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# Super-Substantive Sunscreen

***Products highlighted: Floramac® 10, Floraesters® 20, and Floraesters K-20W Jojoba***

This sunscreen formula contains a Floraesters K-20W with glycerin combination which has been shown to provide extended moisturization.

| Phase | Trade/Common Name | INCI Name | Manufacturer | % wt./wt. |
|---|---|---|---|---|
| A. | Deionized Water | Water | - - - - - | 41.65 |
| | Ceralution® F | Sodium Dicocoylethylenediamine PEG-15 Sulfate (and) Sodium Lauroyl Lactylate | Sasol | 1.00 |
| | Glycerin, USP | Glycerin | The Dow Chemical Co. | 6.00 |
| | Keltrol® CG-T | Xanthan Gum | CP Kelco | 0.30 |
| | Versene® Na2 Crystals | Disodium EDTA | The Dow Chemical Co. | 0.20 |
| B. | Ceralution® H | Behenyl Alcohol (and) Glyceryl Stearate (and) Glyceryl Stearate Citrate (and) Sodium Dicocoylethylenediamine PEG-15 Sulfate | Sasol | 5.25 |
| | **Floramac 10** | **Ethyl Macadamiate(and) Tocopherol (and) Malic Acid** | **Floratech** | **5.40** |
| | **Floraesters 20** | **Jojoba Esters (and) Tocopherol** | **Floratech** | **6.40** |
| | Cosmacol ESI | Tridecyl Salicylate | Sasol | 5.00 |
| | Parsol® MCX | Ethylhexyl Methoxycinnamate | DSM Nutritional Products | 6.00 |
| | Parsol® 1789 | Butyl Methoxydibenzoylmethane | DSM Nutritional Products | 1.00 |
| | Vitamin E Acetate | Tocopheryl Acetate | Essential Ingredients | 1.00 |
| | Antaron V-220 | VP/Eicosene Copolymer | Int'l Specialty Products | 1.00 |
| C. | Eusolex® T-45D | Isononyl Isononanoate (and) Titanium Dioxide (and) Alumina (and) Simethicone (and) Polyglyceryl-6 Ricinoleate | EMD Chemicals | 7.00 |
| D. | Carbopol® ETD 2050 Polymer (3% aqueous solution) | Carbomer (and) Water | Lubrizol Corporation* | 10.00 |
| E. | **Floraesters K-20W Jojoba** | **Hydrolyzed Jojoba Esters (and) Water (Aqua)** | **Floratech** | **1.00** |
| | Deionized Water | Water | - - - - - | q.s. |
| | Preservative | - - - - - | - - - - - | q.s. |
| | | | **TOTAL** | **100.00** |

## Mixing Procedure

1. Add Versene Na2 Crystal to the deionized water with stirring at 75°C. Add Ceralution F with stirring until completely mixed. Slurry the Keltrol CG-T in the Glycerin, USP and then add to the mixture, allowing time for hydration of the slurry in the deionized water.
2. Combine all ingredients of Phase B and mix completely at 75°C. Add Phase B to Phase A with rapid stirring.
3. With homomixer agitation, add Phase C to Phase AB at 75°C.
4. Add the Carbopol ETD 2050 Polymer solution into Phase ABC with rapid stirring at 75°C.
5. Reduce the mix temperature to 55°C. Add Phase E ingredients with stirring to Phase ABCD
6. Cool to room temperature.

**Typical Properties:** **Viscosity: ≤ 125,000 cP**
**Penetration: 330 – 366 dmm**

* *Supplied by Essential Ingredients*



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