



Technical Data Sheet

UCARE™ JR-30MP Polymer

Conditioning Polymer

INCI Name: Polyquaternium-10

Features & Benefits

- Substantive to hair and skin
- Medium to strong conditioning
- Enables deposition of silicone
- Minimal build-up on hair, volume friendly
- Hair repair
- Split end mending from anionic and amphoteric shampoo systems
- Can be formulated into clear shampoo systems
- Can be formulated into opacified shampoo systems

Applications

UCARE™ polymers are used in a diverse number of applications across both hair and skin care. Perhaps the most notable for the UCARE™ JR-30MP Polymer is its ability to provide substantive conditioning from shampoo systems.

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
Viscosity, 1% Aqueous Solution	cP	1000–2500
Volatiles	Wt%	6.0 Max
Nitrogen	Wt%	1.70–2.20
Ash	Wt%	0–3

Description

UCARE™ polymers are polymeric, quaternary ammonium salts of hydroxyethylcellulose reacted with trimethyl ammonium substituted epoxide. The cellulosic backbone is derived from natural, renewable resources.

UCARE™ polymers are generally grouped into three categories. The LK grade has the lowest level of % Nitrogen (0.4-0.6), followed by the LR grade (0.8-1.1), and finally the JR grade (1.5-2.2). Increasing the amount of nitrogen substitution provides more substantive bonding to the hair surface and a smoother film microtexture.

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UCARE™ JR-30MP Polymer

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Description (Cont.)

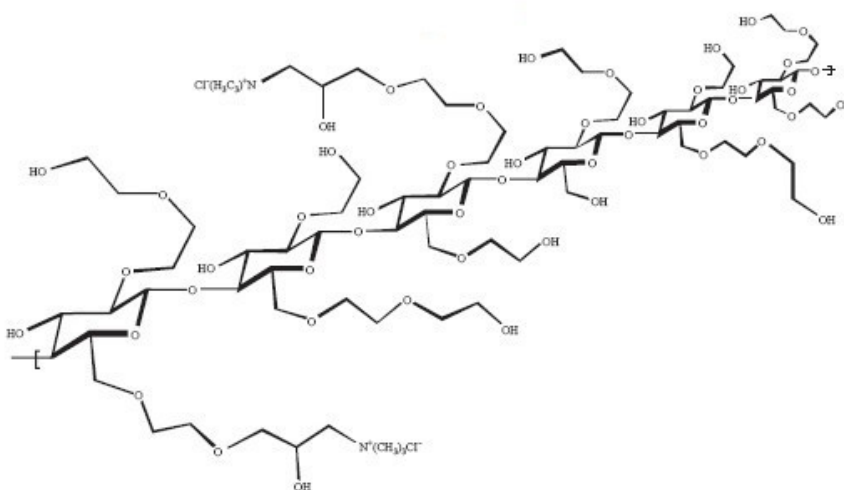


Figure 1: The Idealized Structure of UCARE Polymers

Recommended Use Level

Recommended Applications

Shampoo Systems, body wash, creams and lotions, hair styling products:

- 0.2–0.5 wt%

Methods of Addition

There are two basic methods for preparing UCARE™ Polymers for incorporation into your formulation.

I. Prior Polymer Hydration

- Hydration of the polymer is accomplished by slowly adding the dry powder into agitated room temperature water and allowing it to mix until the solution is uniform and clear.
- Hydration can be accelerated by heating the solution to 65°C. Once the polymer is fully hydrated, simply add the solution directly to the surfactant system blend with mixing.
- Hydration may be accomplished separately or as a first step in the manufacturing procedure.

II. Addition with Co-Solvents

- A slurry of the dry powder may be made in a non-aqueous, water soluble, co-solvent (such as propylene glycol, glycerin, low molecular weight CARBOWAX™ Polyethylene Glycols, or Methyl Gluceth-10 or -20).
- The slurry can then be mixed into the water or directly into the surfactant blend.
- Hydration can be accelerated by heating the solution to 65°C.
- The co-solvent "wets" the polymer and allows it to be more easily dispersed, thus increasing the rate of hydration whether it is in the water or directly put into the surfactant blend.

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