Contents

Sunscreen Formulas:
Page 1  KSL-269D  Balanced W/O Sunscreen Milk - SPF 71 - Featuring CM3K40T4, MSS-500/N, CM3K50XZ4
Page 2  KSL-315B-BR  Minimal Whitening Sunscreen - Featuring INP70ZSI, ZNO XZ-11S3L, MSS-500/H, KOBOGUARD® 50AMP, TNSS75MZCM
Page 3  KSL-330D  Water-Less, Natural Sunscreen - SPF 47 - Featuring CELLULOBEADS D-10, FLORITE PS-10, GCO50XZJ, GCP55TJ, JOS10M5, SunBoost ATB Natural
Page 5  KSL-376A-EU  Natural Non-Nano Sunscreen - SPF 64 - Featuring GC70MZCJ-G, MSS-500W, SunBoost ATB Natural, TTO-NJE8
Page 6  KSL-384B  All Zinc Sunscreen - SPF 46 - Featuring MSS-500/N, Plandool™-G, MSS-500W, TNP70MZ, TNP70ZSI
Page 7  KSL-392A  Mousse Sunscreen - SPF 35 - Featuring AQUA KEEP 10SH-NFC, CXG-1104, KOBOGUARD® MQ60DM, MSS-500W, NHP55STS, NHP60MZ8SG
Page 8  KSL-408  Anhydrous Sunscreen Stick - Featuring JOP80MZCJ, JOSP55XZJ, MSS-500/20N, Plandool™-H, Plandool™-LG1, Plandool™-MAS
Page 9  KSL-424  Light and Fresh Sunscreen - Featuring SunBoost ATB, W30XZSP, WBG40TWP

Tinted Moisturizer Formulas:
Page 10  KFL-181B  Daily Facial Correcting Cream - Featuring CSG-1001, SILICA SHELLS, MSS-500W, SunBoost ATB, TNP45TELRI, Gs-PC0g
Page 11  KLF-263  W/O Natural Non-Nano BB Cream - SPF 61 - Featuring GC70MZCJ-G, MSS-500W, OD55YJE, OD75BJE, OD75CJE, OD75RJE, SunBoost ATB Natural, TTO-NJE8
Page 12  KSL-378A-EU  Tinted Sunscreen - SPF 53 - Featuring ASO-I2, GCB50YSG, GCB60USG, GCB65RSG, GCB70BSG, GCP45TV, HBQP75FZS, TiO2-IR300-ASG3, SunBoost ATB

Body, Face and Hand Care Formulas:
Page 14  KFL-233  Color Correcting UV Primer - Featuring CPF-3300@10cSt, DIM2FH75MZCM, HV-BLUE, KOBOGUARD® MQ60DM, MSS-500W, SunBoost ATB, SW30B1A, SW65U
Description:
This formula is a very thin 'milk' type sunscreen with high SPF and UVA, that glides effortlessly onto the skin. CM3K40T4 is a low-whitening TiO2 dispersion that allows the formula to attain a high SPF. ZnO dispersion, CM3K50XZ4, improves UVA to yield a UV Balanced formula with minimal whitening. MSS-500/N is a microsphere that gives soft focus and enhanced feel.

Manufacturing Procedure:
1. Dissolve and disperse each Part uniformly.
2. Combine Part 2 with propeller mixing for 1 hour until homogeneous.
3. While mixing Part 1 with homogenizer at 2500rpm, add Part 2 to Part 1 gradually.
5. Slowly add Part 3 to Parts 1 and 2 at 4000rpm for 5 minutes with homogenizer.

Active Ingredient(s):
Titanium Dioxide 8.70%
Zinc Oxide 16.10%

Testing:
SPF: in vivo on 3 subjects
UVA-PF: in vivo on 3 subjects
### Description:

Light sunscreen with 100% mineral filters that offers minimal whitening by using a combination of Zinc Oxides of different particle sizes: INP70ZSI, a small particle size Zinc Oxide dispersion and ZNO XZ-11S3L, a silane-treated Zinc Oxide powder which provide UVB and UVA protection and TNSS75MZCM, a non-nano Zinc Oxide dispersion in Ethylhexyl Methoxycrylene, a photo stabilizer carrier that also boosts sun protection. This formula also has SALACOS® 99, a light ester that improves spreadability and KOBOGUARD® 50AMP, a water-soluble film former for water resistance. MSS-500/H helps reduce shine and tackiness.

### Manufacturing Procedure:

1. Mix Part 2 and add to Part 1. Mix until a gel is formed. Heat to 75°C.
2. Combine Part 3 ingredients and heat to 80°C.
3. Add Part 3 to Parts 1 and 2 while mixing. Keep mixing until dispersion of the filters.
4. Mix using homogenizer for at least 5 minutes.
5. Cool to 45°C and add Part 4 ingredients one at a time in the following order: KOBOGUARD® 50AMP, Simulgel™ INS 100, MSS-500/H, Cosmoguard® SL CP.

### Active Ingredient(s):

- Zinc Oxide 19.62%

### Testing:

- SPF: in vivo on 3 subjects
- UVA-PF: in vivo on 3 subjects

---

<table>
<thead>
<tr>
<th>%</th>
<th>INGREDIENT</th>
<th>INCI NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>100.00</td>
<td>Deionized Water</td>
<td>Water</td>
</tr>
<tr>
<td>1.00</td>
<td>Liposorb® L-20</td>
<td>Polysorbate 20</td>
</tr>
<tr>
<td>11.00</td>
<td>INP70ZSI</td>
<td>Zinc Oxide (And) Isononyl Isononanoate (And) Polyhydroxystearic Acid (And) Triethoxycaprylylsilane</td>
</tr>
<tr>
<td>10.00</td>
<td>SALACOS® 99</td>
<td>Isononyl Isononanoate</td>
</tr>
<tr>
<td>10.00</td>
<td>TNS575MZCM</td>
<td>Zinc Oxide (And) Ethylhexyl Methoxybenzyl Triphenylsiloxy Triazine (And) C12-15 Alkyl Benzene (And) Polyhydroxystearic Acid (And) Hydrogenated Dimethicone</td>
</tr>
<tr>
<td>10.00</td>
<td>ZNO XZ-11S3L</td>
<td>Zinc Oxide (And) Triethoxycaprylylsilane</td>
</tr>
<tr>
<td>4.00</td>
<td>TEGO® Care PBS 6</td>
<td>Polyglyceryl-6 Stearate (And) Polyglyceryl-6 Behenate</td>
</tr>
<tr>
<td>4.00</td>
<td>Xiameter® PMX-0245</td>
<td>Cyclopentasiloxane</td>
</tr>
<tr>
<td>0.50</td>
<td>Alkonat C1618</td>
<td>Cetearyl Alcohol</td>
</tr>
<tr>
<td>0.50</td>
<td>Tegin® M Pellets</td>
<td>Glyceryl Stearate</td>
</tr>
<tr>
<td>2.00</td>
<td>MSS-500/H</td>
<td>Silica</td>
</tr>
<tr>
<td>1.50</td>
<td>KOBOGUARD® 50AMP</td>
<td>Acrylates/Ethylhexyl Acrylate Copolymer (And) Water (And) Aminomethyl Propanol</td>
</tr>
<tr>
<td>1.00</td>
<td>Cosmoguard® SL CP</td>
<td>Phenoxethanol (and) Ethylhexylglycerin</td>
</tr>
<tr>
<td>1.00</td>
<td>Simulgel™ INS 100</td>
<td>Hydroxyethyl Acrylate / Sodium Acryloyldimethyl Taurate Copolymer (And) Isohexadecane (And) Polysorbate 60</td>
</tr>
<tr>
<td>0.50</td>
<td></td>
<td>Alkonat C1618</td>
</tr>
<tr>
<td>4.00</td>
<td></td>
<td>Tegin® M Pellets</td>
</tr>
</tbody>
</table>
**KSL-330D**  
*Water-Less, Natural Sunscreen*

