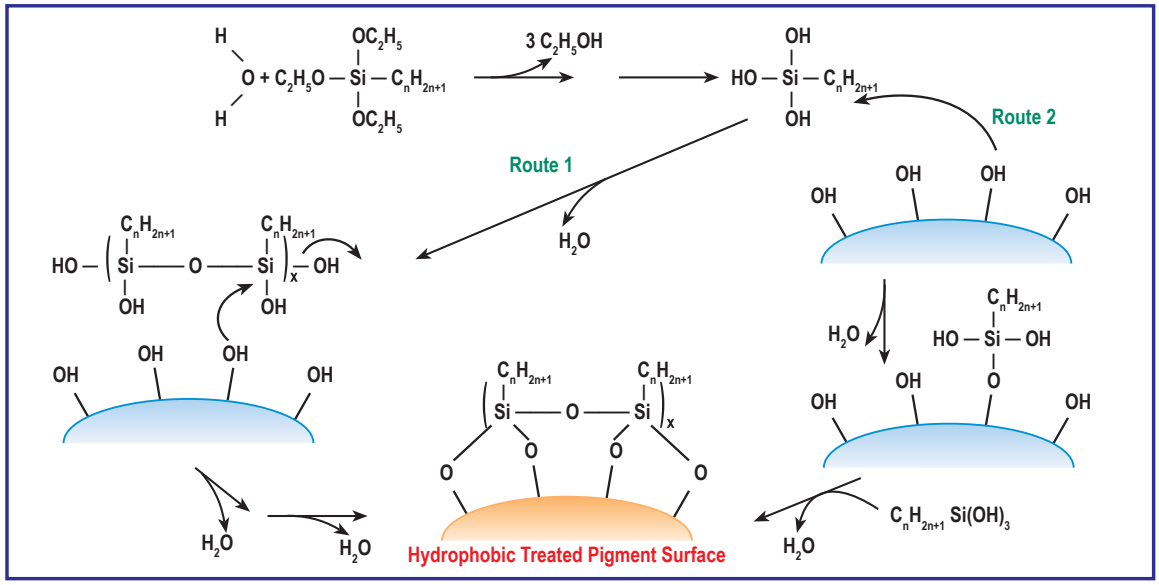
Triethoxy Caprylylsilane

TREATMENT-11S

Triethoxycaprylylsilane is a very reactive surface-treating agent, because the hydrolysis of Si-O bond takes place readily in presence of moisture to form silanol.
The caprylylsilyl group is then chemically bonded to the pigment via a condensation reaction between the silanol group formed above and the hydroxyl groups of the pigment surface.
This reaction is thus especially suitable for treament of metal oxides. At the completion of the reaction, all ethoxy groups are substituted and caprylylsilyl groups are crosslinked to the pigments to form a very stable coating, even at low pH.



Silicone treated pigments disperse well in cyclomethicones. They have a very low surface tension and excellent hydrophobicity, but they sometimes have poor wettability in common organic vehicles. While they offer maximum water repellency, triethoxycaprylylsilane treated pigments, because of the lipophilic caprylyl groups, are easy to disperse in esters, mineral oils and silicone fluids : higher pigment loading can be achieved as compared to methicone treated pigments. The treatment is also physicochemically stable, even at pH 3, has no residual methanol, and, due to the absence of Si-H bonds, has zero hydrogen potential.

