pH value: 6.0
Viscosity: 3,000 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 Sesquistearate
	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	q.s.	Perfume		
	30.00	Water, dem.		Aqua
B	10.00	Luviquat® Hold AT 2/ Hold.	(1)	Polyquaternium-46
	2.00	Luviskol® K 90 Powder	(1)	PVP
	q.s.	Preservative		
	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
	46.50	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 and dissolve again.

Properties: Viscosity: 48,000 mPa·s Brookfield RVD VII+
pH value: 6.0

Pump gel spray with Luviskol® VA 64 W and Luviquat® Hold./Hold AT 2 **No. 04/00083**

	%	Ingredients	Supplier	INCI name
A	0.15	Carbopol 940 Polymer	(6)	Carbomer
	50.00	Water, dem.		Aqua
B	6.00	Luviskol® VA 64 W	(1)	VP/VA Copolymer
	0.50	Luviquat® Hold./ Hold AT 2	(1)	Polyquaternium-46
	3.00	1,2-Propylene Glycol Care	(1)	Propylene Glycol
	20.00	Ethanol 96%		Alcohol
	20.15	Water, dem.		Aqua
	q.s.	Perfume		
	q.s.	Cremophor® CO 40	(1)	PEG-40-Hydrogenated Castor Oil
C	0.20	Triethanolamine Care	(1)	Triethanolamine

Production: Leave Phase A to swell and neutralize with Phase C. Weigh out the ingredients for Phase B and prepare a clear solution. Stir Phase B into Phase A + C.

Properties: Clear gel spray for normal to good setting effect.

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 AT 2/ 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:

pH value: 7.0
Viscosity: 18,800 mPa·s Brookfield RVD VII+

“Fantasy” Hair Gel **No. 04/00122**

	%	Ingredients	Supplier	INCI name
A	48.85	Water, dem.		Aqua
	q.s.	Preservative		
B	0.50	Ultrez® 21	(6)	Acrylates/C10-30 Alkyl Acrylate Crosspolymer
C	0.75	Triethanolamine Care	(1)	Triethanolamine
D	15.00	Luviset® Clear/ Clear AT 2	(1)	VP/Methacrylamide/ Vinyl Imidazole Copolymer
	30.20	Water, dem.		Aqua
	2.50	Luviquat® Hold AT 2/ Hold.	(1)	Polyquaternium-46
	2.00	1,2-Propylene Glycol Care	(1)	Propylene Glycol
	q.s.	Perfume		
	q.s.	Cremophor® CO 40	(1)	PEG-40 Hydrogenated Castor Oil
	0.10	Uvinul® P 25	(1)	PEG-25 PABA
	0.10	Siliconoil SF® 1288	(195)	PEG-12 Dimethicone

Production:

Put phase A into a beaker, stir and disperse phase B into it until the particles sink to the bottom. Then add phase C and stir until a homogeneous gel has been formed. Prepare phase D and stir until dissolved. Then add phase D to the gel.

Properties:

pH value: 7.25
Viscosity : 44,000 mPa·s (Brookfield)
Transmission: 95.0% (600 nm)

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
60.50	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
38.00	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, abs.		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 AT 2/ 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
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/ Style AT 1	(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/UltraCare AT 1 **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
	1.50	Luviquat® UltraCare/ UltraCare AT 1	(1)	Polyquaternium-44
	0.50	D-Panthenol USP	(1)	Panthenol
	q.s.	Citric Acid	(20)	Citric Acid
	q.s.	Preservative		
	0.50	Dehydol LS 3 Deo N	(27)	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: 4,800 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/ UltraCare AT 1	(1)	Polyquaternium-44
	q.s.	Citric Acid pH 5 – 6	(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: pH value: 5.4
Viskosity: 2,300 mPa·s Brookfield RVD VII+

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 UltraCare AT 1	(1)	Polyquaternium-44
	q.s.	Citric Acid pH 5 – 6	(20)	Citric Acid
	2.00	Dehydol LS 3 Deo N	(27)	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: pH value: 5.6
Viskosity: 2,230 mPa·s Brookfield RVD VII+

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/ UltraCare AT 1	(1)	Polyquaternium-44
	1.30	Sodium Chloride	(20)	Sodium Chloride
	q.s.	Preservative		
	34.40	Water, dem.		Aqua
	q.s.	Sodium Hydroxide 10%		Sodium Hydroxide

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. 08/00724**

	%	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	Dehydol LS 3 Deo N	(27)	Laureth-3
	5.00	Eumulgin SML 20	(27)	Polysorbate 20
	q.s.	Perfume		
	q.s.	Preservative		
	58.75	Water, dem.		Aqua
B	3.00	Eumulgin EO 33	(27)	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: 6.7
Viskosity: 4,950 mPa·s Brookfield RVD VII+

