Formulation development

- Technical expertise
- Innovation

Our customer department provides fast and courteous responses to pricing, availability and order tracking. We constantly stand by our customers’ side with:

- Customer service
- Regulatory support
- Technical expertise and Application Laboratories

Contact our sales team to enjoy our innovations and high performance products.

For more details about the products or technical support, please contact our sales department:

France, 7-9 rue de l’Industrie, 93310 Saint-Denis-La Plaine, Phone : 33 1 34 64 44 40
USA, 107, Wade Avenue, South Plainfield, NJ 07080-1311, Phone : 1 908 757 4500, Fax : 1 908 757 3170
www.sensient-cosmetics.com - email : contact@sensient-cosmetics.com

Surface treatment technology

Selection of the proper surface treatment is critical in color cosmetic formulations. Sensient Cosmetic Technologies surface treatments enable easy formulation with improved stability while improving pigment performance, wearability and feel. Sensient surface treatments are applied through a proprietary particle manipulation technology ensuring the highest degree of particle coverage and optimized consistency. A wide range of treatments produces a variety of choices in formulating color cosmetics with enhanced product attributes.

<table>
<thead>
<tr>
<th>Surface Treatment Lines</th>
<th>INCI</th>
<th>Main Properties</th>
<th>Comments</th>
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<tr>
<td>AS</td>
<td>Alky Slane</td>
<td>Testrolylcaprylylsilane</td>
<td>Excellent hydrophilicity</td>
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<tr>
<td>ADT-C</td>
<td>Advanced Dispersion Technology</td>
<td>Isopropyl/TrimeriTriacetate Bis-PEG-10 Dimethicone/IPDI Copolymer PEG-2 Soronene</td>
<td>Excellent hydrophilicity</td>
</tr>
<tr>
<td>HLC</td>
<td>Hydrogenated Lechlin</td>
<td>Hydrogenated Lechlin</td>
<td>Good hydrophilicity</td>
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<tr>
<td>GCA</td>
<td>Glutamate Cystine Arginine</td>
<td>Sodium Cocos Glutamate L-Cystine L-Arginine</td>
<td>Natural triple amino-acid treatment</td>
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<td>NLL</td>
<td>N-Lauryl L-Lysine</td>
<td>Lauryl Lysine</td>
<td>Excellent hydrophilicity</td>
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<tr>
<td>NPW</td>
<td>ROSE CF</td>
<td>Natural Rose Wax</td>
<td>Good hydrophilicity</td>
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<td>COMBS &amp; K4.5</td>
<td>Silicone</td>
<td>Dimethicone Tertihexylsilicate</td>
<td>Good hydrophilicity</td>
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<td>FHP</td>
<td>Plasma High-Purity</td>
<td>Ammonium C6-12 Perfluoropoly alkyl Phosphate</td>
<td>Both hydrophilic and lipophilic properties</td>
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<td>SGP</td>
<td>Sodium Ccyclophosphates</td>
<td>Sodium Ccyclophosphates</td>
<td>Natural, hydrophilic</td>
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<td>AQP</td>
<td>Dimethicone Caprol</td>
<td>Dimethicone Caprol</td>
<td>Easy-dispersible in water based system</td>
</tr>
</tbody>
</table>

* [PFOA] & [PFOS]: below the detection limit based on the Sensient’s method 10-224.
AS
Alkyl Silane

**Composition**
INCI name : Triethoxycaprylylsilane
CAS No. : 2943-75-1
EINECS No. : 220-941-2
Approved for EU, USA, Japan and China.

**Key Features**
- Shear resistant coating
- Chemically bound

**Key Properties**
- Excellent hydrophobicity
- Easy dispersibility in oils and silicones (at over 50% solids)
- Allows fluid and bright high solid dispersion
- Improved adhesion & wear resistance

**Main Applications**
1. W/O and W/Si emulsions
2. Powders : Pressed or loose powders & Two-way cake
3. Mousse
4. Waterproof mascaras
5. Long lasting lipstick / lipgloss
6. Cream in powder form.

Other applications and concepts could be found. For more details on innovative formulations and technical advices, ask for our formulation concept document.

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**Product Line**

**Mineral pigments**
- UNIPURE YELLOW LC 182 AS-EM
- UNIPURE RED LC 381 AS-EM
- UNIPURE VIOLET LC 585 AS
- UNIPURE MNK LC 289 AS
- UNIPURE BLUE LC 840 AS
- UNIPURE GREEN LC 788 AS
- UNIPURE GREEN LC 789 CF AS
- UNIPURE BLACK LC 969 AS-EM
- UNIPURE TRIPLE BLACK LC 970 AS-EM
- UNIPURE WHITE LC 385 AS-EM
- TITANIUM DIOXIDE AS R3435
- TITANIUM DIOXIDE AS R3442

**Organic pigments**
- UNIPURE YELLOW LC 120 AS
- UNIPURE RED LC 304 AS
- UNIPURE RED LC 3075 AS
- UNIPURE BLUE LC 621 AS

**Fillers**
- TITAN TECH MICA AS R0433
- SERICOTE AS R0434
- TALC AS R0435

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**ADT-C**
Advanced Dispersion Technology

**Composition**
INCI name : Isopropyl Titanium Triisostearate (and) 8-(PEG-15) Diethicone / PDI Copolymer (and) 2-Soyamine
CAS No. : 61417-49-0, 222416-17-3, 61791-24-0, 4098-71-9
EINECS No. : 61791-24-0, 4098-71-9
Approved for EU, USA, China, Japan.

