Glypure™

Cosmetic-Grade Glycolic Acid

Formulation—Skin Care
Hydroquinone Skin Lightening Cream with SPF

Glypure™ penetrates the skin efficiently—readjusting water percentages in the epidermis, stimulating collagen synthesis, and promoting cell turnover.

Phase	Trade Name	Wt%	INCI Name	Supplier
A1	Purified Water	29.00	Purified Water USP	
A2	Vanzan® NF	0.50	Xanthan Gum	Vanderbilt Minerals, LLC
A3	Zemea™ Propanediol	3.00	1,3-Propanediol	DuPont Tate & Lyle Bio Products
A4	Edeta® BD	0.05	Disodium EDTA	BASF
B1	Purified Water	15.00	Purified Water	
B2	**Glypure™**	**6.00**	**Glycolic Acid (70%)[1]**	**Chemours**
B3	Triethanolamine 99%	1.50	Triethanolamine 99% NF[2,3] to pH 3.5-4.0[3]	Dow
C1	Neo Heliopan® AV/Escalol® 557	7.50	Octinoxate	Symrise/Ashland
C2	Neo Heliopan® OS/Escalol® 587	5.00	Octisalate	Symrise/Ashland
C3	Neo Heliopan® 303/Escalol® 597	10.00	Octocrylene	Symrise/Ashland
C4	Elefac™ I-205	3.00	Octyldodecyl Neopentanoate	Alzo
C5	Hallbrite® BHB	3.00	Butyloctyl Salicylate	Hallstar
C6	Xiameter® PMX-200 Silicone Fluid 100CS	1.50	Dimethicone	Dow Corning
C7	Arlacel™ 165	4.00	Glyceryl Stearate (and) PEG-100 Stearate	Croda
C8	Lanette® 16	3.00	Cetyl Alcohol	BASF
C9	Myrj™ S40 NV FL	0.40	PEG-40 Stearate	Croda
D1	Sodium Sulfite Anhy. FCC	0.20	Sodium Sulfite	Spectrum Chemical
D2	Sodium Metabisulfite NF/FCC	0.20	Sodium Metabisulfite	Spectrum Chemical
E1	Eastman™ Hydroquinone, USP	2.00	Hydroquinone	Eastman
F1	Elestab® FL-15	2.50	Butylene Glycol (and) Glycerin (and) Chlorphenesin (and) Methylparaben	Lab.Serobiologiques/ BASF
F2	Sepigel™ 305	1.00	Polyacrylamide (and) C13-14 Isoparaffin (and) Laureth-7	Seppic Inc.
G1	Dye (To Shade Desired)	0.00		
G2	Botanical Extracts	0.00	As Desired	
G3	Fragrance	0.00	As Desired w/Acidic Top Notes	
Adjust	Adjust final pH to 3.8-4.2 with Triethanolamine or Glypure™, as necessary			
qs	Purified Water USP[4]	qs to 100%	Purified Water USP	

Notes:

[1]Glypure™ (99%) may be substituted for Glypure™ (70%). Compensate the purified water percentage accordingly.

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

[3]Do not exceed 2.5% of Triethanolamine to comply with EU regulations. If necessary, add another neutralizing agent.

[4]Compensate the purified water percentage accordingly to 100% batch weight.

[5]All equipment should be passivated with nitric acid to prevent hydroquinone degradation.

[6]Manufacturing, storage, and filling should have nitrogen blanketing to ensure hydroquinone stability

Chemours™

Manufacturing Procedure

1. To the main vessel, add A1. Start mixer.
2. Premix A2 and A3 separately and mix until uniform.
3. Add A2/A3 to A1 and mix. Add A4 and mix continuously.
4. In a separate vessel, add B1-B3 in order and mix until until pH is constant.
5. Add phase B to phase A and heat to 68-72 °C (154-162 °F).
6. In another separate vessel, add C1 to C9 and heat 68-72 °C (154-162 °F). Mix until uniform
7. When phase AB and C are at 68-72 °C (154-162 °F), add phase C to phase AB.
8. Mix and homogenize at 68-72 °C (154-162 °F) for 5 min, then cool to 45 °C (113 °F).
9. At 45 °C (113 °F), add D1 and D2, and mix for 5 min.
10. Add E1 and mix for 5 min or until batch is uniform.
11. Add F1 and F2, mix until uniform and cool with mixing to 30 °C (86 °F). Turn off homogenizer at 40 °C (104 °F).
12. Discharge immediately into holding vessel, and blanket with nitrogen before closing containers

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

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

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