Shower gels/Soap

Clear Shower Gel with Luviquat® UltraCare/UltraCare AT 1 No. 08/00615

%	Ingredients	Supplier	INCI name
3.80	Luviquat® UltraCare/ UltraCare AT 1	(1)	Polyquaternium-44
13.00	Texapon N 7O	(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	(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		
B	3.80	Luviquat® UltraCare/ UltraCare AT 1	(1)	Polyquaternium-44
	1.50	Sodium Chloride	(20)	Sodium Chloride
	q.s.	Preservative		
	68.30	Water, dem.		Aqua
	q.s.	Sodium Hydroxide 10%		Sodium Hydroxide

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/UltraCare AT 1 **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
	3.80	Luviquat® UltraCare/ UltraCare AT 1	(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: 3,670 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: pH value 6.0
Viscosity: 10,000 mPa·s Haake Viscotester VT-02

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	Dow Corning 200 Fluid	(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		
	74.50	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		Phytantriol
0.20	Vitamin E-Acetate Care	(1)	Tocopheryl Acetate
30.00	Ethanol abs.		Alcohol
2.00	Luviquat® FC 370	(1)	Polyquaternium-16
0.01	Uvinul® D 50	(1)	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

Production: Weigh in components of phase A and dissolve clear.

Properties: pH value: 7.3

Suppliers

1. **BASF SE**
67056 Ludwigshafen, Germany
Tel.: +49(621) 60-0
Fax: +49(621) 60-42525
www.basf.com

3. **Amerchol Corporation**
136 Talmadge Road, NJ 08818 Edison, USA
Tel.: +1(908) 248-6000
Fax: +1(908) 287-4186
www.amerchol.com

4. **Hercules Inc., Aqualon Division**
1313 North Market Street, DE 19899 Wilmington, USA
Tel.: +1(302) 594-5000
Fax: +1(302) 594-6662
www.amerchol.com

6. **The Lubrizol Corporation**
29400 Lakeland Boulevard, Wickliffe, Ohio 44092, USA
Tel.: +1(440) 943 4200
www.lubrizol.com

9. **Chemag AG**
Senkenberganlage 10-12, 60325 Frankfurt/Main, Germany
Tel.: +49-69-7434-0
Fax: 411450-0

16. **Dow Corning Corporation**
2200 West Salzburg Road, MI 48686 Midland, USA
Tel.: +1(517) 496-6000
+1(800) 248-2481
Fax: +1(517) 496-6974
www.dow.com

20. **Merck KGaA**
Frankfurter Straße 250, 64293 Darmstadt, Germany
Tel.: +49(6151) 72-7869
Fax: +49(6151) 72-8333
www.merck.com

26. **Haarmann & Reimer GmbH**
Rumohrtalstraße1, 37603 Holzminden, Germany
Tel.: +49(5531) 90-0
+49(5531) 90-1673
Fax: +49(5531) 90-1649
+49(5531) 90-1845

27. **BASF**
Personal Care and Nutrition GmbH
Rheinpromenade 1, 40789 Monheim, Germany
Tel.: +49(2173) 4995-0
www.basf.com

41. **Rhodia – Home, Personal Care and Industrial Ingredients**
Prospect Plains Road, Building A, NJ 08512 Cranbury, USA
Tel.: +1(609) 860-4758
Fax: +1(609) 860-0555

42. **Schülke & Mayr GmbH**
Robert-Koch-Str. 2, 22851 Norderstedt, Germany
Tel.: +49(40) 52100-0
Fax: +49(40) 52100-238
www.schuelke-mayr.com

44. **Evonik Goldschmidt GmbH**
Goldschmidtstraße 100, 45127 Essen, Germany
Tel.: +49(201) 173-01
Fax: +49(201) 173-3000
www.evonik.com

47. **Witco Corporation**
1 American Way, CT 06831 Greenwich, USA
Tel.: +1(203) 552-3373
Fax: +1(203) 552-2893
www.witco.com

70. **Drom Fragrances International**
Oberdiller Straße 18, 82065 Baierbrunn, Germany
Tel.: +49(89) 744-250
Fax: +49(89) 793-4966
www.drom.com

149. **Stepan Company**
22 West Frontage Road, IL 60093 Northfield, USA
Tel.: +1(847) 446-7500
Fax: +1(847) 501-2100
www.stepan.com

159. **Zschimmer & Schwarz GmbH & Co.**
Max-Schwarz-Str. 3-5, 56112 Lahnstein/Rhein, Germany
Tel.: +49(2621) 12-0
Fax: +49(2621) 12-407
www.zschimmer-schwarz.de

195. **GE Silicones**
260 Hudson River Road, 12 188 Waterford, New York, USA
Tel.: +1(518) 233-3330
Fax: +1(518) 233-2367

Literature

1. Luviquat Grades – The Extensive Range of Cationic Conditioners for Hair Care and Skin Care
Broschure MER 9953

2. Luviquat Care – An outstanding Conditioning Polymer for Shampoos
Broschure MER 9848e-699

3. Ethnic Hair Care – BASF-Making Your Ethnic Hair Care products better
Broschure 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 Polymsers 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

May 2012