**Key Properties**
- Excellent hydrophobicity
- Allows very high pigment load in liquid W/O emulsions
- Consistent color dispersion
- Increased affinity and adhesion to the skin and the hair
- Higher gloss in lip color application

**Main Applications**
1. W/O and W/Si emulsions
2. Powders : Pressed or loose powders & Two-way cake
3. Lip color
4. Mascara

Other applications and concepts could be found. For more details on innovative formulations and technical advices, ask for our formulation concept document.

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**Product Line**

**Mineral pigments**
- UNIPURE YELLOW LC 182 ADT-C
- UNIPURE BLACK LC 989 ADT-C
- UNIPURE WHITE LC 987 ADT-C
- UNIPURE RED LC 381 ADT-C

**Organic pigments**
- UNIPURE RED LC 3075 ADT-C

**Fillers**
- TITAN TECH MICA ADT-C
- TALC ADT-C
**HLC Hydrogenated Lecithin**

**Composition**
INCI: Hydrogenated Lecithin
CAS No.: 92128-87-5
EINECS No.: 299-786-7
Approved for EU, USA, Japan and China.

**Key Features**
- Shear resistant coating
- Chemically deposited
- Ecocert standard compliant

**Key Properties**
- Good hydrophobicity
- Easy dispersibility in oils – No grinding or milling
- Excellent affinity for the skin due to its amino acid nature
- Imparts a smooth, lubricious and creamiest feel
- Imparts excellent stability in emulsion formulations

**Main Applications**
1. W/O & W/SI emulsions
2. Powders: Pressed or loose powders
3. Two-way cake
4. Anhydrous products
5. Skin care & Natural concept.

Other applications and concepts could be found. For more details on innovative formulations and technical advices, ask for our formulation concept document.

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**GCA Glutamate Cystine Arginine**

**Composition**
INCI name: Sodium Cocoyl Glutamate (and) L-Cystine (and) Lauroyl Arginine
CAS No.: 68187-32-6 / 56-89-3 / 421492-22-8
Approved for EU, USA, Japan and China.

**Key Features**
- Revolutionary concept of natural hair coloring formulation
- Optimized balance of triple amino-acid treatment to bring superior affinity to keratin with long lasting result compared to non-treated pigment
- Ecocert compliant

**Key Properties**
- Easy dispersible in oil – Milling-free solution
- Semi-permanent hair coloring application
- Make-up application
- Patented technology

**Main Applications**
1. Hair Color
2. Make-up

Other applications and concepts could be found. For more details on innovative formulations and technical advices, ask for our formulation concept document.
NLL
N-Lauroyl L-Lysine

Composition
INCI name : Lauroyl Lysine
CAS No. : 52315-75-0
EINECS No. : 257-843-4
Approved for EU, USA, Japan and China.

Key Features
- Shear resistant coating
- Mechanically deposited
- Natural surface treatment

Key Properties
- Excellent hydrophobicity
- Good dispersibility in oils
- Lower oil absorption compared to untreated powder
- Provides a creamy and soft skin feel

Main Applications
1. Powders : Pressed or loose powders & Two-way cake
2. Face and eyes make-up

Other applications and concepts could be found. For more details on innovative formulations and technical advices, ask for our formulation concept document.

NFW Rose CF
Natural Rose Flower Wax - Candelilla-Free grade

Composition
INCI : Rosa Centifolia Flower Extract (and) Rosa Damascena Flower Wax (and) Cera Alba
CAS No. : 84604-1206, 90106-38-0, 8006-44-4, 8006-40-4
EINECS No. : 283-289-8, 290-260-3, 222-383-7, 222-347-0
Approved for EU, USA, Japan and China.

Key Features
- Shear resistant coating
- Mechanically deposited
- Ecocert standard compliant

Key Properties
- Good hydrophobicity
- Good dispersibility in oil phase
- Lower oil absorption
- Water resistance
- Soft and creamy skin feel
- Allows a reduced binder content

Main Applications
1. Natural powders
2. Natural anhydrous products
3. W/O emulsions

Other applications and concepts could be found. For more details on innovative formulations and technical advices, ask for our formulation concept document.
**Covasil 4.05**  
Hybrid Silicone Coating

**Composition**
- INCI name: Dimethicone (and) Trimethylsiloxy silicate  
- CAS No.: 9006-65-9, 68988-56-7  
- EINECS No.: --, --  
- Approved for EU, USA, Japan and China.

