COLOR
TECHNIQUES

Inorganic Colors, Fillers & Surface Treatments

Enhancing the Performance of Your Products

A Brief Overview

Has supplied the Personal Care Industry since 1979

Relocated to the South Plainfield, NJ. location in 1992: Corporate office, R&D Lab, Manufacturing & Warehousing

Global company with agent representation outside the NE United States

Expansion project in 2002 doubled the facility to 26,000 sq. ft. with increased production capabilities

Over 130 years of combined expertise in pigments

Updated and improved website
www.colortechniques.com

COLOR TECHNIQUES

Color Techniques Products

- **Inorganic Colors**
- *Primarily used in pigmented face powders, foundations, blushers and eye area cosmetics*
- **Synthetic Iron Oxides**
- **Ultramarines**
- **Manganese Violets**
- **Greens: Chromium & Chromium Hydroxide**
- **Titanium Dioxide**
- **Mica & Sericite & Kaolin**
- **(All inorganic pigments and fillers listed can be surface treated)**

COLOR TECHNIQUES

COLOR TECHNIQUES

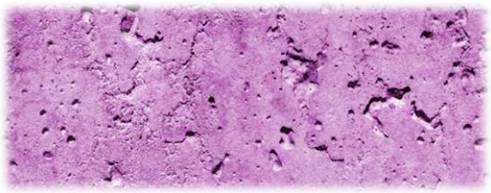
Synthetic Iron Oxides

- Largest single volume of inorganic pigments sold
- Three basic shades: Black, Red and Yellow
- By using these shades in combination with titanium dioxide, all shades of brown and skin tone can be matched.
- Excellent light stability and stable under normal pH ranges
- Shade characteristics of an iron oxide is known as undertone.
- The red and black oxides may have either a yellow or blue undertone. Yellow oxides have either green or red undertone.
- By tinting with titanium dioxide, a formulator can easily determine the undertone of an iron oxide.

COLOR TECHNIQUES

Ultramarines

- This family of colors include blue, pink and violet
- Ultramarine blues are synthetically produced sodium alumino silicates
- Further oxidation of one of the finer particle size red shade blue produces violet.
- An ion exchange with violet produces pink
- Easily dispersed in aqueous media, have excellent light stability and are very stable in alkali (pH 7 or higher) compounds.
- Extremely acid sensitive and will release hydrogen sulfide in acid conditions.
- “Acid resistant” grade available that resists mild acid conditions.
- Primary use- eye products, bar soaps



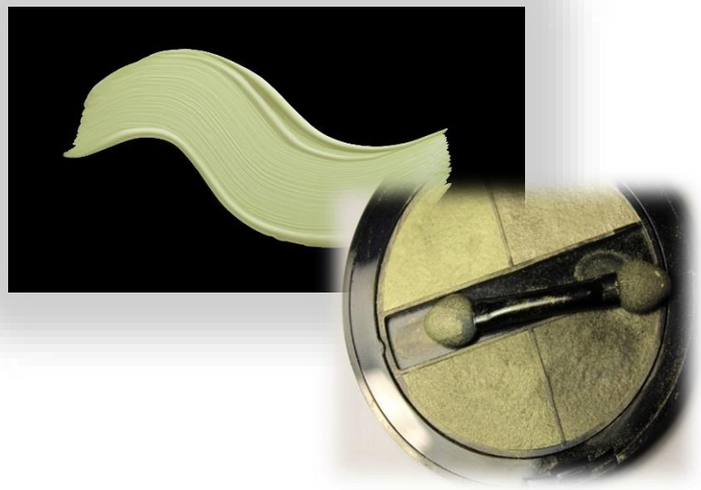
Manganese Violets

- This strong violet pigment is a complex of manganese ammonium pyrophosphate.
- Stronger violet than ultramarine.
- Used primarily in eye products.
- Decomposes in water and cannot be used in hydrated emulsion systems.
- Relatively stable in acid pH ranges.
- Along with our standard grade, a redder shade is also available.

COLOR TECHNIQUES

Inorganic Greens:
Chromium Oxide & Chromium Hydroxide

- Chromium Oxide green has an olive like color with strong yellow undertones.
- Chromium hydroxide is weaker than chromium oxide, has a high oil absorption and considerably bluer aqua shade.
- Very hard pigments and sometimes difficult to grind and disperse.
- Both have excellent strength and stability.



