

Glypure™

Cosmetic-Grade Glycolic Acid

Formulation—Skin Care Anti-Acne Cream with AHA/BHA



Glypure™ penetrates the skin efficiently—readjusting water percentages in the epidermis, stimulating collagen synthesis, and promoting cell turnover. It is also an efficient pH adjuster.

- Improves the look and feel of skin
- Promotes exfoliation
- Improves skin texture
- Fights the signs of aging
- Reduces the appearance of fine lines and wrinkles
- Improves the appearance of sun-damaged skin
- Helps even out skin tone

Phase	Trade Name	Wt%	INCI Name	Supplier
A1	Purified Water USP	55.00	Purified Water USP	
A2	Veegum® Ultra	1.00	Magnesium Aluminum Silicate	Vanderbilt Minerals, LLC
A3	Zemea® Propanediol	2.00	Propanediol	DuPont Tate & Lyle Bio Products
A4	Keltrol® CG-T	0.50	Xanthan Gum	CP Kelco
A5	Edeta® BD	0.05	Disodium EDTA	BASF
A6	Methylparaben NF	0.25	Methylparaben NF	Spectrum
B1	Zemea® Propanediol	6.00	Propanediol	DuPont Tate & Lyle Bio Products
B2	Salicylic Acid USP	2.00	Salicylic Acid USP	Spectrum
B3	Alkest® TW 20	1.00	Polysorbate 20 NF	Oxiteno
C1	Alfol 16	3.00	Cetyl Alcohol	Sasol
C2	Arlacel™ 165	3.00	Glyceryl Stearate/PEG-100 Stearate	Croda
C3	Myrj™ S100	0.50	PEG-100 Stearate	Croda
C4	Isopropyl Myristate NF	5.00	Isopropyl Myristate NF	Spectrum
C5	Xiameter® PMX-200 Silicone Fluid 100CS	1.00	Dimethicone	Dow Corning
C6	Propylparaben NF	0.15	Propylparaben NF	Spectrum
D1	Purified Water USP	10.00	Purified Water USP	
D2	Glypure™	7.50	Glycolic Acid (70%)¹	Chemours
D3	Triethanolamine 99%	to pH 3.6-4.0	Triethanolamine 99% NF ^{2,3}	-
Adjust	Purified Water USP	qs to 100%	Purified Water USP	

Notes:

¹Glypure™ (99%) may be substituted for Glypure™ (70%). Compensate for active Glycolic Acid content and purified water percentage accordingly.

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

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

*Other botanical extracts or ingredients may be added as desired.

*Stability profiles of the finished product should be determined.

This formulation falls under the FDA Monograph for Topical Acne Drug products for Over-The-Counter Use. In lieu of Glypure™, formulators and manufacturers must use Glypure™ L for products used or distributed in Canada or Australia and in Europe for nail care products.

Manufacturing Procedure

1. Prepare phase A by adding A1 to the main vessel and begin mixing. Maintain temperature at 25-30 °C (77-86 °F).
2. Slowly add A2 and mix for 15-30 min to hydrate.
3. Pre-wet A4 in A3 and mix until a uniform dispersion is obtained. Add to A1, A2 and mix until uniform.
4. Add A5 and A6 with continued mixing and begin heating to 68-73 °C (154-163 °F).
5. In a separate vessel, mix B1, B2, and B3, and begin heating to 50-55 °C (122-131 °F) to solubilize.
6. When phase B ingredients are soluble, add to phase A slowly while continuing heating to 68-73 °C (154-163 °F).
7. In a separate vessel, add C1 through C6 and heat to 68-73 °C (154-163 °F). Begin mixing slowly when solid ingredients begin to melt.
8. When phases A, B, and C are at the proper temperature range, add phase C to phase AB slowly. When complete, homogenize for 5 min.
9. Begin cooling. When phase ABC is at 62-65 °C (144-149 °F), pre-blend D1-D3 as indicated and add. Homogenize while cooling is continued.
10. Continue cooling and mixing. At 40-45 °C (104-113 °F), adjust batch pH to 3.6-4.0 with appropriate alkali or Glypure™.
11. Adjust water content to 100%. Turn off homogenizer and sweep mix to <30 °C (86 °F).

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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Replaces: K-25900
C-10887 (3/20)