<table>
<thead>
<tr>
<th>%</th>
<th>INGREDIENT</th>
<th>INCI NAME</th>
<th>SUPPLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.80</td>
<td>JOJOBA OIL</td>
<td>Simmondsia Chinensis (Jojoba) Seed Oil</td>
<td>Vantage</td>
</tr>
<tr>
<td>10.00</td>
<td>Protachem™ CTG</td>
<td>Caprylic/Capric Triglyceride</td>
<td>Protameen</td>
</tr>
<tr>
<td>5.00</td>
<td>Liponate® IPM</td>
<td>Isopropyl Myristate</td>
<td>Vantage</td>
</tr>
<tr>
<td>5.00</td>
<td>SunBoost ATB Natural</td>
<td>Argania Spinosa Kernel Oil (And) Tocopheryl Acetate (And) Bisabolol</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>5.00</td>
<td>JOS10M5</td>
<td>Simmondsia Chinensis (Jojoba) Seed Oil (And) Silica</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>3.50</td>
<td>Lanette O</td>
<td>Cetearyl Alcohol</td>
<td>Cognis</td>
</tr>
<tr>
<td>2.00</td>
<td>Shea Butter</td>
<td>Shea Butter</td>
<td>Cognis</td>
</tr>
<tr>
<td>2.00</td>
<td>Thixcin® R PC</td>
<td>Trihydroxystearin</td>
<td>Elementis Specialties</td>
</tr>
<tr>
<td>1.50</td>
<td>MANGO BUTTER</td>
<td>Mangifera Indica (Mango) Seed Butter</td>
<td>RITA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Part 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.00</td>
<td>GCP55TJ</td>
<td>Titanium Dioxide (And) Caprylic/Capric Triglyceride (And) Jojoba Esters (And) Polyhydroxystearic Acid</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>12.00</td>
<td>GCO50XZJ</td>
<td>Zinc Oxide (And) Caprylic/Capric Triglyceride (And) Sorbitan Olivate (And) Jojoba Esters</td>
<td>Kobo Products</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Part 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.70</td>
<td>CELLULOBEADS D-10</td>
<td>Cellulose</td>
<td>Daito/Kobo Products</td>
</tr>
<tr>
<td>1.50</td>
<td>FLORITE PS-10</td>
<td>Calcium Silicate</td>
<td>Tomita/Kobo Products</td>
</tr>
<tr>
<td>1.00</td>
<td>Lexgard® E</td>
<td>Ethylhexylglycerin</td>
<td>Inolex Chemical Company</td>
</tr>
<tr>
<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Description:**

This natural, anhydrous sunscreen formulation with non-greasy and emollient feel features Kobo’s Silica Jojoba Oil Gellant, JOS10M5, which provides texture and emolliency. GCP55TJ and GCO50XZJ are Titanium Dioxide and Zinc Oxide dispersions that provide balanced SPF/UVA protection. This formula also contains SunBoost ATB Natural, which is a proprietary ratio of antioxidant, anti-irritant and anti-inflammatory agents that boosts SPF/UVA and leaves a moisturizing feel to the skin. CELLULOBEADS D-10 and FLORITE PS-10 help absorb oil, give soft focus and enhance the feel.

**Manufacturing Procedure:**

1. Combine Part 1 under propeller mixing and heat until waxes are melted.
2. Add Part 2 to Part 1 and mix until uniform.

**Testing:**

SPF: in vivo on 3 subjects  
CW: FDA method
KSL-359D
Natural Zinc Oxide Balm, SPF 46

Table:

<table>
<thead>
<tr>
<th>%</th>
<th>INGREDIENT</th>
<th>INCI NAME</th>
<th>SUPPLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Zinc Oxide (And) Simmondsia Chinensis (Jojoba) Seed Oil (And) Polyhydroxystearic Acid (And) Jojoba Esters</td>
<td>JOSP55XZJ</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>25.00</td>
<td>Part 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.80</td>
<td>GCP45XZJ</td>
<td>Caprylic/Capric Triglyceride (And) Zinc Oxide (And) Polyhydroxystearic Acid (And) Jojoba Esters</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>18.89</td>
<td>Protachem™ CTG</td>
<td>Caprylic/Capric Triglyceride</td>
<td>Protameen</td>
</tr>
<tr>
<td>6.00</td>
<td>MSS-500W</td>
<td>Silica</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>5.00</td>
<td>SunBoost ATB Natural</td>
<td>Argania Spinosa Kernel Oil (And) Tocopheryl Acetate (And) Bisabolol</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>2.00</td>
<td>MSS-500/H</td>
<td>Silica</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>0.75</td>
<td>SILICA SHELLS</td>
<td>Silica</td>
<td>Kobo Products</td>
</tr>
<tr>
<td></td>
<td>Part 2</td>
<td>Fluorite R</td>
<td>Tomita/Kobo Products</td>
</tr>
<tr>
<td>0.75</td>
<td></td>
<td>Calcium Silicate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Part 3</td>
<td>Plandool™-LG1</td>
<td>Nippon/Kobo Products</td>
</tr>
<tr>
<td>12.00</td>
<td></td>
<td>Phytosteryl/Behenyl/Octyldodecyl Lauroyl Glutamate</td>
<td></td>
</tr>
<tr>
<td>3.00</td>
<td>Plandool™-LG3</td>
<td>Phytosteryl/Behenyl/Octyldodecyl Lauroyl Glutamate</td>
<td>Nippon/Kobo Products</td>
</tr>
<tr>
<td>1.75</td>
<td>MAKIGREEN VELVET WAX POF</td>
<td>Vegetable Oil (And) Oryza Sativa (Rice) Bran Oil (And) Oryza Sativa (Rice) Bran Wax (And) Rhus Succedanea Fruit Wax (And) Helianthus Annuus (Sunflower) Seed Wax</td>
<td>Daito/ Kobo Products</td>
</tr>
<tr>
<td></td>
<td>Part 4</td>
<td>CE-181668</td>
<td>Custom Essence</td>
</tr>
<tr>
<td>0.06</td>
<td></td>
<td>Amyl Cinnamic Aldehyde</td>
<td></td>
</tr>
<tr>
<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Description:
A soft, white, anhydrous Zinc Oxide Balm that offers minimal whitening to the skin and leaves a powdery, non-greasy after-feel. Kobo dispersions JOSP55XZJ and GCP45XZJ provide broad spectrum UVA/UVB SPF46 protection. SunBoost ATB Natural is a proprietary ratio of natural ingredients that boosts SPF efficacy. PLANDOOL™-LG1 and PLANDOOL™-LG3 provide skin barrier moisture protection and waterproofing properties. MAKIGREEN VELVET WAX POF provides body to the formula and gives a matte appearance on skin. MSS-500W and MSS-500/H provide both slip to the formula and mattifying properties. SILICA SHELLS and FLORITE R are excellent oil absorbers, even at low percentages.

Manufacturing Procedure:
1. With moderate propeller mixing, heat Part 1 to 70-75°C. Mix well until all is uniform.
2. Add Part 2 to Part 1 and continue mixing for 20 minutes and until the batch is smooth and uniform.
3. Add Parts 3 and 4, one at a time, with moderate propeller mixing, maintain temp @ 70-75 and mix for 20 minutes.
4. Ambient cool while propeller mixing at medium speed. Drop batch at 60-65°C.

