

Guide Formulation

Personal Care

Moisturising Sun Protection Cream (SUN-2)

This formulation is a smooth sun protection cream developed to give a soft feel to the skin, whilst providing essential protection from the sun's rays. **SeraSoft® SW 70-A** melts onto the skin to provide excellent skin feel whilst offering SPF boosting properties to the Parsol UV filters. **SeraSense® SF PTM** reduces the tackiness of the formulation leaving the skin feeling smooth, whilst **SeraSense® SF CM5** aids in the spreading of actives and gentle evaporation of the formulation, leaving no unwanted residue behind.

| Raw Material/INCI Name | % w/w | Trade name/Supplier | Function |
|--|--------|--|-----------------------|
| Aqua (Water) | To 100 | - | Vehicle |
| Acrylates/C10-30 Alkyl Acrylate Crosspolymer | 0.12 | Carbopol Ultrez 20/Lubrizol | Thickener |
| Disodium EDTA | 0.05 | Various | Chelating Agent |
| Butylene Glycol | 3.00 | Various | Humectant |
| Glyceryl Stearate (and) PEG-100 Stearate | 2.50 | Arlacel 165/Croda | O/W Emulsifier |
| Cetyl Alcohol | 2.00 | Various | Bodifying Fat |
| C18-36 Acid Glycol Ester | 2.00 | Syncrowax ERLC/Croda | Emulsion Stabiliser |
| PVP/Hexadecane Copolymer | 0.50 | Unimer U-151/Protec Ingredia (Induchem AG) | Aids Water Repellency |
| C12-15 Alkyl Benzoate | 6.00 | Crodamol AB/Croda | Emollient |
| Octocrylene | 0.75 | Parsol 340/DSM | UVB Absorber |
| Butyl Methoxydibenzoylmethane | 3.00 | Parsol 1789/DSM | UVA Absorber |
| Ethylhexyl Methoxycinnamate | 2.50 | Parsol MCX/DSM | UVB Absorber |
| Isopropyl Myristate | 4.00 | Crodamol IPM/Croda | Emollient |
| Stearyl Dimethicone (and) Octadecene | 2.00 | SeraSoft® SW 70-A/KCC Beauty | Skin Feel/SPF Booster |
| Phenyl Trimethicone | 1.00 | SeraSense® SF PTM/KCC Beauty | Skin Feel |
| Cyclopentasiloxane | 2.00 | SeraSense® SF CM5/KCC Beauty | Aids Spreading |
| Sodium Hydroxide | 0.03 | Sodium Hydroxide (30% Solution)/Various | pH Adjuster |
| Parfum (Fragrance) | 0.30 | Andrias Perf 266059/Fragrance Oils Int. | Fragrance |
| Methylisothiazolinone (and) Phenoxyethanol | 0.60 | Neolone PE/Dow Chemical | Preservative |

Typical Properties

Appearance: Viscous, white cream

Viscosity @ 25°C: -

Method

Add the water to the vessel. Add the EDTA and stir until dissolved.

Slowly sprinkle the Ultrez 20 into the water and leave for 10 minutes until the powder has fully wetted and dropped into the solution.

Apply mechanical stirring and mix for a further 10 minutes to ensure full hydration of the Ultrez 20.

Add the Butylene Glycol and stir until homogenous. Begin heating to 70°C.

In a premix vessel, mix the Arlacel, Cetyl Alcohol, Syncrowax and Unimer. Heat to 70°C and stir until uniform.

In a separate vessel, add the Crodamol AB and Parsols, heat to 70°C, and stir until homogenous. Once uniform, add the materials from the pre-mix vessel.

In another premix vessel, add the Crodamol IPM and SeraSoft® SW 70-E, heat until molten and stir until homogenous. Add to the oil phase.

Slowly add the oil phase to the water phase under homogenisation.

Premix the SeraSense® SF PTM and CM5 and add to the emulsion whilst still homogenising, but ensure the emulsion is below 70°C.

Add the NaOH solution and homogenise until white and uniform.

Change to a mechanical stirrer and begin to cool. Once below 40°C, add the fragrance and preservative.



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Please note that the above formulation is only intended as a guide. It is not a commercial formulation and has not been tested as such. The formulation should be evaluated and modified for your own requirements before use. Also suggestions of uses should not be taken as inducements to infringe any particular patent.

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