**Key Features**
- Shear resistant coating  
- Mechanically deposited  
- Hybrid coating for lamellar particles only

**Key Properties**
- Good hydrophobicity  
- Hybrid coating for lamellar particles only  
- Silky feel  
- No hydrogen potential

**Main Applications**
1. Powders: Pressed or loose powders & Two-way cake  
2. Two-way cake

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**FHP**  
Fluoro High Purity

**Composition**
- INCI name: Ammonium C6-16 Perfluoroaryloxyalkyl Phosphate  
- CAS No.: 65530-71-4  
- EINECS No.: -  
- Approved for EU, USA, Japan and China.

**Key Features**
- Shear resistant coating  
- Chemically deposited  
- PFOA-free & PFOS-free*: meet the goals of the U.S. Environmental Protection Agency 2010/15 PFOA Stewardship program.

**Key Properties**
- Both hydrophobic and lipophobic properties  
- Good resistance to acid and alkali conditions  
- Soft feeling  
- Easy dispersibility in silicone oils  
- Suitable for long lasting make up resilient to perspiration and sebum

**Main Applications**
1. W/O and W/Si emulsions  
2. Powders: Pressed or loose powders & Two-way cake  
3. Long lasting lipsticks  
4. Anhydrous products  
5. Cream in powder form.

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* [PFOA] & [PFOS]: below the detection limit based on the Sensient’s method 10-224.

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**Other applications and concepts could be found. For more details on innovative formulations and technical advices, ask for our formulation concept document.**

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**Mineral pigments**
- UNIPURE YELLOW LC 188 FHP  
- UNIPURE RED LC 388 FHP  
- UNIPURE BLACK LC 988 FHP  
- UNIPURE WHITE LC 981 FHP  
- UNIPURE WHITE LC 987 FHP

**Fillers**
- MICA FHP  
- SERICITE FHP  
- TALC FHP

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**Organic pigments**
- UNIPURE RED LC 302 FHP

**Cosmetic ingredients**
- PW FHP  
- ALUMINA FHP-EM

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* Covasil 4.05: Hybrid Silicone Coating.  
* FHP: Fluoro High Purity.  
* INCI: International Nomenclature of Cosmetic Ingredients.  
* CAS: Chemical Abstracts Service registry number.  
* EINECS: European Inventory of Existing Commercial Substances.
**SGP Sodium Glycerophosphate**

**Composition**
INCI: Sodium glycerophosphate  
CAS No.: 1334-74-3  
EINECS No.: 1,2,3-Propanetriol mono(dihydrogen phosphate) disodium salt  
Approved for EU, USA & Japan

**Key Features**  
- Natural origin  
- Ecocert compliant in make-up products only  
- Patented technology

**Key Properties**

- Easy dispersibility - Milling free  
- Easy shade adjustment  
- Hydrophilic properties - Higher affinity for the water phase  
- Moisturing - Water retention

**Non treated red iron oxide**

**Unique Red LC 381 SGP**

**Main Applications**
1. O/W emulsions  
2. Water based gels  
3. Make-up (BB creams ...)  
4. Skin care

Other applications and concepts could be found. For more details on innovative formulations and technical advices, ask for our formulation concept document.

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**Dimethicone Copolyol AQ**

**Composition**
INCI: PEG-12 Dimethicone  
CAS No.: 68937-54-2  
EINECS No.: Polymers  
Approved for EU, USA, Japan and China

**Key Features**

- Shear resistant coating  
- Chemically bound

**Key Properties**

- Easy to introduce in water based system  
- Excellent dispersibility / no agglomeration - low stirring time required  
- Lower water absorption - allow higher pearl content without viscosity increase  
- Highly compatible with anionic thickeners and surfactants. For aqueous bases & O/W emulsions  
- Reduction of Glycol distearate and carbomer  
- Reduction of time of process  
- Improved stability

**Sensient’s solution to increase pearly effect**

**Main Applications**
1. For skin care  
   - Provides optical effect to skin care without glittering, more natural illuminating effect  
2. For make-up  
   - Enhances pearly finish  
   - Better deposition on skin  
   - Long lasting better resistance to shear  
3. For hair care  
   - New generation of textures from pearled to glittering  
   - No negative effect of EGDS used at 5%, bad hair feel  
   - Use at only 0.1%

Other applications and concepts could be found. For more details on innovative formulations and technical advices, ask for our formulation concept document.
### Surface modification

#### Hydrophobic substances

- **Pigment**
  - Water resistance
  - Skin compatibility
  - Long wear

#### Hydrophilic substances

- **Pigment**

#### Hydrophobic & Lipophilic substances

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<th>PHP</th>
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