NOTE: Product can be reworked without change in rheology (reheated and repoured)

Active Ingredient(s):
Zinc Oxide 23.66%

Testing:
SPF: in vivo on 3 subjects
CW: FDA method

November, 2018
This natural sunscreen features Kobo’s Cosmos approved products GC70MZCJ-G, non-nano ZnO dispersion, and TTO-NJE8, non-nano treated TiO2. This combination offers high UV protection. SunBoost ATB Natural is a proprietary ratio of anti-oxidant, anti-irritant and anti-inflammatory agents that can boost UV protection. MSS-500W is a silica microsphere, that reduces tackiness and improves application feel.

**Manufacturing Procedure:**

1. Pre-mix Part 2 and add to Part 1. Heat to 80°C.
2. Pre-mix Part 3 and mix until homogeneous using a propeller. Add Part 4 to Part 3 and mix while heating to 80°C.
3. Add Parts 1 and 2 to Parts 3 and 4 slowly while propeller mixing.
4. Homogenize at 7000 rpm for 5 minutes.
5. Add Part 5 and cool to room temperature while mixing.

**Active Ingredient(s):**

- Titanium Dioxide 11.40%
- Zinc Oxide 16.10%

**Testing:**

- SPF: in vivo on 3 subjects
- UVA-PF: in vivo on 3 subjects
- CW: FDA method
## All Zinc Sunscreen

**KSL-384B**

---

### Description:
This formula is a rich and creamy sunscreen that glides on easily and rubs in leaving very minimal whitening on skin. Skin is left feeling soft and moist, yet non-greasy. The different particle sizes of Zinc Oxide dispersions TNP70MZ and TNP70ZSI provide the SPF and high UVA protection. Plandool™-G helps provide a water-resistant film while also offering skin moisturization. Kobo microspheres MSS-500W and MSS-500/N give the product its soft and non-greasy after feel.

### Manufacturing Procedure:
1. In main vessel, combine Part 1 and homogenize (4800 rpm) while heating to 80-85°C.
2. Once Part 1 reaches a temperature of 80-85°C, add Part 2 and homogenize for an additional 10 minutes.
3. In a side kettle, add Part 3. Pre-mix Part 4 and add to Part 3 with fast speed propeller mixing. While mixing, heat Parts 3 and 4 to 80°C.
4. Add Part 5 ingredients, one at a time, to Parts 3 and 4 with fast speed propeller mixing. (Maintain temperature at 80°C).
5. Slowly add Parts 3, 4 and 5 to Parts 1 and 2 with slow homogenization. Slowly homogenize with side scraping only enough to blend contents thoroughly.
6. When all of the water phase is added, begin cooling batch while homogenizing (3500 rpm).
7. Pre-mix Part 6 until phase is clear and all is dissolved. When batch reaches 40°C, add Part 6 with slow homogenization.
8. Sprinkle in Part 7 and homogenize until batch is smooth and uniform.
9. When batch reaches 30°C, homogenize at moderate speed for 15 minutes, maintaining the temperature at 30°C or less.

### Active Ingredient(s):
- Zinc Oxide: 24.06%

### Testing:
- SPF: in vivo on 3 subjects
- UVA-PF: in vivo on 3 subjects
- CW: FDA method

---

### Ingredients Table

<table>
<thead>
<tr>
<th>%</th>
<th>INGREDIENT</th>
<th>INCI NAME</th>
<th>SUPPLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.50</td>
<td>Part 1</td>
<td>Zinc Oxide (And) C12-15 Alkyl Benzoate (And) Polyhydroxystearic Acid (And) Isopropyl Titanium Trisostearate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>15.94</td>
<td>Part 1</td>
<td>Zinc Oxide (And) C12-15 Alkyl Benzoate (And) Polyhydroxystearic Acid (And) Triethoxyacrylpilsilane</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>4.41</td>
<td>Part 1</td>
<td>C12-15 Alkyl Benzoate</td>
<td>Alzo International Inc.</td>
</tr>
<tr>
<td>3.00</td>
<td>Part 2</td>
<td>caprylyl methicone</td>
<td>BRB International Inc.</td>
</tr>
<tr>
<td>3.00</td>
<td>Part 2</td>
<td>Dimethicone (and) PEG/PPG-18/18 Dimethicone</td>
<td>Dow Chemical</td>
</tr>
<tr>
<td>2.00</td>
<td>Part 2</td>
<td>Dimethicone</td>
<td>Dow Chemical</td>
</tr>
<tr>
<td>1.75</td>
<td>Part 3</td>
<td>Polylglyceryl-4 Isostearate (And) Cetyl PEG/PPG-10/1 Dimethicone (And) Hexyl Laurate</td>
<td>Evonik</td>
</tr>
<tr>
<td>1.00</td>
<td>Part 3</td>
<td>Cetyl PEG/PPG-10/1 Dimethicone</td>
<td>Evonik</td>
</tr>
<tr>
<td>0.75</td>
<td>Part 4</td>
<td>Bis-Behenyl/Isoastrylyl/Phytosteryl Dimer Dilinoleyl Dimer Dilinoleate</td>
<td>Nippon/Kobo Products</td>
</tr>
<tr>
<td>0.50</td>
<td>Part 4</td>
<td>Tribehenin</td>
<td>Phoenix Chemical</td>
</tr>
<tr>
<td>32.40</td>
<td>Part 4</td>
<td>Deionized Water</td>
<td>Water</td>
</tr>
<tr>
<td>6.00</td>
<td>Part 5</td>
<td>Glycerin U.S.P. F.C.C. 96%</td>
<td>Ruger Chemical</td>
</tr>
<tr>
<td>0.10</td>
<td>Part 5</td>
<td>Xanthan Gum</td>
<td>CP Kelco</td>
</tr>
<tr>
<td>0.90</td>
<td>Part 6</td>
<td>Magnesium Sulfate</td>
<td>Fisher Scientific</td>
</tr>
<tr>
<td>0.15</td>
<td>Part 6</td>
<td>Allantoin</td>
<td>RITA</td>
</tr>
<tr>
<td>0.15</td>
<td>Part 6</td>
<td>Sodium Phytate (And) Aqua (And) Alcohol</td>
<td>Dr. Straetmans/Kinetik</td>
</tr>
<tr>
<td>0.50</td>
<td>Part 7</td>
<td>Hydroxyacetophenone</td>
<td>Symrise</td>
</tr>
<tr>
<td>0.50</td>
<td>Part 7</td>
<td>1,2-Hexanediol (And) Caprylyl Glycol</td>
<td>Symrise</td>
</tr>
<tr>
<td>5.45</td>
<td>Part 8</td>
<td>Silica</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>2.00</td>
<td>Part 8</td>
<td>Silica</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**February, 2019**

[Kobo Products](http://www.koboproducts.com)
KSL-392A
Mousse Sunscreen with NHP Dispersions