Titanium Dioxides

- The principal white pigment used to give opacity and coverage to color cosmetics, particularly foundations.
- Two common forms of titanium: anatase and rutile
- Two different grades of anatase pigmentary titanium ; A-8112 Oil Dispersible Grade & A-8100 Water Dispersible Grade
- We do not currently offer rutile titanium dioxide but have conducted R&D tests on this grade. Let us know if there is any interest.
- A-8191 Ultrafine Titanium dioxide- Transparent grade; diffuses light to provide soft focus effects

COLOR TECHNIQUES

Sericite & Mica & Kaolin

- Mica is platy, has excellent slip, and is chemically inert.

- The source, either USA, China, India, Brazil, and processing, either wet or dry ground, will determine the physical properties that will affect performance.

- Sericite (INCI name: mica) has properties that are between that of talc and mica, depending on source and processing. It can be used to formulate talc free products; not a 1:1 replacement.

- Kaolin can be used in a wide range of cosmetic and personal care applications providing transparency, oil control, and silky skin feel

COLOR TECHNIQUES

Relevant Information

- All Color Techniques products are approved worldwide
- None of our products have been tested on animals, nor do they contain raw materials with animal origins
- We are a drug registered facility
- None of our products are considered “Nano”; documentation and particle size analysis are available.
- We do not offer any materials considered to be hazardous.
- There are no allergens present in our products or in our facility.
- We do not use preservatives or solvents.

Relevant Information (cont'd)

- Product statements, such as composition, source & origin, REACH, Prop 65, Materials of Concern, Purity, Halal, Kosher, ISO 16128, Leaping Bunny, etc. are available.
- In order to comply with microbiological specs, all our products are irradiated. However, at customer's request, under certain circumstances, irradiation can be waived.
- No charge samples are always available upon request.
- Starting formulas are available on our website.
- Color Techniques Inc. is an associate member of PCPC and an active member of the Color Additive Committee.
- Color Techniques is currently engaged in toll manufacturing for various companies.

Surface Treatments

Enhancing the Performance of Your Products

Color Techniques surface treats inorganic pigments and fillers to improve their performance attributes

COLOR
TECHNIQUES

Introduction

Surface treated pigments and fillers permit the development of unique product forms:

- Cosmetically elegant water in silicone/oil foundations
- Cream to powder cosmetics
- Powder to liquid formulations
- Hot pours
- High color intensity mascaras and eye liners

COLOR TECHNIQUES

Benefits of Surface Treatments

- Improved skin feel by smoothing the rough pigment surfaces and reducing oil absorption.
- Improved compression of pressed powders
- Enhanced skin adhesion
- Deagglomeration achieved by the coating process
- Optimization of wetting in a variety of vehicles

COLOR TECHNIQUES

Surface Treatments

- Hydrophobic
  - Resist wetting by water
  - Smooth skin feel
  - Varying levels of emolliency
  - Many exhibit enhanced lipophilicity (affinity for oil)
- Hydrophilic
  - Enhanced hydrophilicity (affinity for water)

Hydrophobic Treatments

- D/I Hydrophobic (Methicone)
- AS Alkyl Silane (Triethoxycaprylylsilane)
- DI Dimethicone
- PFD Trifluoropropyl Dimethicone
- LL Lauroyl Lysine
- DL Methicone/Lauroyl Lysine
- HSE Herbal Skin Enhancers (Green Tea)
- MM Magnesium Myristate

D/I: Recommended Applications

Pressed and loose powders

- Silky skin feel
- Good compression, requires lower binder levels
- Improved payoff

Hot pour, powder cream formulations

- Enhanced color development
- Allows high pigment concentration

Water in silicone or water in oil emulsions

- Preferred wetting in the outer oil phase
- Improves emulsion stability
- Mass tone equals skin tone

Note: Color Techniques' D/I treated pigments are emulsion grade. The manufacturing process limits hydrogen potential to acceptable levels.

COLOR TECHNIQUES

DI: Recommended Applications

Pressed and loose powders

- Lubricious slippery skin feel
- Good compression, requires lower binder levels
- Improved payoff

Silicone based formulations (gels & mousses)

- Good color development
- Enhanced pigment dispersion

Water in silicone

- Preferred wetting in the outer silicone oil phase
- Improves emulsion stability
- Mass tone equals skin tone

COLOR TECHNIQUES

AS: Recommended Applications

Pressed and loose powders

- Creamy skin feel
- Improved compression, requires lower binder levels

Hot pour powder cream compacts and sticks

- Enhanced color development
- Allows high pigment concentration maintaining melt fluidity
- Powder-like skin feel
- Compatibility with waxes and common oils used in stick products

Water in silicone/oil and water in oil emulsions

- Preferred wetting in the outer oil phase
- Improves emulsion stability
- Mass tone equals skin tone

