

Conditioning & Moisturizing Hair Gel Using Carbopol® ETD 2020 Polymer

This crystal clear hair gel has moisturizing properties and gives luster, bounce, and soft conditioning. Carbopol® ETD 2020 polymer allows the use of a quaternized humectant in a crystal clear gel.

Ingredient /INCI-CTFA Name	Weight, %	Function	Trade Name (Supplier)
PART A			
1. Deionized Water	89.00	Diluent	
2. Acrylates/C10-30 Alkyl Acrylate Crosspolymer	1.00	Rheology Modifier	Carbopol® ETD 2020 Polymer (Noveon, Inc.)
3. Aminomethyl Propanol	0.75	Neutralizing Agent	AMP-95® (Angus)
PART B			
4. Dimethicone Copolyol	0.50	Humectant / Lubricant	Dow Corning® 193 (Dow Corning)
PART C			
5. 6-(N-acetylamino)-4-Oxahexyltrimonium chloride	5.00	Humectant Conditioner	Quamectant® AM-50 (Brooks)
PART D			
6. Soluble Collagen	0.50	Hair Conditioning Agent	Pancogène® Marin (Gattefossé)
7. Laureth-23	2.50	Solubilizing Agent	Brij® 35P (ICI Surfactants)
PART E			
8. Phenoxyethanol (and) Methylparaben (and) Ethylparaben (and) Propylparaben (and) Butylparaben (and) Isobutylparaben	0.50	Preservative	Euxyl® K 300 (Schulke & Mayr)
PART F			
9. Aminomethyl Propanol	0.25	Neutralizing Agent	AMP-95® (Angus)
F98116.1			(OVER →)

PROPERTIES:

Appearance	Clear gel
pH	6.5 - 7.0
Viscosity* (mPa·s)	13,000 - 18,000
Clarity** (%T)	80 - 86
Stability Data	Passed 3 months @ 45°C Freeze/Thaw - 5 cycles

* Brookfield DV - II+ (or RVT) @ 20 rpm @ 25°C, RV spindle # 6

** Brinkmann PC 801 colorimeter, 420 nm

PREPARATION PROCEDURE:

1. Disperse **Carbopol® ETD 2020 polymer** in deionized water. Mix until polymer is dispersed.
2. Neutralize batch with given amount of AMP-95®. Mix until no lumps are present.
3. Add dimethicone copolyol.
4. Add PART C and mix until uniform.
5. Mix the ingredients of PART D with moderate heat and add to batch. Mix until uniform.
6. Add the preservative and mix until uniform.
7. Add remaining amount of AMP-95® to obtain a pH between 6.5 and 7.0.