High Viscosity Grooming Gel **S-G0028**

Excellent performance in high viscosity gels is readily achieved with **Carbopol®* ** and **Fixate®* Polymers**. This economical formulation has a smooth, aesthetically-pleasing texture and outstanding humidity resistance–even with just 0.80 (% TS) **Fixate®* Polymer**. **SilSense™* Copolyol-1 Silicone** serves the dual role of conditioning agent and wet styling aid.

	INCI Name, *Trade Name*	Weight %	Function
1.	Deionized Water	94.08	Diluent
2.	Acrylates/C10-30 Alkyl Acrylate Crosspolymer, ***Carbopol®* Ultrez 21 Polymer***	0.90	Rheology Modifier
3.	Polyacrylates-14 (~30% total solids), ***Fixate®* PLUS Polymer***	2.67	Fixative
4.	Tetrasodium EDTA, Liquid (38%), *Versene® 100 XL*	0.05	Chelating Agent
5.	Caramel, *Caramel Color – AP-100*	1.50	Dye
6.	PEG-33 and PEG-8 Dimethicone and PEG-14, ***SilSense™* Copolyol-1 Silicone***	0.20	Conditioner / Resin Plasticizer
7.	Phenoxyethanol, Methyl-, Ethyl-, Butyl-, Propyl-, and Isobutylparaben, *Phenonip®*	0.50	Preservative
8.	Aminomethyl Propanol (95%), *AMP-95®*	~0.10**	Neutralizer

**q.s. to pH 6.8 – 7.2

Procedure:

1. Weigh deionized water into vessel large enough to provide adequate mixing while preparing batch.
2. Sprinkle **Carbopol®* Ultrez 21 Polymer** onto the surface of the deionized water. Allow the **Carbopol®* Ultrez 21 Polymer** to fully hydrate (approximately 10 – 20 minutes).
3. Adjust mixing speed to create a small vortex, but not cause any splashing.
4. Slowly add the **Fixate®* PLUS Polymer** to the mixing vessel. Mix for approximately 5 minutes.
5. Slowly add ingredients #4 - #7 to the mixing vessel. Mix well after the addition of each ingredient.
6. Neutralize to pH 6.8 – 7.2 using AMP-95®. Scrape sides of the vessel to incorporate all ingredients into the gel, assuring homogeneity.
7. Allow the final product to mix for five minutes prior to packaging.

Product Properties:

Appearance	Caramel Color
pH	6.8 – 7.2
Viscosity, (mPa·s)***	75,000 – 85,000
Stability:	Passed 3 months @ 45°C, 5 cycles freeze/thaw

Fixate®* PLUS Polymer(% TS), 0.80%

*** *Brookfield RVT @ 20 rpm, 25 °C, #7 spindle, Measured after 24 hours*

Supplier References:
Noveon, Inc. (2, 3, 6)
Dow Chemical (4, 8)
Quantum Colours (5)
Clariant (7)