<table>
<thead>
<tr>
<th>%</th>
<th>INGREDIENT</th>
<th>INCI NAME</th>
<th>SUPPLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.00</td>
<td>Part 1</td>
<td>NHP60MZ8SG Zinc Oxide (And) C13-15 Alkane (And) Stearoyl Glutamic Acid (And) Polyhydroxystearic Acid</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>15.00</td>
<td></td>
<td>NHP55STS Titanium Dioxide (And) C13-15 Alkane (And) Stearic Acid (And) Aluminum Hydroxide (And) Polyhydroxystearic Acid</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>12.00</td>
<td>Part 2</td>
<td>X-22-6711D Dimethicone (And) PEG/PPG-18/18 Dimethicone</td>
<td>Shin-Etsu</td>
</tr>
<tr>
<td>2.50</td>
<td></td>
<td>COSMOL™ 43V Polyglyceryl-2 Triisostearate</td>
<td>Ikeda</td>
</tr>
<tr>
<td>15.00</td>
<td>Part 3</td>
<td>CXG-1104 Dimethicone (And) Dimethicone/Vinyl Dimethicone Crosspolymer</td>
<td>Avantor/Kobo Products</td>
</tr>
<tr>
<td>5.00</td>
<td></td>
<td>KOBOGUARD® MQ60DM Trimethylsiloxyisilicate (And) Dimethicone</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>1.00</td>
<td></td>
<td>Pelemol® GTB Tribehrin</td>
<td>Phoenix Chemical</td>
</tr>
<tr>
<td>1.00</td>
<td></td>
<td>Panalene® H-300E Hydrogenated Polysiloxane</td>
<td>Lipo Chemicals</td>
</tr>
<tr>
<td>0.10</td>
<td>Part 4</td>
<td>AQUA KEEP 10SH-NFC Sodium Acrylates Crosspolymer-2</td>
<td>Sumitomo Seika/Kobo Products</td>
</tr>
<tr>
<td>11.40</td>
<td>Part 5</td>
<td>Deionized Water</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td></td>
<td>Euxyl® PE 9010 Phenoxethanol (And) Ethylhexylglycerin</td>
<td>Schuile &amp; Mayr</td>
</tr>
<tr>
<td>1.00</td>
<td></td>
<td>Glycerin U.S.P. F.C.C. 96% Glycerin</td>
<td>Ruger Chemical</td>
</tr>
<tr>
<td>5.00</td>
<td>Part 6</td>
<td>MSS-500W Silica</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Description:**
This moussy and creamy sunscreen formula glides onto the skin with minimal whitening. Kobo’s attenuation grade NHP dispersions provide SPF and UVA protection. CXG-1104, a silicone elastomer, contributes to the texture and enhances slip and spreadability. KOBGUARD® MQ60DM, a silicone-based film former, improves wear and water resistance. AQUA KEEP 10SH-NFC gels the aqueous phase and offers stability to the formula. MSS-500W enhances the feel and provides a soft focus effect.

**Manufacturing Procedure:**
2. Combine Part 2 and homogenize at room temperature.
3. Slowly add Part 1 to Part 2 under the homogenizer.
4. Switch to prop mix and add Part 3 to the main beaker. Heat to 75°C. Keep tightly covered.
5. Add Part 4 at 75°C. Keep tightly covered.
6. Combine Part 5 under prop mix and heat to 70°C.
7. Slowly add Part 5 to main beaker when both phases are at 70°C.
8. Slowly add Part 6 and mix on high speed until batch is cool.

**Active Ingredient(s):**
- Zinc Oxide 17.10%
- Titanium Dioxide 6.84%

**Testing:**
- SPF: In vivo on 3 subjects
- UVA-PF: In vivo on 3 subjects
- CW: FDA method
Anhydrous Sunscreen Stick with JOSP55XZJ & JOP80MZCJ

**Description:**
This Anhydrous Natural Sunscreen Stick has a light creamy texture that goes on with minimal whitening. It features Kobo dispersions JOSP55XZJ and JOP80MZCJ which provide broad spectrum UVA/UVB protection. PLANDOOL™-LG1 and PLANDOOL™-H provide skin barrier moisture protection and water-proofing properties. Plandool™-MAS adds moisturizing and barrier protection to the skin. MSS-500/20N offers a ball-bearing effect, an elegant silky texture, increased payoff and enhanced slip to promote better blendability on the skin.

**Manufacturing Procedure:**
1. Combine Part 1 at 80°C. Homogenize until uniform.
2. Add Part 2 to batch at 80°C. Prop mix until uniform.
3. Pour into mold at 75°C.

**Active Ingredient(s):**
Zinc Oxide 25.00%

**Testing:**
SPF: in vivo on 3 subjects
UVA-PF: in vivo on 3 subjects
CW: FDA method

<table>
<thead>
<tr>
<th>%</th>
<th>INGREDIENT</th>
<th>INCI NAME</th>
<th>SUPPLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28.60</td>
<td>Pelemol® CCT</td>
<td>Caprylic/Capric Triglyceride</td>
<td>Phoenix Chemicals</td>
</tr>
<tr>
<td>23.95</td>
<td>JOSP55XZJ</td>
<td>Zinc Oxide (And) Simmondsia Chinensis (Jojoba) Seed Oil (And) Polyhydroxystearic Acid (And) Jojoba Esters</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>16.10</td>
<td>JOP80MZCJ</td>
<td>Zinc Oxide (And) Simmondsia Chinensis (Jojoba) Seed Oil (And) Polyhydroxystearic Acid (And) Jojoba Esters</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>8.15</td>
<td>MSS-500/20N</td>
<td>Silica</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>3.30</td>
<td>Plandool™-H</td>
<td>Phytosteryl/Isostearyl/Cetyl/Stearyl/Octyl Behenyl Dimer Dilinoleate</td>
<td>Nippon/Kobo Products</td>
</tr>
<tr>
<td>2.30</td>
<td>Plandool™-LG1</td>
<td>Phytosteryl/Behenyl/Octyldodecyl Lauroyl Glutamate</td>
<td>Nippon/Kobo Products</td>
</tr>
<tr>
<td>1.50</td>
<td>Lexgard® Natural</td>
<td>Glycerin Caprylate (And) Glycerin Undecylenate</td>
<td>Inolex</td>
</tr>
<tr>
<td>1.40</td>
<td>Plandool™-MAS</td>
<td>Phytosteryl Macadamiate</td>
<td>Nippon/Kobo Products</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Part 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.00</td>
<td>Carnauba Wax SP 63P</td>
<td>Copernicia Cerifera (Carnauba) Wax</td>
<td>Strahl &amp; Pitsch</td>
</tr>
<tr>
<td>5.00</td>
<td>Ozokerite Wax White SP 1020P</td>
<td>Ozokerite</td>
<td>Strahl &amp; Pitsch</td>
</tr>
<tr>
<td>3.70</td>
<td>Candelilla Wax SP 75</td>
<td>Euphorbia Cerifera (Candelilla) Wax</td>
<td>Olvea</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
KSL-424
Light and Fresh Sunscreen with W30XZSP and WBG40TWP

Description:
This sunscreen has a light texture, refreshing feel, and is suitable for even the darkest complexions. The formula features Kobo’s Attenuation Grade dispersions in Water, WBG40TWP and W30XZSP, for UVA and UVB protection with minimal whitening on the skin. SunBoost ATB, a proprietary ratio of anti-oxidant, anti-irritant and anti-inflammatory agents, helps boost SPF and PFA while also conditioning the skin.

Manufacturing Procedure:
1. Combine Parts 1 and 2 in main beaker. Homogenize at 3000rpm for 30 minutes. After 30 minutes, move to propeller mixer and begin heating batch to 75°C. Keep batch tightly covered.
2. Pre-mix Part 3 in a side beaker and add to Parts 1 and 2.
3. Add Parts 4 and 5 to main beaker.
4. Combine Part 6 in a side beaker and heat to 80°C. Mix until homogeneous.
5. Slowly add Part 6 to the main beaker. Begin cooling batch and continue propeller mixing until batch reaches 40°C.

