Glypure™

Cosmetic-Grade Glycolic Acid

Formulation—Hair Care
Conditioning Treatment

Glypure™ penetrates the hair shaft, helping hair better withstand heat, as well as softening hair and providing superior lubrication.

- Makes hair significantly less prone to breakage
- Promotes manageability of hair
- Softens hair
- Provides moisturizing effect
- Reduces flaking and drying of the scalp
- Moisturizes the scalp

Phase	Trade Name	Wt%	INCI Name	Supplier
A1	Purified Water USP	70.00	Purified Water USP	
A2	Incroquat™ Behenyl TMS PA(HH)	2.50	Behentrimonium Methosulfate (and) Cetearyl Alcohol	Croda
A3	Incroquat™ Behenyl TMC-85	0.75	Behentrimonium Chloride	Croda
A4	Alfol® 18	0.75	Stearyl Alcohol	Sasol
A5	Brij™ CS20	0.25	Ceteareth-20	Croda
A6	Edeta® BD	0.05	Disodium EDTA	BASF
A7	BioPlex® Cetylsil® S-PF	0.50	Cetyl Triethylmonium Dimethicone PEG-8 Succinate	Biosil
B1	Purified Water	10.00	Purified Water	
B2	**Glypure™**	**1.00**	**Glycolic Acid (70%)[1]**	**Chemours**
B3	Sol, Sodium Hydroxide, 25%	5.50	Sodium Hydroxide[2]	–
C1	XIAMETER® MEM 8194 Emulsion	1.50	Amodimethicone (and) Trideceth-12 (and) Cetrimonium Chloride	Dow Corning
C2	As Desired	0.00	Fragrance, Dye, Vitamins	As Desired
C3	Spectragard™	1.00	Caprylyl Glycol (and) Hexylene Glycol (and) Methylisothiazolinone (and) Water	Inolex
D1	Sol, Sodium Hydroxide, 25%	pH 4.0-4.2	Sodium Hydroxide[2]	–
D2	**Glypure™**	**pH 4.0-4.2**	**Glycolic Acid (70%)[1]**	**Chemours**
Adjust	Adjust final pH to 3.8–4.2 with Triethanolamine or Glypure™ as necessary			
qs	Purified Water	qs to 100%	Purified Water	

Notes:

[1]Glypure™ (99%) may be substituted for Glypure™ (70%). Compensate for active Glycolic Acid Content and Purified Water percentage accordingly.

[2]May use other suitable alkalis, e.g., Potassium Hydroxide, Ammonium Hydroxide, or Sodium Hydroxide.

Note: Stability profiles of the finished product should be determined.

Chemours™

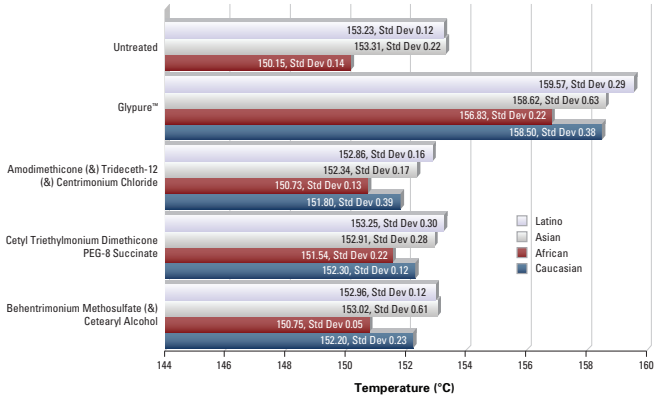
Manufacturing Procedure

1. In the main vessel, add A1, and begin heating to 80–85 °C (176-185 °F).
2. With continued mixing, add ingredients A2–A5 individually. Mix until all solids are melted and a uniform emulsion is formed. Homogenize, if necessary.
3. Begin cooling and at 50–55 °C (122-131 °F), add A6 and A7.
4. In a separate vessel with mixing, add ingredients B1–B3 to partially pre-neutralize the glycolic acid. Add to the main vessel. Mix until uniform. Continue cooling.
5. At <40 °C (104 °F), add C1–C3. Adjust pH to 4.0–4.2 as indicated, and adjust remaining water percentage accordingly.

Glypure™ has proven benefits in hair, skin, and nail care formulations. To learn more about the benefits of Glypure™, visit www.glypure.com.

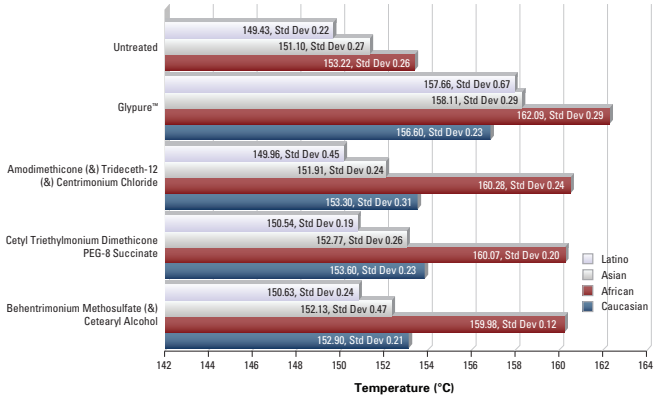
DSC - Healthy Hair

Glycolic Acid Penetrates the Hair Shaft and Interacts with Keratin to Increase the Denaturation Temperature



DSC - Chemically Damaged Hair

Glycolic Acid Penetrates the Hair Shaft and Interacts with Keratin to Increase the Denaturation Temperature



For more information, visit glycolicacid.chemours.com or call (800) 441-9593.

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