

| Phase | INCI Ingredients | Trade Name (Supplier) | %ww |
|-------|---|------------------------------------|------------------|
| A | Water | Water | QS to 100 |
| A | Trisodium Ethylenediamine Disuccinate | Natrlquest E30 (Innospec) | 0.10 |
| A | Glycerin | Glycerin | 1.00 |
| B | Cocamidopropylamine Oxide | EMPIGEN® OS/A (Innospec) | 15.00 |
| B | Decyl Glucoside | Pureact Gluco D (Innospec) | 5.00 |
| B | Cocamidopropyl Betaine | EMPIGEN® BS/O (Innospec) | 7.00 |
| B | Cocamide MIPA | EMPILAN® CIS (Innospec) | 1.00 |
| B | PEG-120 Methyl Gluceth Dioleate | Methyl Gluceth DOE 120KC (Chemtec) | 1.50 |
| C | Phenoxyethanol (and) Ethylhexylglycerin | Euxyl® PE9010 (Schulke) | 1.00 |
| C | Benzalkonium Chloride | EMPIGEN® BKC 50 (Innospec) | 0.10 |
| D | Water (and) Citric Acid | Citric Acid (50% solution) | QS pH to 5.5-6.0 |

Preparation Procedure and Properties

1. Charge Water into main mixing vessel. Blend in Natrlquest E30 and Glycerin. Mix until clear and uniform.
2. Begin heating batch to 60°C. Slowly blend in Phase B and mix until flakes have melted and batch is uniform.
3. Begin cooling batch to 45°C, then add Phase C.
4. Adjust pH to 5.5-6.0 using Citric Acid (50% solution).

Appearance: Crystal clear hand soap

pH: 5.5-6.0

Viscosity: 1,800cP – 3,000 cP Brookfield viscometer DV-E @ 20 rpm, spindle 5 @ 25°C

Stability: Passed 8 weeks at 45°C, 25°C, 5°C and 3 F/T cycles

DISCLAIMER

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