Active Ingredient(s):
Zinc Oxide 9.00%
Titanium Dioxide 3.75%

Testing:
SPF: in vivo on 3 subjects
UVA-PF: in vivo on 3 subjects
CW: FDA method

<table>
<thead>
<tr>
<th>%</th>
<th>INGREDIENT</th>
<th>INCI NAME</th>
<th>SUPPLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 1</td>
<td>Deionized Water</td>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>31.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part 2</td>
<td>Vee gum® HV</td>
<td>Magnesium Aluminum Silicate</td>
<td>R.T. Vanderbilt</td>
</tr>
<tr>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part 3</td>
<td>Glycerin U.S.P. F.C.C. 96%</td>
<td>Glycerin</td>
<td>Ruger Chemical</td>
</tr>
<tr>
<td>3.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.35</td>
<td>Keltrol® CG</td>
<td>Xanthan Gum</td>
<td>CP Kelco</td>
</tr>
<tr>
<td>Part 4</td>
<td>W30XZSP</td>
<td>Water(And) Zinc Oxide (And) Sodium Polyacrylate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>30.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.00</td>
<td>WBG40TWP</td>
<td>Water (And) Titanium Dioxide (And) Butylene Glycol (And) Hydrated Silica (And) Ammonium Polyacrylate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>0.15</td>
<td>Polysorbate 20</td>
<td>Polysorbate 20</td>
<td>RITA</td>
</tr>
<tr>
<td>Part 5</td>
<td>Lexgard® E</td>
<td>Ethylhexylglycerin</td>
<td>Inolex Chemical Company</td>
</tr>
<tr>
<td>0.70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.20</td>
<td>Citric Acid Solution (10% Aq)</td>
<td>Water (and) Citric Acid</td>
<td>-</td>
</tr>
<tr>
<td>Part 6</td>
<td>Phytolane LS</td>
<td>Squalane</td>
<td>Barnet</td>
</tr>
<tr>
<td>10.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.00</td>
<td>SunBoost ATB</td>
<td>Argania Spinosa Kernel Oil (And) Tocopheryl Acetate (And) Bisabolol</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>3.00</td>
<td>Montanov™ 68</td>
<td>Cetearyl Alcohol (and) Cetearyl Glucoside</td>
<td>Seppic</td>
</tr>
<tr>
<td>1.50</td>
<td>Lipo® GMS-450</td>
<td>Glyceryl Stearate</td>
<td>Vantage</td>
</tr>
<tr>
<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
KFL-181B

Daily Facial Correcting Cream with HEV/Blue Light Protection

SPF 35  PFA 16  CW 374

% INGREDIENT INCI NAME SUPPLIER

Part 1
62.40 Deionized Water Water
0.55 Natrosol™ Plus 330CS Cetyl Hydroxyethylcellulose Ashland

Part 2
3.00 Butylene Glycol Butylene Glycol Ruger Chemical
1.00 Glycerin U.S.P. F.C.C. 96% Glycerin Ruger Chemical
0.30 D-Panthenol Panthenol BASF
0.15 Dermofeel® PA-3 Sodium Phytate (And) Water (And) Alcohol Dr. Straetmans / Kinetik
0.15 ALLANTOIN Allantoin RITA
0.05 Trisodium Citrate Dihydrate Sodium Citrate Jungbunzlauer

Part 3
0.30 Lecino S-10 Hydrogenated Lecithin Barnet

Part 4
8.60 TNP45TELR Titanium Dioxide (And) C12-15 Alkyl Benzoate (And) Stearic Acid (And) Silica (And) Alumina (And) Polyhydroxytearic Acid (And) Iron Oxides (CI 77491)
3.50 SunBoost ATB Argania Spinosa Kernel Oil (And) Tocopheryl Acetate (And) Bisabolol Vantage
1.90 Dermol 25B C12-15 Alkyl Benzoate Alzo Chemical
0.50 Lipocol® C Cetyl Alcohol BASF
0.50 Lanette® 22 Behenyl Alcohol Cosmotec
0.40 Tegin® M Pellets Glyceryl Stearate Gattefosse
0.10 Plurol Diisostearique CG Polyglyceryl-3 Diisostearate Gattefosse

Part 5
4.75 Silwax® D02 Ethyl Methicone Siltech LLC
4.00 CSG-1001 Water (And) Dimethicone (And) Dimethicone/Vinyl Dimethicone Crosspolymer (And) Dimethicone (And) Butylene Glycol (And) Carbomer (And) Phenoxyethanol (And) Sodium Hydroxide Shin-Etsu
1.50 TMF-1.5 Methyl Trimethicone Kobo Products
1.50 MSS-500W Silica Kobo Products

Part 6
0.30 SILICA SHELLS Silica Kobo Products

Part 7
1.70 Jeechem 400 PEG-8 Jeeen International
1.00 AE Preserve® PCG Phenethylalcohol (And) Caprylyhydroxamic Acid (And) Glycerin AE Chemie
0.25 Gs-PCOg Water (And) Palmitoyl Hydroxypropyltrimonium Amylopectin/Glycerin Crosspolymer (And) Vitis Vinifera (Grape) Seed Extract (And) Phenoxyethanol (And) Parabens (And) Hydrogenated Lecithin Kobo Products

Part 8
1.50 Simulgel® INS-100 Hydroxyethyl Acrylate / Sodium Acryloyldimethyl Taurate Copolymer (And) Isohexadecane (And) Polysorbate 60 Seppic Inc.
0.10 CE-181459 Foundation Essence Powdery Fragance Custom Essence

100.00

Description:
This Facial Correcting Cream is a tinted (BB) cream that spreads easily, leaving skin moisturized with minimal whitening. TNP45TELR provides HEV/Blue Light protection with a slight tint to minimize skin whitening. SunBoost ATB provides skin soothing properties. The combination of MSS-500W and CSG-1001 gives the product a smooth application and nice after feel. SILICA SHELLS provides oil control properties. Gs-PCOg, provides the anti-aging properties of Grapeseed PCOs (procyanidolic oligomers).

Manufacturing Procedure:
1. In the main vessel, sprinkle Natrosol™ Plus into the deionized water (Part 1) with fast speed propeller mixing. While mixing, add Part 2 ingredients, one at a time, while heating to 75-80°C.
2. When Parts 1 and 2 reach 75-80°C, mix for 15 to 20 minutes. Then cool to 60-65°C. At 60-65°C, sprinkle Part 3 into Parts 1 and 2. Fast speed propeller mix for 15 minutes.
3. Heat Part 4 to 75-80°C with moderate stirring. Mix well until all ingredients are dissolved and phase is uniform.
4. Pre-mix Part 5 with fast speed propeller mixing. Mix well until the phase is completely smooth and uniform.
5. Mix Part 5 into Part 4 while maintaining temperature at 75°C.
6. Add Parts 4 and 5 to Parts 1, 2 and 3 with slow to moderate speed homogenization. Begin to ambient cool batch.
7. When batch is uniform, add Part 6 with slow homogenization. Mix until uniform. Transfer batch to a fast sweep or moderate speed propeller.
9. Transfer batch back to the homogenizer and add pre-mixed Part 8 to batch.
10. Sweep batch to 35-40°C.

Testing:
SPF: in vivo on 3 subjects
UVA-PF: in vivo on 3 subjects
CW: FDA method
This Natural BB (Beauty Balm) Cream formula is an elegant light weight moisturizer featuring Kobo’s Cosmos-approved products. The combination of GC70MZCJ-G, non-nano ZnO dispersion, and TTO-NJE8, non-nano treated TiO2 offers high UVA and UVB protection. Kobo’s natural Pigmentary dispersions in Octyl Dodecanol contain the same Jojoba Ester pigment treatment. They provide light coverage for dark spots and skin discolorations. SunBoost ATB Natural is a proprietary ratio of anti-oxidant, anti-irritant and anti-inflammatory agents that helps to boost sun protection. MSS-500W is a silica microsphere, that reduces tackiness and provides non-greasy feel.

**Manufacturing Procedure:**
1. Add Part 2 (pre-mix first) to Part 1. Heat to 80°C.
2. Add Part 4 to Part 3 and mix while heating to 80°C.
3. Add Parts 1 and 2 to Parts 3 and 4 slowly, while mixing with propeller.
4. Homogenize at 7000 rpm for 5 minutes.
5. Air cool batch under homomixer to 40°C.
6. Add Part 5 and cool to room temperature with continuous mixing.

