

Semi-Permanent Hair Color Gel – Golden Copper Using Carbopol® Ultrez 10 Polymer

This semi-permanent hair color gel is thickened with **Carbopol® Ultrez 10 polymer** to give an improved, no-drip application. The use of Carbopol Ultrez 10 also allows for this product to thicken without high levels of surfactants.

Ingredient /INCI-CTFA Name	Weight, %	Function	Trade Name (Supplier)
PART A			
1. Deionized Water	40.00	Diluent	
2. Oleic Acid	4.00	Solvent	Emersol 221 (Henkel/Emery)
3. Ethanolamine	5.00	Neutralizer	Monoethanolamine (Dow)
4. Ethoxydiglycol	5.00	Solvent	Eastman DE Solvent (Eastman)
PART B			
5. Disperse Black 9	0.40	Dye	Lowadene Black 9 (Lowenstein)
6. HC Red No. 3	2.00	Dye	HC Red No. 3 (Lowenstein)
7. Disperse Orange 3	1.00	Dye	Lowadene Orange 3 (Lowenstein)
8. HC Yellow No. 5	0.50	Dye	HC Yellow No. 5 (Lowenstein)
9. HC Yellow No. 4	0.80	Dye	HC Yellow No. 4 (Lowenstein)
PART C			
10. Acetamide MEA (and) Lactamide MEA	1.00	Conditioner	Incromectant LAMEA (Croda)
11. PEG-2 Cocamine	2.00	Conditioner	Protox C-2 (Protameen)
12. Decyl Polyglucoside	1.00	Surfactant	Plantaren® 2000 (Henkel/Cospha)
13. Tetrasodium EDTA	0.10	Chelating Agent	Versene® 220 (Dow)
14. Erythorbic Acid	0.50	Anti-Oxidant	Uantox EBATE (U.P.I.)
PART D			
15. Deionized Water	35.00	Diluent	
16. Carbomer	0.70	Rheology Modifier	Carbopol® Ultrez 10 Polymer (Noveon, Inc.)
17. Propylene Glycol (and) Diazolidinyl Urea (and) Methylparaben (and) Propylparaben	1.00	Preservative	Germaben® II (ISP)

2150-005-98-71U

(OVER→)

PROPERTIES:

Appearance	Dark red gel
pH	9.8 - 10.3
Viscosity, initial (cP)*	500 - 1,000
Viscosity, final (cP)**	1,500 - 3,500
Yield Value (dynes/cm ²)	100 - 200
Stability	Passed one month at 45°C

* Brookfield RVT @ 20 rpm, #4 spindle

** Viscosity will develop over the course of 1-3 days at room temperature

PREPARATION PROCEDURE:

1. Pre-combine ingredients in PART A and heat to 65°C while mixing to form the soap. Continue mixing and cool to 35°C.
2. Pre-combine ingredients in PART B and add to PART A with good mixing. Ensure the dyes are completely dissolved before continuing.
3. Add PART C ingredients in order to the batch. Mix until homogeneous after each addition.
4. Disperse **Carbopol® Ultrez 10** in the deionized water of PART D. Add preservative and mix.
5. Add PART D to batch and mix until homogeneous. Maximum thickening will occur within 1-3 days.

Consumer Use Instructions:

1. Apply to hair for 25 minutes. Rinse thoroughly.

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Noveon, Inc. / 9911 Brecksville Road, Cleveland, Ohio 44141-3247 / TEL: 800-379-5389 or 216-447-5000