



PERFORMANCE INSPIRED INGENUITY

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## Free & Clear

### Sulfate-Free Clear Shampoo

#### Description:

Consumers often equate foaming to detergency, but standard foaming agents for personal care typically rely on sulfate-based technologies. **Silsurf® Di-T108** represents a game-changing shift in foaming technology. This innovative sulfate-free surfactant renders detergency similar to SLES while providing luxurious foam. Ideal for shampoo and body wash, let **Silsurf® Di-T108** be your game changer!

#### Ingredients:

| Part ID | Description (Supplier)           | INCI Name   | Weight % |
|---------|----------------------------------|---|----------|
| A       |                                  |   |          |
|         | D.I. Water                       | Water   | 62.40    |
|         | Beta-Glucan (Synlight Bio)       | Beta-Glucan   | 0.10     |
|         | <b>Silsurf Di-T108 (Siltech)</b> | BIS-PEG-8 PEG-8 Dimethicone                                 | 5.00     |
|         | Perlastan SCG 50 (Struktol)      | Sodium Cocoyl Glutamate                                     | 15.00    |
|         | Perlastan L-30 (Struktol)        | Sodium Lauroyl Sarcosinate                                  | 10.00    |
| B       |                                  |   |          |
|         | Wheat Protein (arch)             | Wheat Protein   | 0.50     |
|         | Nipaguard DMDMH (Clariant)       | DMDM Hydantoin  | 0.50     |
|         | Amphosol 2C (Stepan)             | Disodium Cocoamphodiacetate                                 | 3.00     |
|         | Plantapon LGC Sorb (BASF)        | Sodium Lauryl Glucose Carboxylate (and)<br>Lauryl Glucoside | 3.00     |
| C       |                                  |   |          |
|         | Citric Acid (40% aq)             | Citric Acid   | q.s.     |
|         | Sodium Chloride                  | Sodium Chloride   | q.s.     |
|         | Versathix-LQ (Croda)             | PEG-150 Pentaerythrityl Tetrastearate                       | q.s.     |
|         |                                  | (and) PPG-2 Hydroxyethyl Cocamide (and) Aqua                |          |
| D       |                                  |   |          |
|         | <b>Silquat CR-4000 (Siltech)</b> | Dimethicone-PG Diethylammonium Chloride                     | 0.50     |
|         |                                  | Total   | 100.00   |



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**Procedure:**

- 1) Disperse Glucan and then Guar in water until fully hydrated, then add the rest of the ingredients of Part A one by one while minimizing air incorporation. Mix until uniform.
- 2) Add ingredients in Phase B one by one into Phase A until homogenous while minimizing air incorporation.
- 3) Adjust pH by using citric acid to a pH of 5.5 ~ 6.5 and adjust viscosity to 2,000 cPs ~ 5,000 cPs by adding NaCl and Versathix.
- 4) Add CR-4000 while mixing slowly (300rpm). Add fragrance if desired.

Product formulations are included as illustrative examples. Siltech Corporation makes no representation or warranty of any kind with regard to any such formulations, including, without limitation, concerning the efficacy or safety of any product manufactured using such formulations.