**Active Ingredient(s):**
- Zinc Oxide 16.18%
- Titanium Dioxide 11.51%

**Testing:**
- SPF: in vivo on 5 subjects
- UVA-PF: in vivo on 3 subjects
- CW: FDA method
### Tinted Sunscreen with IR Protection

**SPF**: 53  
**PFA**: 15  
**CW**: 379

#### Description:
This tinted sunscreen features a combination of GCP45TV, a natural dispersion of attenuation grade TiO2, and HBQP75FZS, a ZnO dispersion with a booster to optimize UV protection. SunBoost ATB adds anti-inflammatory, anti-irritant and anti-oxidant properties to the formulation, and TiO2-IR300-ASG3 provides IR protection. GCB Pigmentary dispersions give a tint to this sunscreen product and ASO-I2 offers a uniform application and creamy after feel.

#### Manufacturing Procedure:
1. Pre-mix Part 2 and add to Part 1. Heat to 80°C.
2. Pre-mix Part 3 and mix until homogeneous using a propeller. Add Part 4 to Part 3 and mix while heating to 80°C.
3. Add Parts 1 and 2 to Parts 3 and 4 slowly while propeller mixing.
4. Homogenize at 7000 rpm for 5 minutes.
5. Add Part 5 and mix well with the propeller.
6. Cool to room temperature with continued propeller mixing.

#### Active Ingredient(s):
- Titanium Dioxide 5.30%
- Zinc Oxide 13.70%

#### Testing:
- SPF: in vivo on 3 subjects
- UVA-PF: in vivo on 3 subjects
- CW: FDA method

---

### Ingredient Table

<table>
<thead>
<tr>
<th>Part</th>
<th>INGREDIENT</th>
<th>INCI NAME</th>
<th>SUPPLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28.05</td>
<td>Deionized Water</td>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>1.50</td>
<td>Sodium Chloride</td>
<td>Sodium Chloride</td>
<td>Fisher</td>
</tr>
<tr>
<td><strong>Part 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.00</td>
<td>Glycerin</td>
<td>Glycerin</td>
<td>Interchimie</td>
</tr>
<tr>
<td>0.25</td>
<td>Keltrol® CG</td>
<td>Xanthan Gum</td>
<td>CP Kelco</td>
</tr>
<tr>
<td><strong>Part 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.00</td>
<td>HBQP75FZS</td>
<td>Zinc Oxide (And) Butylstyril Salicylate (And) Polyhydroxystearic Acid (And) Triethoxycaprylysilane</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>14.00</td>
<td>GCP45TV</td>
<td>Caprylic/Capric Triglyceride (And) Titanium Dioxide (And) Stearic Acid (And) Aluminum Hydroxide (And) Polyhydrostearic Acid</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>10.00</td>
<td>Tegosoft® AC</td>
<td>Isomyl Ccote</td>
<td>Evonik</td>
</tr>
<tr>
<td>5.00</td>
<td>TIO2-IR300-ASG3</td>
<td>Titanium Dioxide (And) Stearoyl Glutamic Acid</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>4.00</td>
<td>Tegosoft® TN</td>
<td>C12-15 Alkyl Benzoate</td>
<td>Evonik</td>
</tr>
<tr>
<td>3.00</td>
<td>SunBoost ATB</td>
<td>Argania Spinosa Kernel Oil (And) Tocopheryl Acetate (And) Bisabolol</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>1.50</td>
<td>GCB60USG</td>
<td>Titanium Dioxide (And) Caprylic/Capric Triglyceride (And) Isopropyl Myristate (And) Stearoyl Glutamic Acid (And) Stearalkonium Hectorite (And) Trihydroxystearin (And) Propylene Carboneate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>1.00</td>
<td>GCB50YSG</td>
<td>Iron Oxides (CI 77492) (And) Caprylic/Capric Triglyceride (And) Isopropyl Myristate (And) Stearoyl Glutamic Acid (And) Stearalkonium Hectorite (And) Trihydroxystearin (And) Propylene Carboneate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>0.15</td>
<td>GC665RS</td>
<td>Iron Oxides (CI 77491) (And) Caprylic/Capric Triglyceride (And) Isopropyl Myristate (And) Stearoyl Glutamic Acid (And) Stearalkonium Hectorite (And) Trihydroxystearin (And) Propylene Carboneate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>0.05</td>
<td>GCB70BSG</td>
<td>Iron Oxides (CI 77499) (And) Caprylic/Capric Triglyceride (And) Isopropyl Myristate (And) Stearoyl Glutamic Acid (And) Stearalkonium Hectorite (And) Trihydroxystearin (And) Propylene Carboneate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td><strong>Part 4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.00</td>
<td>Dehymuls® PGPH</td>
<td>Polyglyceryl-2 Dipolyhydroxyestrate</td>
<td>BASF</td>
</tr>
<tr>
<td>1.00</td>
<td>Olivem® 900</td>
<td>Sorbitan Olivate</td>
<td>Hallstar</td>
</tr>
<tr>
<td>0.50</td>
<td>Lipex® Shea Tris</td>
<td>Shea Butter</td>
<td>AAK</td>
</tr>
<tr>
<td><strong>Part 5</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td>ASO-I2</td>
<td>Aluminum Starch Octenylsuccinate (And) Isopropyl Titanium Trisostearate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>1.00</td>
<td>Symdrol® 68</td>
<td>1,2-Hexanediol (And) Caprylyl Glycol</td>
<td>Symrise</td>
</tr>
</tbody>
</table>

---

**Ingredients:**

- **Part 1:** Deionized Water, Sodium Chloride
- **Part 2:** Glycerin, Keltrol® CG
- **Part 3:** HBQP75FZS, GCP45TV, Tegosoft® AC, TIO2-IR300-ASG3, SunBoost ATB, GCB60USG, GCB50YSG, GCB65RS, GCB70BSG
- **Part 4:** Dehymuls® PGPH, Olivem® 900, Lipex® Shea Tris
- **Part 5:** ASO-I2, Symdrol® 68

**Manufacturing Procedure:**
1. Pre-mix Part 2 and add to Part 1. Heat to 80°C.
2. Pre-mix Part 3 and mix until homogeneous using a propeller. Add Part 4 to Part 3 and mix while heating to 80°C.
3. Add Parts 1 and 2 to Parts 3 and 4 slowly while propeller mixing.
4. Homogenize at 7000 rpm for 5 minutes.
5. Add Part 5 and mix well with the propeller.
6. Cool to room temperature with continued propeller mixing.

**Active Ingredient(s):**
- Titanium Dioxide 5.30%
- Zinc Oxide 13.70%

**Testing:**
- SPF: in vivo on 3 subjects
- UVA-PF: in vivo on 3 subjects
- CW: FDA method
Refreshing Moisture
Unique Gel Technology
UVA/UVB Protection
Mineral Sunscreen
Radiance
Fine, Vibrant KTZ® Pearl
Neutralizing
Blend of Pearlescent Pigments and Transparent Iron Oxides for All Skin Types

Kobo WINS
Suppliers’ Day/CEW Award
FOR INNOVATION IN BEAUTY WITH:
KSL-379
4 in 1 Multi-Purpose Sunscreen Cream

