

# Semi-Permanent Hair Color Gel: Golden Copper

CO-0002

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 Polymer** also allows for this product to thicken without high levels of surfactant.

	INCI Name, Trade Name	Weight %	Function
<b>A.</b>	1. Deionized Water	40.00	Diluent
	2. Oleic Acid, Emersol® 221	4.00	Solvent
	3. Ethanolamine, Monoethanolamine	5.00	Neutralizer
	4. Ethoxydiglycol, Eastman DE Solvent	5.00	Solvent
<b>B.</b>	5. Disperse Black 9, Lowadene Black 9	0.40	Dye
	6. HC Red No. 3, HC Red No. 3	2.00	Dye
	7. Disperse Orange 3, Lowadene Orange 3	1.00	Dye
	8. HC Yellow No. 5, HC Yellow No. 5	0.50	Dye
	9. HC Yellow No. 4, HC Yellow No. 4	0.80	Dye
<b>C.</b>	10. Lactamide MEA (and) Acetamide MEA, Incroemectant LAMEA	1.00	Conditioner
	11. PEG-2 Cocamine, Prottox C-2	2.00	Conditioner
	12. Decyl Glucoside, Plantaren® 2000	1.00	Surfactant
	13. Tetrasodium EDTA, Versene® 220	0.10	Chelating Agent
	14. Erythorbic Acid, Uantox EBATE	0.50	Antioxidant
<b>D.</b>	15. Deionized Water	35.00	Diluent
	16. Carbomer, Carbopol®* Ultrez 10 Polymer	0.70	Rheology Modifier
	17. Propylene Glycol, Diazolidinyl Urea, Methylparaben, Propylparaben, Germaben® II	1.00	Preservative

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## Product Properties:

Appearance	Dark red gel
pH	9.8 – 10.3
Viscosity, initial (mPa s)**	500 – 1,000
Viscosity, final (mPa s)***	1,500 – 3,500
Yield Value (dyn/cm <sup>2</sup> )	100 – 200
Stability	Passed 1 month at 45°C

\*\* Brookfield RVT @ 20 rpm, 25°C, #4 spindle

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

## Supplier References:

Cognis (2, 12)  
Dow (3, 13)  
Eastman (4)  
Lowenstein (5, 6, 7, 8, 9)  
Croda (10)  
Protameen (11)  
UPI (14)  
**Lubrizon Advanced Materials, Inc.**  
**(Noveon® Consumer Specialties) (16)**  
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For more information visit [www.personalcare.noveon.com](http://www.personalcare.noveon.com) or contact your nearest Lubrizon Advanced Materials location.

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## 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 Polymer** 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.