

# ALT Treatment

## Alkyl Silane Surface Treatment

**ALT TREATMENT** based on alkoxysilane, is one of the staple silicone surface treatments used in the cosmetics industry. "Silane" surface treated pigments and mineral fillers provide cosmetic chemists with value-added performance at a relatively low cost. In liquid foundations and CC creams, they provide strong and vivid colors, excellent skin adhesion, and a silky soft feel. Silane surface treated TiO<sub>2</sub> and ZnO sunscreens typically exhibit higher SPF and transparency due to lower agglomeration and ease of dispersibility into the oil phase.

**INCI NAME:** Triethoxycaprylylsilane

### FEATURES AND BENEFITS

- ▶ Strong Hydrophobicity
- ▶ Good Color Development
- ▶ Excellent Skin Adhesion
- ▶ Soft Feel
- ▶ Excellent Dispersibility into Oils

**RECOMMENDATION:** ALT surface treated pigments and minerals impart very strong hydrophobicity and is especially effective in liquid foundations, BB & CC Creams, and dual (2-way) powder foundations.

Soft and Smooth Feel



ALT treated powders provide a silky smooth and soft texture to color cosmetics and provide excellent SPF attenuation on sunscreens.

## Sample Formulations

### Color Control Primer

Formula #:A69-14-53A

Phase	#	Material / INCI Name	Trade Name (Supplier)	Percent
A	1	Sucrose Stearate	-	0.640
	2	Butylene Glycol	-	10.000
	3	Glycerin	-	15.000
	4	Sodium Stearoyl Glutamate	HS-11P(F) (Ajinomoto)	0.320
	5	Sodium Polyacrylate	-	0.008
	6	Carbomer	Carbopol 941 (Lubrizon)	0.350
	7	Glucosyl Trehalose	-	2.000
	8	Water	-	51.722
	9	Cetyl Ethylhexanoate	CEH (Kokyu Alcohol Kogyo)	3.200
	10	Limnanthes Alba Seed Oil	-	5.000
B	11	Behenyl Alcohol	HAINOL 22SS (Kokyu Alcohol Kogyo)	0.750
	12	Glyceryl Stearate	EMALEX GMS-F (Nihon Emulsion)	0.800
	13	Stearic Acid	-	0.400
	14	Phenoxy Ethanol	-	1.000
	15	Dimethiconol	-	0.400
	16	Cyclopentasiloxane	KF995 (SHINETSU)	4.800
C	17	SA-SB-300 (7%)	USCC	1.200
	18	SA-Excel Mica JP-2	USCC	1.200
	19	ALT-TRI-77891 (1.0%)	USCC	1.200
	20	ALT-R-338001 (1.0%)	USCC	0.010
				100.000

Procedure: Heat up Phase A and Phase B to 80°C. Add Phase C into Phase B #2 with homogenizer at 3000rpm. Add Phase A into Phase B and continue to homogenize at 5000rpm for 3minutes. Cool down to 35°C.

### Long Wearing Lipstick - Soft Mauve

Formula #:A79-055

Phase	#	Material / INCI Name	Trade Name (Supplier)	Percent
A	1	Water	-	19.00
	2	Ozokerite	Wax SP-1021P (Strahl and Pitsch)	2.60
B	3	PEG-9 Polysiloxymethylsiloxylethyl Dimethylsiloxane	KF-6028 (ShinEtsu)	4.00
	4	Hydrogenated Castor Oil	KSG-710 (ShinEtsu)	3.00
	5	Pentaerythrityl Tetraoctanoate	Trivent PE-48 (Alzo International)	22.36
C	6	Trimethylsiloxysilicate	KF-7312K (ShinEtsu)	9.00
	7	Diisostearyl Malate	Haimalate DIS (Kokyu Alcohol Kogyo)	19.04
	8	Isostearyl Polyglyceryl-Dimer Dilinoleate	Hallucant ISDA (Kokyu Alcohol Kogyo)	5.00
	9	Phenoxyethanol	Emeressence 1160 (Cognis)	1.00
	10	D&C RED 7 Calcium Lake	Soft-Tex Red 7 CA Lake (Sun Chemical)	0.08
	11	D&C RED 6 Barium Lake	Soft-Tex Red 6 BA Lake (Sun Chemical)	0.08
	12	SA-Excel Mica JP-2	USCC	8.87
	13	ALT-TRI-77891 (1%)	USCC	0.89
	14	ALT-R-338001 (1%)	USCC	0.34
	15	ALT-Y-339001 (1%)	USCC	0.88
16	ALT-B-337001 (1%)	USCC	0.11	
17	SAT-Flamenco Velvet	USCC	0.75	
18	SAT-Prestige Sapphire	USCC	1.31	
19	SA-SB-300 (7%)	USCC	1.69	
				100.00

Procedure: Take Phase B and add all ingredients to a beaker and begin heating to 80°C while mixing with a propeller mixer at 500 rpm. Continue mixing until the wax is melted. Add Phase C and mix in pigments and pearls. Remove from propeller mixer and begin to homogenize with heat at the same temp @ 4000 rpm. Homogenize for 15 minutes then turn off homogenizer and add Phase A. Turn the homogenizer on again to 4000 rpm and mix for an additional 5 to 10 minutes. Remove from the homogenizer and begin mixing with the propeller mixer at 300 rpm to remove air bubbles while reducing the heat to between 65°C – 70°C. Then pour into lip gloss containers while keeping pouring temperature between 65°C – 70°C.

The sample formulations listed are illustrative examples only. Miyoshi America, Inc. makes no representation or warranty concerning the efficacy or safety of any product manufactured using these formulations. It is the sole responsibility of the end user to adequately test for performance of any product prior to sale.

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