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Silane Treatment

Trade Name	INCI Name	Product Type
ASO-11S2	Aluminum Starch Octenylsuccinate (And) Triethoxycaprylylsilane	Aluminum Starch Octenylsuccinate
BEUB-11S2	Ultramarines (And) Triethoxycaprylylsilane	Ultramarine Blue
BFF-11S2	Ferric Ammonium Ferrocyanide (And) Triethoxycaprylylsilane	Blue Ferric Amm. Ferrocyanide
BGCO-11S3	Chromium Oxide Greens (And) Triethoxycaprylylsilane	Green Chromium Oxide
BHG TM-11S2	Chromium Hydroxide Greens (And) Triethoxycaprylylsilane	Green Chromium Hydroxide
BUV CG-11S2	Ultramarines (And) Triethoxycaprylylsilane	Ultramarine Violet
BLACK NF-11S2	Iron Oxides (CI 77499) (And) Triethoxycaprylylsilane	Black Iron Oxide
BBO-11S2	Iron Oxides (CI 77499) (And) Triethoxycaprylylsilane	Black Iron Oxide
BRO-11S2	Iron Oxides (CI 77491) (And) Triethoxycaprylylsilane	Red Iron Oxide
BYO-11S2	Iron Oxides (CI 77492) (And) Triethoxycaprylylsilane	Yellow Iron Oxide
BTD-11S2	Titanium Dioxide (And) Triethoxycaprylylsilane	Pigmentary Titanium Dioxide
RBTD-671-11S2	Titanium Dioxide (And) Triethoxycaprylylsilane	Pigmentary Titanium Dioxide
A10-TiO_2-11S7	Titanium Dioxide (And) Alumina (And) Triethoxycaprylylsilane	Attenuation Grade Titanium Dioxide
MT-600B-11S5	Titanium Dioxide (And) Triethoxycaprylylsilane	Attenuation Grade Titanium Dioxide
A120-ZNO-11S3	Zinc Oxide (And) Triethoxycaprylylsilane	Attenuation Grade Zinc Oxide
MZO-35-11S5	Zinc Oxide (And) Triethoxycaprylylsilane	Attenuation Grade Zinc Oxide
New ZNO XZ-11S3L	Zinc Oxide (And) Triethoxycaprylylsilane	Attenuation Grade Zinc Oxide
ZNO FSF-11S4	Zinc Oxide (And) Triethoxycaprylylsilane	Attenuation Grade Zinc Oxide
ZNO-USP1-11S3	Zinc Oxide (And) Triethoxycaprylylsilane	Attenuation Grade Zinc Oxide
BLUE 1AL-11S4	Blue 1 Lake (And) Triethoxycaprylylsilane	FD&C Blue No. 1 Aluminum Lake
RED 6BA C-11S5	Red 6 Lake (And) Triethoxycaprylylsilane	D&C Red No. 6 Barium Lake
RED 6SS-11S2	Red 6 (And) Triethoxycaprylylsilane	D&C Red No. 6
RED 7CA C-11S5	Red 7 Lake (And) Triethoxycaprylylsilane	D&C Red No. 7 Calcium Lake
New RED 27AL-11S3	Red 27 Lake (And) Triethoxycaprylylsilane	D&C Red No. 27 Aluminum Lake
New RED 28AL C-11S3	Red 28 Lake (CI 45410) (And) Triethoxycaprylylsilane	D&C Red No. 28 Aluminum Lake
RED 33AL-11S2	Red 33 Lake (And) Triethoxycaprylylsilane	D&C Red No. 33 Aluminum Lake
YELLOW 5AL-11S2	Yellow 5 Lake (And) Triethoxycaprylylsilane	FD&C Yellow No. 5 Aluminum Lake
YELLOW 6AL-11S2	Yellow 6 Lake (And) Triethoxycaprylylsilane	FD&C Yellow No. 6 Aluminum Lake
GMS-11S2	Mica (And) Triethoxycaprylylsilane	Sericite
MICA S-11S4	Mica (And) Triethoxycaprylylsilane	Mica
New KoboMica 1000S-11S2	Synthetic Fluorphlogopite (And) Triethoxycaprylylsilane	Synthetic Fluorphlogopite
TALC U-11S2	Talc (And) Triethoxycaprylylsilane	Talc

Silane-Treated Eyeshadow (Twilight Shimmer)

Formula KEY-007B1

Part 1

- **TALC U-11S2** - Kobo Products: *Talc (And) Triethoxycaprylylsilane* 21.85%
- **MAGNESIUM MYRISTATE** - Kobo Products: *Magnesium Myristate* 16.62%
- **MICA S-MS2** - Kobo Products: *Mica (And) Methicone* 7.60%
- **BEUB-11S2** - Kobo Products: *Ultramarines (And) Triethoxycaprylylsilane* 5.32%
- **BPD-500** - Kobo Products: *HDI/Trimethylol Hexyllactone Crosspolymer (And) Silica* 3.82%
- **CL-2080** - Kobo Products: *Polyethylene* 3.82%
- **SP-10** - Toray/Kobo Products: *Nylon-12* 3.05%
- **BBO-11S2** - Kobo Products: *Iron Oxides (CI 77499) (And) Triethoxycaprylylsilane* 0.07%

Part 2

- SS4267 - Momentive: *Dimethicone (And) Trimethylsiloxysilicate* 9.87%
- Phenonip® XB - Clariant: *Phenoxyethanol (And) Methylparaben (And) Propylparaben (And) Ethylparaben* 0.77%

Part 3

- **KTZ® INTERVAL BLUE-11S2** - Kobo Products: *Mica (And) Titanium Dioxide (And) Triethoxycaprylylsilane* 9.42%
- **KTZ® COPPER-11S2** - Kobo Products: *Mica (And) Iron Oxides (CI 77491) (And) Triethoxycaprylylsilane* 2.68%

Part 4

- **KTZ® ULTRA SHIMMER** - Kobo Products: *Mica (And) Titanium Dioxide* 15.11%

Manufacturing Procedure

1. Using a Waring blender or Osterizer, grind Part 1 for two minutes to develop the color and disperse the powder ingredients.
2. Add the Binder Part 2 to Part 1 dropwise while grinding at high speed for two minutes to aid complete distribution of the liquid coating the powders.
3. Add Part 3 color pearls and blend at high speed for two minutes to mix the pearl materials and coat them with binder.
4. Add Part 4 and grind for one minute only to blend in the shimmer particles.
5. Press into appropriate pans at 900-1000 psi.

Description

KTZ® INTERVAL BLUE-11S2 and KTZ® COPPER-11S2 are Silane Treated for enhanced smoothness. The Interference Blue Pearl reinforces the color. Additional Silane Treatment of the TALC U-11S2 and Methicone Treatment of the MICA S-MS2 provide a base for the colors that is optimized for wear. Softness is derived from the addition of NYLON SP-10. Polymeric Microspheres BPD-500 and CL-2080 add glide to the application upon skin. KTZ® ULTRA SHIMMER provides a slight glitter and foreground to the overall background of twilight.