

Clear Gel Conditioner

CD-0003

A novel new product form – cationic conditioners in a clear gel product. This rinse-out conditioner uses the **SilSense™** Silicone** complex system to create a **Carbopol®** Polymer** based gel, providing the user with good wet and dry comb properties and excellent aesthetics.

	INCI Name, Trade Name	Weight %	Function
A.	1. Deionized Water	85.57	Diluent
	2. Acrylates/C10-30 Alkyl Acrylate Crosspolymer, Carbopol®** ETD 2020 Polymer	0.60	Rheology Modifier
	3. NaOH (18%)	0.80**	Neutralizer
B.	4. Deionized Water	1.50	Diluent
	5. DMDM Hydantoin, <i>Glydant®</i>	0.30	Preservative
	6. Benzophenone-4, <i>Uvinul® MS-40</i>	0.05	UV Absorber
C.	7. Cetrimonium Chloride (29%), <i>Genamin CTAC</i>	0.50	Conditioner
	8. Ammonium Dimethicone PEG-7 Sulfate, SilSense™** SA-1 Silicone	2.00	Conditioner
	9. Deionized Water	2.50	Diluent
	10. Citric Acid (3%)	0.01**	Acidifier
D.	11. Silicone Quaternium-8, SilSense™** Q-Plus Silicone	1.50	Conditioner
	12. Deionized Water	2.50	Diluent
	13. NaOH (18%)	0.02**	Neutralizer
E.	14. FD&C Red No. 33 (0.1%)	0.13	Dye
	15. FD&C Blue No. 1 (0.1%)	0.02	Dye
F.	16. Citric Acid (3%) or NaOH (18%)	1.00***	Acidifier
G.	17. Dimethicone (and) neopentyl glycol dicaprylate/dicaprate (and) water (and) gelatin (and) mica (and) titanium dioxide (and) cellulose gum (and) carmine (and) D&C violet No. 2, <i>LipoCapsules™ LT-0031</i>	1.00	Conditioner

** q.s. to pH 5.6 - 5.7 (for #3, #10, and #13)

*** q.s. to pH 5.25 (for #16)

Product Properties:

Appearance	Clear, violet colored gel containing purple beads
pH	5.0 – 5.25 ²
Viscosity (mPa·s)****	5,000 – 8,000
Turbidity (NTU)*****	20 – 30
Clarity (% T) ¹	55 – 70
Stability: Passed 3 months @ 45°C, 5 cycles freeze/thaw	

**** Brookfield RVT @20 rpm, spindle #5

***** HF Scientific, Inc, Micro 100 Turbidimeter

¹ Brinkmann PC 920 colorimeter, 420 nm

² For optimum clarity, adjust the final pH to 5.25 (high end of spec.).

Supplier References:

Noveon, Inc. (2, 8, 11)
Lonza (5)
BASF (6)
Clariant (7)
Noveon Hilton Davis (14, 15)
Lipo Chemicals (17)

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Previous Formulation #: SIL-0023
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For more information visit www.noveon.com or www.carbopol.com or contact your nearest Noveon location.

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Procedure:

1. Disperse **Carbopol® ETD 2020 Polymer** by sprinkling into deionized water. Begin stirring with rapid agitation. Reduce mixing speed when polymer is completely dispersed.
2. Add NaOH to the dispersion and continue mixing.
3. Combine PART B ingredients (dissolve Benzophenone-4) and add to the product.
4. Combine PART C ingredients (adjust pH) and slowly add to batch with very good agitation.
5. Combine PART D ingredients (adjust pH) and slowly add to batch with very good agitation.
6. Add PART E to the product.
7. Adjust the pH with PART F ¹.
8. Add the beads to the product. (Add slowly, by hand, taking care not to break the beads).

¹For optimum clarity, adjust the final pH to 5.25 (high end of spec.).

*Air will need to be removed from the final product before beads are added.
Fragrance can be added before beads if desired.*