Lubrizol

HAIR CARE / Conditioning Polymers Differentiation Chart

Trade Name	INCI Name	% Total Solids	Molecular Weight	Preservative	Use Level (%) as sup.	Acrylamide	Features/Benefits	Descriptions	Applications
Merquat™ 5 Polymer: Dry copolymer of Methyacryloylox-ethyl Trimethyl Ammonium Methylsulfate (METAMS) and Acrylamide (ACAM)									
5	Polyquaternium-5	>92	4,000,000	None	0.1	< 25 ppm	Excellent slip and lubrication properties; superior application feel	High molecular weight, non-preserved, dry powder conditioning agent with excellent slip properties	Shampoos
Merquat™ 100 Polymer Series: Aqueous solutions of the highly charged cationic homopolymer of Diallyl Dimethyl Ammonium Chloride (DADMAC)									
100	Polyquaternium-6	39 - 44	150,000	None	0.75 - 3	None	Provides excellent slip, lubricity and snag-free wet combability; imparts excellent wet combability	High charge density conditioning agent	Hair color, shampoos, ethnic hair care, non-aerosol sprayable applications
106	Polyquaternium-6	30 - 36	15,000	None	0.75 - 3	None	Improves wet combability of relaxed/ chemically treated hair; pH buffered; provides excellent slip, lubricity and snag-free wet com-bability; imparts excellent wet combability	Low molecular weight, high charge density conditioning agent, pH buffered	
Merquat™ 550 Polymer Series: Copolymer solutions of Diallyl Dimethyl Ammonium Chloride (DADMAC) Acrylamide (ACAM)									
550	Polyquaternium-7	8.5 - 9.5	1,600,000	Methyl & Propyl Paraben	1 - 5	< 10 ppm	Improves wet combing and detangling properties of hair; provides luster and soft feel; provides rich, creamy foam to shampoos. Improved compatibility and clarity compared to PQ-6.	Highest conditioning in the PQ-7 family	Shampoos, styling products
550L	Polyquaternium-7	8.5 - 9.5	1,600,000	Methyl & Propyl Paraben	1 - 5	< 1 ppm		Highest conditioning, lowest acrylamide in the PQ-7 family	
550PR	Polyquaternium-7	8.8 - 9.8	1,600,000	Sodium Benzoate	1 - 5	< 1 ppm		Highest conditioning, non-paraben, lowest acrylamide in the PQ-7 family	
2200	Polyquaternium-7	>92	1,600,000	None	0.1 - 1	< 50 ppm	Contributes lubricity which can help make hair care products easier to apply; improves the wet detangling and combability of hair	Preservative-free, dry powder conditioning agent	Hair color, shampoos, styling products
740	Polyquaternium-7	41 - 45	100,000	Sodium Benzoate	0.25 - 1	< 10 ppm	Improves wet combing and detangling properties of hair; provides luster and soft feel	High solids, low molecular weight conditioning agent	Shampoo, styling products, non-aerosol sprayable applications
S	Polyquaternium-7	8.5 - 9.5	2,600,000	Methyl & Propyl Paraben	1 - 5	< 1 ppm	Provides excellent detangling, wet combability and softness in shampoo systems; imparts a smooth, velvety feel; provides rich, creamy foam to shampoo	High molecular weight, improved compatibility and clarity in anionic surfactant systems	Shampoos, styling products
7SPR	Polyquaternium-7	8.8 - 9.8	2,600,000	Sodium Benzoate	1 - 5	< 1 ppm		High molecular weight, non-paraben, improved compatibility and clarity in anionic surfactant systems	
Merquat™ 280 Polymer Series: Ampholytic copolymer of Diallyl Dimethyl Ammonium Chloride (DADMAC) and Acrylic Acid (AA)									
280	Polyquaternium-22	39 - 43	450,000	Methyl & Propyl Paraben	1 - 3	None	Provides superior conditioning properties in high pH systems; improves the wet combability of hair dyes and provides a smooth and soft feel to hair; helps in hair dye applications; helps to improve the saturation of hair colors; reduction of ammonia and hair dye levels. In shampoo systems - improves wet and dry combing. Provides stable, rich and dense foam.	Excellent conditioning in extreme pH applications	Hair color, chemical hair treatments, conditioners, styling sprays, shampoos
280NP	Polyquaternium-22	39 - 43	450,000	None	1 - 3			Excellent conditioning in extreme pH applications and preservative free	
281	Polyquaternium-22	39 - 43	450,000	None	1 - 3	None		Low pH conditioning agent great for extreme pH applications and preservative free	Shampoos, hair color, chemical hair treatments, low pH applications
280SD	Polyquaternium-22	>94	450,000	None	0.4 - 1.2	None		Dry powder, non-preserved and excellent conditioning in extreme pH applications	Hair color, hair dyes, dry hair bleach
295	Polyquaternium-22	35 - 40	190,000	None	1 - 3	None	Provides superior conditioning properties for products with extreme pH ranges; especially designed for relaxer and hair color systems; improves the wet combability of hair dyes and provides a smooth and soft feel to hair; provides stable, rich and dense foam.	Highly charged conditioning agent with great compatibility and preservative free	Shampoos, color protection shampoos, hair color, chemical hair treatments, hair repair