COLOR TECHNIQUES

PFD: Recommended Applications

Pressed and loose powders, especially eyeshadow and foundation

- Creamy skin feel
- Improved wear
- Reduced creasing in eyeshadows

Hot pour powder cream compacts and sticks

- Enhanced color development
- Allows high pigment concentration maintaining melt fluidity
- Powder-like skin feel

Water in silicone emulsions

- Will wet in the outer silicone phase
- Dimethicone copolyol (PEG/PPG) wetting agents help dispersion of PFD pigments
- Prevents color change due to oil breakthrough

COLOR TECHNIQUES

LL: Recommended Applications

Pressed and loose powders

- Soft, lubricious, light skin feel
- Excellent spreading and blending
- Good compression, requires lower binder levels

Hot pour powder cream compacts and sticks

- Enhanced color development
- Powder-like skin feel

D/L: Water in silicone/oil and water in oil emulsions

- Preferred wetting in the outer oil phase
- Improves emulsion stability
- Mass tone equals skin tone
- Soft skin feel

COLOR TECHNIQUES

MM: Recommended Applications

Pressed and loose powders

- Good compression, require lower binder levels
- Improved skin adhesion
- Improved wear

Water in silicone/oil and water in oil emulsions

- Preferred wetting in the outer oil phase
- Improves emulsion stability
- Mass tone equals skin tone

COLOR TECHNIQUES

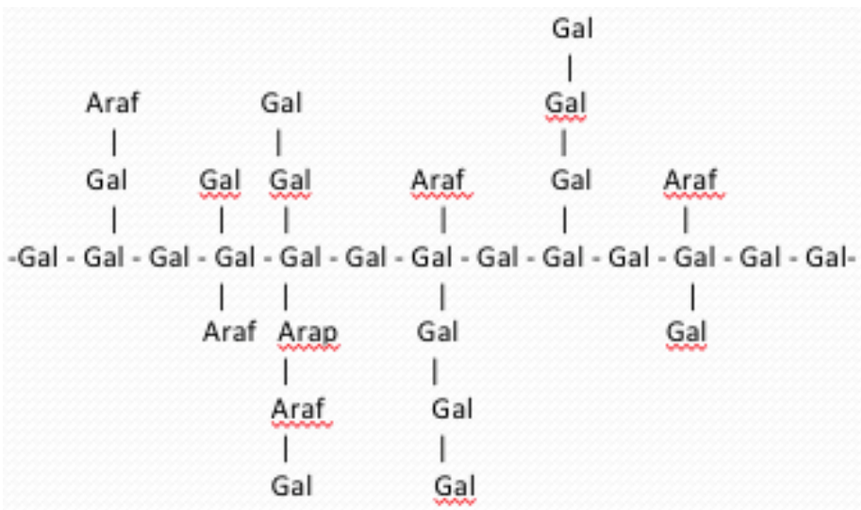
HSE: Herbal Skin Enhancer

Natural jojoba oil-based extract is entrapped in a surface coating on the pigments and fillers

GT: Green Tea - contains natural antioxidants to protect the skin against the damaging effects of free radicals

COLOR TECHNIQUES

GA-Hydrophilic : **Galactoarabinan, a highly branched polysaccharide, naturally derived from larch trees**



Gal: GALACTOSE SUGAR (GALACTOPYRONOSYL)

Arap: ARABINOSE SUGAR (ARABINOPYRANOSYL)

Araf: ARABINOSE SUGAR (ARABINOFURANOSYL)

In water-based formulations, wetting and dispersion are improved by the rapidly hydrating coating

- Rapid wetting of pigments and fillers with little or no high shear agitation.
- Better pigment suspension is due to the smaller agglomerate size
- Increased color intensity
- Reduced dispersion viscosity, allowing higher pigment loading
- Galactoarabinan acts as a protective colloid, inhibiting destabilizing particle-particle attractions through steric effects, prolonging shelf life.

As for all coatings, compatibility with other formula ingredients, particularly gums and thickeners, must be assured so as not to lose the beneficial effects of the surface treatment.

COLOR TECHNIQUES

GA: Recommended Applications

Water based systems

Suspensions

Eyeliners, Mascaras

Oil in water emulsions

Rapid wetting

Complete color development

Mass tone equals skin tone

Dispersion without intensive milling

COLOR TECHNIQUES

Key Contacts at Color Techniques

- **Mahmoud Hassanien-VP of Operations *mahmoud@colortechniques.com***
- **Carol Edridge-VP Technical Marketing *carol@colortechniques.com***
- **Dave Dick-Sales Manager *dave@colortechniques.com***
- **Kelly Snell- Customer Service Manager *kelly@colortechniques.com***
- **Helene Nicastro- Sample Coordinator *helene@colortechniques.com***