SILICONE-FREE HEAT PROTECTION HAIR SERUM

with Floramac® 10 and Floraesters K-100® Jojoba

From root to tip, this natural, silicone-free, leave-in serum protects hair from heat damage and increases shine. Non-volatile Floramac 10 has the silky feel of silicone and can be used as a silicone alternative, or in combination with most silicones. Floramac 10 also assists in the solubilization of Benzophenone-3, and has been shown to increase hair shine more than silicones in a leave-in hair serum.

This leave-in hair serum conditions dry, frizzy, unruly hair with the power of Floraesters K-100 Jojoba. Studies show Floraesters K-100 Jojoba reduces frizz, hair breakage, and is preferred by consumers in hair care products.

\[ \text{Phase A} \]
- **Trade Name**: Floramac 10
- **INCI**: Ethyl Macadamiate
- **Supplier**: Cargill Beauty
- **%WT**: 40.00

- **Trade Name**: Mixed Tocopherols LBP > 95% MXD
- **INCI**: Tocopherol
- **Supplier**: Cargill Beauty
- **%WT**: 0.25

- **Trade Name**: Cera Bellina #106P
- **INCI**: Polyglycerol-3 Beeswax
- **Supplier**: Koster Keunen, Inc.
- **%WT**: 2.70

- **Trade Name**: Nomcort® SG
- **INCI**: Glyceril Behenate/Isostearate Eicosandioate
- **Supplier**: Nisshin Oillio Mills Ltd.
- **%WT**: 10.00

\[ \text{Phase B} \]
- **Trade Name**: Floramac 10
- **INCI**: Ethyl Macadamiate
- **Supplier**: Cargill Beauty
- **%WT**: q.s.

\[ \text{Phase C} \]
- **Trade Name**: Floramac 10
- **INCI**: Ethyl Macadamiate
- **Supplier**: Cargill Beauty
- **%WT**: 10.00

- **Trade Name**: Zeema Propanediol
- **INCI**: Propanediol
- **Supplier**: DuPont Tate & Lyle BioProducts
- **%WT**: 1.00

- **Trade Name**: Floraesters K-100 Jojoba
- **INCI**: Hydrolyzed Jojoba Esters (and) Jojoba Esters (and) Water (Aqua)
- **Supplier**: Cargill Beauty
- **%WT**: 0.50

- **Trade Name**: Salacos® PG-218
- **INCI**: Polyglyceryl-10 Dioleate
- **Supplier**: Nisshin Oillio Mills Ltd.
- **%WT**: 0.60

- **Trade Name**: Salacos® DG-158
- **INCI**: Polyglyceryl-2 Sesquicaprylate
- **Supplier**: Nisshin Oillio Mills Ltd.
- **%WT**: 0.30

- **Trade Name**: SYNeTH® C15 K RSPO MB
- **INCI**: Polyglyceryl-10 Caprylate/Caprate
- **Supplier**: Lonza, Inc.
- **%WT**: 0.55

\[ \text{Phase D} \]
- **Trade Name**: Floramac 10
- **INCI**: Ethyl Macadamiate
- **Supplier**: Cargill Beauty
- **%WT**: 10.00

\[ \text{Phase E} \]
- **Trade Name**: Fragrance
- **INCI**: - - - - -
- **Supplier**: EMD Chemicals Inc.
- **%WT**: 1.00

- **Trade Name**: Eldew® PS-203
- **INCI**: Phytosteryl/Octyldodecyl Lauroyl Glutamate
- **Supplier**: Ajinomoto Co., Inc.
- **%WT**: 0.50


2 Preservative: Bronidox® 1160 [INCI: Phenoxyethanol] supplied by BASF Corporation

**CHARACTERISTICS**
- **Viscosity**: 69 - 104kCP

**PROCESS**
1. In the main vessel, mix all the ingredients of Phase A at 80°C with moderate propeller agitation.
2. When the mixture becomes uniform, begin cooling to 38-40°C. Continue evenly cooling to 38-40°C. Phase A should become a soft, pasty wax at 38-40°C.
3. Add Phase B to Phase A at 35-38°C with rapid propeller agitation. (Overheating can break the viscosity of the finished product.)
4. In a separate vessel, mix all the ingredients of Phase C, except the Floramac 10, with low to moderate propeller agitation at room temperature.
5. When the mixture is clear and uniform, slowly add the Floramac 10, and continue mixing with low to moderate propeller agitation at room temperature.
6. Add Phase C to Phase AB at 35-38°C with rapid propeller agitation.
7. In a separate vessel, mix the ingredients of Phase D with moderate propeller agitation at 35-38°C.
8. Add Phase D to Phase ABC at 35-38°C with rapid propeller agitation. Once Phase ABCD becomes uniform, begin cooling to room temperature. Stop propeller mixing at 38°C. Continue evenly cooling to room temperature.
9. Add Phase E to Phase ABCD in the order listed at room temperature with rapid propeller agitation. Continue mixing until uniform.

**PATENTS AND REGULATIONS**
The information presented herein is intended to illustrate the possible technical applications of our products. However, since the use of this information and our products is beyond our control, any recommendations or suggestions are made without guarantee of warranty in each country and particularly in the absence of patent rights. In addition, we recommend that the user ensures that this product is in compliance with the local regulations in force, particularly in the country where the finished product is to be consumed. It is the responsibility of the user to comply with the patents and the regulations in force.

Formula Number: H024, Revision Date: January 2003

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