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HAIR CARE / Conditioning Polymers Differentiation Chart

Trade Name	INCI Name	% Total Solids	Molecular Weight	Preservative	Use Level (%) as sup.	Acrylamide	Features/Benefits	Descriptions	Applications
Merquat™ 3330 Polymer Series: Ampholytic terpolymer of Acrylic Acid (AA), Diallyl Dimethyl Ammonium Chloride (DADMAC) and Acrylamide (ACAM)									
PLUS 3330	Polyquaternium-39	9.4 - 10.4	1,500,000	Methyl & Propyl Paraben	1-3	< 1 ppm	Improves the wet feel of hair; imparts excellent dry combability; helps hold curls without flaking; compatible with most anionic and amphoteric surfactants, mildness sensory in shampoos	Good conditioning polymer designed to reduce irritation from surfactants	Shampoos, styling products, and semi-permanent hair colors. Non-aerosol sprayable applications for Merquat™ 3940 polymer
3330PR	Polyquaternium-39	10.2 - 11.5	1,500,000	Sodium Benzoate	1-3	< 1 ppm		Non-paraben polymer designed to reduce irritation from surfactants	
3330DRY	Polyquaternium-39	< 92	1,500,000	None	0.1 - 0.4	< 3ppm		Dry powder, non-preserved polymer designed to reduce irritation from surfactants	
PLUS 3331	Polyquaternium-39	9.4 - 10.4	1,600,000	Methyl & Propyl Paraben	1 - 3	< 1 ppm		Good conditioning polymer designed to reduce irritation from surfactants, different mole ratio	
3331PR	Polyquaternium-39	9.4 - 10.7	1,600,000	Sodium Benzoate	1 - 3	< 1 ppm		Non-paraben, high charge density polymer designed to reduce irritation from surfactants, different mole ratio	
3940	Polyquaternium-39	41 - 45	150,000	Sodium Benzoate	0.25 - 1	< 10 ppm		High solids, low molecular weight, non-paraben, conditioning agent to reduce irritation from surfactants	
Merquat™ 2001 Polymer Series: Aqueous solutions of an amphoteric terpolymer of Acrylic Acid (AA), Methacrylamido-propyl Trimethyl Ammonium Chloride (MAPTAC) and Methylacrylate (MA)									
2001	Polyquaternium-47	20 - 22	1,200,000	Sodium Benzoate	1 - 3	None	Superior detangling and wet combing; improves color protection properties; improves the dry properties of hair softness and smoothness; provides rich and luxurious foam	Excellent conditioning polymer for improving wet and dry properties and color protection	Shampoos, color protection shampoos, conditioning rinses, styling products, thermal protection, hair repair
Merquat™ 2003PR Polymer Series: Aqueous solution of an ampholytic terpolymer of Methacrylamido-propyl Trimethyl Ammonium Chloride (MAPTAC), Acrylamide (ACAM) and Acrylic Acid (AA)									
2003PR	Polyquaternium-53	19.5 - 22.5	1,200,000	Phenoxyethanol	1 - 3	< 5 ppm	Improves the softness and smoothness of hair; enhances color protection - protects hue, value and saturation up 20 washes; used for non-silicone systems; makes hair dye formulations smoother and easier to apply; helps to improve the intensity of hair colors; reduction of ammonia and hair dye levels; improves foam stability and provides dense creamy foam	Excellent non-paraben conditioning polymer for superior performance in color protection and non-silicone shampoos	Color protection shampoos, hair dyes, leave-in conditioners, hair treatments, thermal protection, hair repair

* Note: If reference to solid is not stated in the description, polymer is a liquid.
** These are typical properties. See the specification for the certified properties

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For complete formulation details, samples and more information call 800.379.5389 or visit www.lubrizol.com/personalcare

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