Formulation:
Part 1
- Deionized Water 55.80%
Part 2
- Zeem® - Du Pont & Tate: Propanediol 2.90%
- Veegum® HV - R.T. Vanderbilt: Magnesium Aluminum Silicate 0.50%
- Keltrol® CG - CP Kelco: Xanthan Gum 0.10%
Part 3
- OMQP50XZ4 - Kobo Products: Zinc Oxide (And) Octyldodecyl Myristate (And) Polyhydroxystearic Acid (And) Methicone 23.00%
- Protachem™ CTG - Protameen: Caprylic/Capric Triglyceride 3.90%
- Protachem™ ISP - Protameen: Isostearyl Palmitate 3.20%
Part 4
- KTZ® FINE WHITE - Kobo Products: Mica (And) Titanium Dioxide 0.70%
- GCG50TRSG - Kobo Products: Iron Oxides (CI 77492) (And) Caprylic/Capric Triglyceride (And) Polyglyceryl-3 Diisostearate (And) Stearoyl Glutamic Acid (And) Isostearyl Glutamic Acid 0.15%
- KTZ® EBONY - Kobo Products: Iron Oxides (CI 77499) (And) Mica 0.05%
Part 5
- Lipomulse® Luxe - Lipo Chemicals: Cetearyl Alcohol (and) Glyceryl Stearate (and) PEG-40 Stearate (and) Ceteareth - 20 3.30%
Part 6
- Xilameter® PMX-200 Silicone Fluid 5CS - Dow Coming: Dimethicone 1.00%
Part 7
- Simulgel™ EG - Seppic: Sodium Acrylate/Sodium Acryloyldimethyl Taurate Copolymer (And) Isohexadecane (And) Polysorbate 80 4.00%
- SymDiol® 68 - Symrise: 1,2-Hexanediol (And) Caprylyl Glycol 0.90%

Manufacturing Procedure
1. Main Beaker - Water Phase
   - Pre-weight DI Water and slowly sprinkle Deionized Water, hydrate colloid for 30 minutes.
   - Pre-weight humectant in the side beaker and Xanthan Gum, mix well
   - Add mix of humectant and Xanthan Gum into main beaker, start to heat up water phase to 80°C, mix with propeller mixer.

   Using a High Shear blade combine Part 3 in the support beaker and mix until uniform. Add Part 4.
   3. Add Part 5 to Oil Phase (Parts 3 and 4) - heat up to 80°C, mix until full color development is done.
   4. Add Part 6 to Oil Phase (Parts 3, 4 and 5) just before emulsification process starts.
   5. Slowly add Oil Phase (Parts 3, 4, 5 and 6) to Water Phase (Parts 1 and 2), continue mixing with High Shear blade until emulsion is formed.
   6. Air cool batch to 45°C. Separately add each ingredient of Part 7 to the batch at 45°C.
   7. Force cool batch down to 30°C, Stop mixing, transfer to storage containers.

Description
This O/W 100% mineral sunscreen formula contains Kobo’s Zinc Oxide Dispersion, OMQP50XZ4 which is a skin protector - UVA/UVB filter. It contains approximately 48% of nano Zinc Oxide whose primary particle size is 20 nm and aggregate particle size is 171 nm in an ester/oil carrier. KTZ® FINE WHITE is pearlesized white colored mica, which improves natural glow and coverage on the skin. KTZ® EBONY is a black pearlescent pigment, containing a high concentration of Black Iron Oxide on natural mica, working to make the shade in combination with Transparent Iron Oxides, GCG50TRSG and GCG50TSG.
**KFL-233**  
**Color Correcting UV Primer**

**Description:**
This color correcting primer feels light on the face and also provides UV protection. The blue shade is created by a combination of SW pigmented dispersions as well as HV-BLUE, a PMMA coated pearl that also creates a subtle illuminating effect. This blue shade will correct orange undertones. Zinc Oxide dispersion, DIM2FH75MZCM, provides both UVA and UVB protection. KOBOGUARD® MQ60DM, a silicone-based film former, improves wear and water resistance. SunBoost ATB is a proprietary ratio of three ingredients that helps boost SPF and PFA (UVA) protection. CPF-3300@10cSt contributes to the light feel of this formula and adds slip upon application. MSS-500W helps improve application and gives the product its silky after feel.

**Manufacturing Procedure:**
1. Combine Part 1 and heat to 65°C while propeller mixing. Remove from heat once Tribehenin is dissolved.
2. Combine Part 2 and homogenize until phase is uniform.
3. Add Part 2 to Part 1 under homogenization.
4. Add Part 3 under homogenization.
5. Premix Part 4 in a side beaker until all materials are dissolved.
6. Add Part 4 to batch under homogenization.

**Active Ingredient(s):**
Zinc Oxide 11.03%

**Testing:**
SPF: in vivo on 5 subjects  
CW: FDA method

---

<table>
<thead>
<tr>
<th>%</th>
<th>INGREDIENT</th>
<th>INCI NAME</th>
<th>SUPPLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 1</td>
<td>KOBOGUARD® MQ60DM</td>
<td>Trimethylsiloxyisilsate (And) Dimethicone</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>10.00</td>
<td>Xiameter™ PMX-200 Silicone Fluid 10 cSt</td>
<td>Dimethicone</td>
<td>Dow Chemical</td>
</tr>
<tr>
<td>8.00</td>
<td>Xiameter™ PMX-200 Silicone Fluid 10 cSt</td>
<td>Dimethicone</td>
<td>Dow Chemical</td>
</tr>
<tr>
<td>3.00</td>
<td>KSG-210</td>
<td>Dimethicone (and) Dimethicone/PEG-10/15 Crosspolymer</td>
<td>Shin-Etsu</td>
</tr>
<tr>
<td>2.50</td>
<td>KF-6038</td>
<td>Lauryl PEG-9 Polydimethylsiloxyl Dimethicone</td>
<td>Shin-Etsu</td>
</tr>
<tr>
<td>2.00</td>
<td>Pelemol® GTB</td>
<td>Tribehenin</td>
<td>Phoenix Chemical</td>
</tr>
<tr>
<td>1.50</td>
<td>CPF-3300@10cSt</td>
<td>Phenyl Trimethicone</td>
<td>Avantor/Kobo Products</td>
</tr>
<tr>
<td>0.50</td>
<td>COSMOL™ 43V</td>
<td>Polyglyceryl-2 Triostearate</td>
<td>Ikeda</td>
</tr>
<tr>
<td>Part 2</td>
<td>DIM2FH75MZCM</td>
<td>Zinc Oxide (And) Dimethicone (And) Isononyl Isononanoate (And) Polyglyceryl-6 Polyricinoleate (And) PEG-10 Dimethicone (And) Hydrogen Dimethicone</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>15.00</td>
<td>Xiameter™ PMX-200 Silicone Fluid 5 cSt</td>
<td>Dimethicone</td>
<td>Dow Chemical</td>
</tr>
<tr>
<td>12.00</td>
<td>SunBoost ATB</td>
<td>Argania Spinosa Kernel Oil (And) Tocopheryl Acetate (And) Bisabolol C12-15 Alkyl Benzoate (and) Stearalkonium Hectorite (and) Propylene Carbonate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>3.00</td>
<td>Bentone Gel® TNV</td>
<td>Octyldodecanol</td>
<td>Basf</td>
</tr>
<tr>
<td>2.00</td>
<td>Eutanol® G</td>
<td>Synthetic Wax (And) Blue 1 Lake (And) Isopropyl Titanium Triisostearate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>2.00</td>
<td>SW30B1A</td>
<td>Synthetic Wax (And) Blue 1 Lake (And) Isopropyl Titanium Triisostearate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>0.08</td>
<td>SW65U</td>
<td>Synthetic Wax (And) Titanium Dioxide (And) Isopropyl Titanium Triisostearate</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>Part 3</td>
<td>HV-BLUE</td>
<td>Synthetic Fluorphlogopite (And) Titanium Dioxide (And) Polyvinyl Alcohol</td>
<td>Nikko/Kobo Products</td>
</tr>
<tr>
<td>5.00</td>
<td>MSS-500W</td>
<td>Silica</td>
<td>Kobo Products</td>
</tr>
<tr>
<td>Part 4</td>
<td>Deionized Water</td>
<td>Water</td>
<td>Morton Salt</td>
</tr>
<tr>
<td>29.09</td>
<td>Sodium Chloride</td>
<td>Sodium Chloride</td>
<td>Clariant</td>
</tr>
<tr>
<td>0.70</td>
<td>Phenoxetol™</td>
<td>Phenoxethanol</td>
<td>Clariant</td>
</tr>
<tr>
<td>0.70</td>
<td>Jeecol LA-7</td>
<td>Laureth-7</td>
<td>Jeen International</td>
</tr>
<tr>
<td>0.30</td>
<td>Lexgard® O</td>
<td>Caprylyl Glycol</td>
<td>Inolex</td>
</tr>
<tr>
<td>0.05</td>
<td>Protacide Na3 EDTA™</td>
<td>Trisodium EDTA</td>
<td>Protameen</td>
</tr>
<tr>
<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Index of Kobo Raw Materials**

**Treatment ITT**
KSL-378A-EU Page 12  ASO-I2

**Microsphere Natural Polymers**
KSL-330D Page 3  CELLULOBEADS D-10

**Microsphere Minerals**
KSL-269D Page 1  MSS-500/N
KSL-315B-BR Page 2  MSS-500/H
KSL-330D Page 3  FLORITE PS-10
KSL-359D Page 4  FLORITE R
MSS-500/W
SILICA SHELLS
KSL-376A-EU Page 5  MSS-500W
KSL-384B Page 6  MSS-500/N
KSL-392A Page 7  MSS-500W
KFL-349 Page 10  MSS-500/20N
KFL-263 Page 11  MSS-500W
KFL-233 Page 14  MSS-500W

**Microsphere Composites**
KFL-233 Page 14  HV-BLUE

**UV Pigment ZnO**
KSL-315B-BR Page 2  ZNO XZ-11S3L

**SPF Boosters**
KSL-330D Page 3  SunBoost ATB Natural
KSL-359D Page 4  SunBoost ATB Natural
KSL-376A-EU Page 5  SunBoost ATB Natural
KSL-424 Page 9  SunBoost ATB
KFL-181B Page 10  SunBoost ATB
KLF-263 Page 11  SunBoost ATB Natural
KSL-378A-EU Page 12  SunBoost ATB
KFL-233 Page 14  SunBoost ATB

**IR Blockers**
KSL-378A-EU Page 12  TiO2-IR300-ASG3
KSL-379 Page 13  OMQP50XZ4

**Non-Nano TiO₂**
KSL-376A-EU Page 5  TTO-NJE8
KLF-263 Page 11  TTO-NJE8

**Dispersions TiO₂**
KSL-269D Page 1  CM3K40T4
KSL-330D Page 3  GCP55TJ
KSL-424 Page 9  WBG40TWP
KSL-378A-EU Page 12  GCP45TV

**Dispersions ZnO**
KSL-269D Page 1  CM3K50XZ4
KSL-315B-BR Page 2  INP70ZSI
KSL-330D Page 3  GCO50XZJ
KSL-359D Page 4  GCP45XZJ
JOSP55XZJ
KSL-384B Page 6  TNP70MZ
KSF70ZSI
KSL-392A Page 7  NHP60MZ8SG
KFL-349 Page 10  JOSP55XZJ
KSL-424 Page 9  W30XZSP
KSL-378A-EU Page 12  HBQP75FZS
KSF39 Page 13  OMQP50XZ4

**Dispersions Non-Nano TiO₂**
KSL-392A Page 7  NHP55STS

**Dispersions Non-Nano ZnO**
KSL-315B-BR Page 2  TNSS75MZCM
KSL-376A-EU Page 5  GC70MZCJ-G
KSL-408 Page 8  JOP80MZCJ
KLF-263 Page 11  GC70MZCJ-G
KSL-379 Page 13  OMQP50XZ4

**Dispersions Pigmentary**
KLF-263 Page 11  OD55YJE
OD75BJE
OD75CJE
OD75RJE

**Dispersions Gellants**
KSL-330D Page 3  JOS10M5
KSL-392A Page 7  AQUA KEEP 10SH-NFC

**Dispersions Resins (Oil Phase)**
KSL-392A Page 7  KOBOGUARD® MQ60DM

**Dispersions Resins (Water Phase)**
KSL-315B-BR Page 2  KOBOGUARD® 50AMP

**Dispersions Waxes**
KSL-359D Page 4  MAKIGREEN VELVET WAX POF

**Specialties Esters**
KSL-359D Page 4  Plandool™-LG1
Plandool™-LG3

**Specialties Gellants**
KSL-330D Page 3  JOS10M5
KSL-392A Page 7  AQUA KEEP 10SH-NFC

**Specialties Resins (Oil Phase)**
KSL-392A Page 7  KOBOGUARD® MQ60DM

**Specialties Resins (Water Phase)**
KSL-315B-BR Page 2  KOBOGUARD® 50AMP

**Specialties Waxes**
KSL-359D Page 4  MAKIGREEN VELVET WAX POF

**Silicones - Avantor**
KSL-392A Page 7  CXG-1104
KFL-181B Page 10  CSG-1001
KFL-233 Page 14  CPF-3300@10cSt

**Delivery Glycospheres**
KSL-315B-BR Page 2  TNSS75MZCM
KSL-376A-EU Page 5  GC70MZCJ-G
KSF-263 Page 10  JOP80MZCJ
KSL-379 Page 13  OMQP50XZ4

**HEV/Blue Light Blockers**
KFL-181B Page 10  TN45TELRL

**Special Effect KTZ®**
KSL-379 Page 13  KTZ® EBONY
KTZ® FINE WHITE
KSL-379  Page 13  GCG50TRSG
GCG50TYSG

KFL-233  Page 14  SW30B1A
SW65U

**Specialties Esters**
KSL-359D  Page 4  Plandool™-LG1
Plandool™-LG3

KSL-384B  Page 6  Plandool™-G
Plandool™-H
Plandool™-LG1
Plandool™-MAS

KSL-408  Page 8

**Specialties Gellants**
KSL-330D  Page 3  JOS10M5

KSL-392A  Page 7  AQUA KEEP 10SH-NFC

**Specialties Resins (Oil Phase)**
KSL-392A  Page 7  KOBOGUARD® MQ60DM

KFL-233  Page 14  KOBOGUARD® MQ60DM

**Specialties Resins (Water Phase)**
KSL-315B-BR  Page 2  KOBOGUARD® 50AMP

**Specialties Waxes**
KSL-359D  Page 4  MAKIGREEN VELVET
WAX POF

**Silicones - Avantor**
KSL-392A  Page 7  CXG-1104

KFL-181B  Page 10  CSG-1001

KFL-233  Page 14  CPF-3300@10cSt

**Delivery Glycospheres**
KFL-181B  Page 10  Gs-PCOg

**Special Effect KTZ®**
KSL-379  Page 13  KTZ® EBONY
KTZ® FINE WHITE
FORMULATIONS
Product formulations are included as illustrative examples only. Kobo Products Inc. makes no representation or warranty concerning the efficacy or safety of any product manufactured using such formulations. All statements concerning the possible use of Kobo Products Inc. are for research purposes only. Responsibility for the performance or adequate testing of any product prior to sale or use of any such product lies with the manufacturer thereof.

USE OF PRODUCTS
Products sold by Kobo are designed, manufactured and sold for industrial use only. Prior to use of any such product for any application other than an industrial use, the user has the sole responsibility and obligation to determine the suitability of any such product for any such application.

PATENT STATUS
Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

LIMITATION OF LIABILITY
Kobo Products Inc. shall in no event, whether the claim is based on warranty, contract, tort, strict liability, negligence or otherwise, be liable for incidental or consequential damages, or for any other damages in excess of the amount of the purchase price.