

Soft-Tex® Pigments

who offers exceptional dispersion
solutions for cosmetic applications?

we do.

working for you.

Solutions.™ *Tailor-Made.™*

SunChemical®

a member of the DIC group



for solutions to your dispersion challenges, turn to Soft-Tex®.

Sun Chemical Performance Pigments has developed Soft-Tex® to address the challenges associated with preparing cosmetic pigment dispersions. Soft-Tex® controls both the particle size distribution and surface charge associated with the pigments, eliminating variability and instability. When you want a final product that is homogeneous, with high batch-to-batch consistency, try Soft-Tex®.

Key attributes and benefits:

- More consistent formula control
- Lower pigment bulk density derived from uniform particle size
- Narrow particle size distribution
- Stronger resistance to agglomeration of pigment particles
- Greater color development in dry blends
- Consistent color development throughout the mixing process
- Increased efficiency in cosmetic production
- Decreased milling requirement



Soft-Tex® Organics and Inorganics Regulatory Compliance

Sun Chemical's conformity status for all cosmetic pigments is based on various and active color regulations including:

In the United States in accordance with:

- U.S. Code of Federal Regulations (CFR) Title 21, parts 70-82.

In the European Union in accordance with:

- Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products, Annex IV.
- For coloring agents whose number is preceded by the letter "E", Commission Regulation (EU) No 231/2012 of 9 March 2012.

In China in accordance with:

- 2007 Hygienic Standard for Cosmetics.

In the Association of Southeast Asian Nations (ASEAN):

- The ASEAN Cosmetic Directive, Annex IV, Part 1.

In Japan in accordance with:

- Japanese Standards of Cosmetic Ingredients (JSCI), 2nd edition and supplements; Standard Codes 41 and 42.

Note: Inorganic pigments are not currently regulated in Japan and are used without concentration limit in the Comprehensive Listings Standards (CLS) of Cosmetics, categories 1-11 [except C61-6735 which is not permitted in 9) Lip Preparations and 10) Oral Preparations]. Cosmetic Categories as per 9th amendment of CLS August 26, 1996: 1) Cleansing Preparations 2) Hair Preparations 3) Treatment Preparations 4) Makeup Preparations 5) Fragrant Preparations 6) Suntan/Sunscreen Preparations 7) Nail Makeup Preparations 8) Eyeliner Preparations 9) Lip Preparations 10) Oral Preparations 11) Bath Preparations. Source: Cosmetics, Toiletries, and Fragrance Association list of Japanese Cosmetic Ingredients (Fourth Edition).

In Brazil in accordance with:

- Ministry of Health, National Agency of Sanitary Surveillance Board Resolution-RDC N° 44, August 2012.

For more detailed regulatory guidelines, please reference appropriate product Technical Data Sheet (TDS) and Material Safety Data Sheet (MSDS).

uniform and narrow particle size.

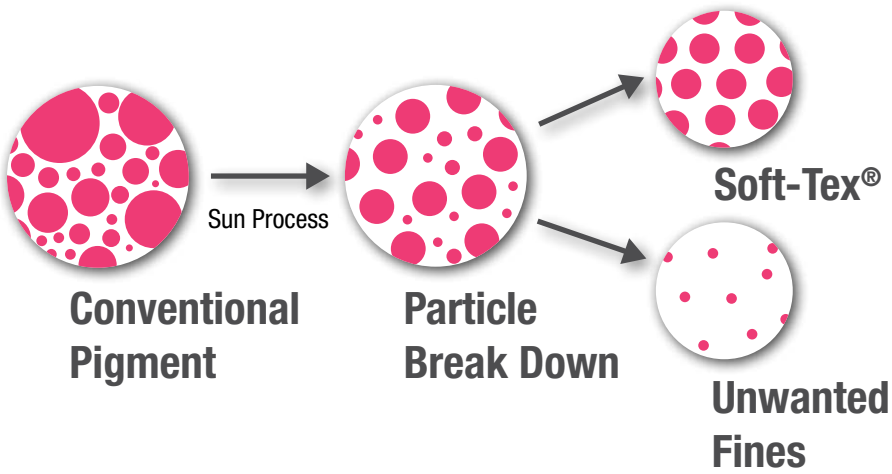


figure 1:

The unique and novel Soft-Tex® process stabilizes the pigments against agglomeration, ensuring ease of formulation.



figure 2:

Eliminating the aggregation and agglomeration associated with conventional cosmetic colorants allows Soft-Tex® pigments to develop significantly greater strength with equal or less energy.

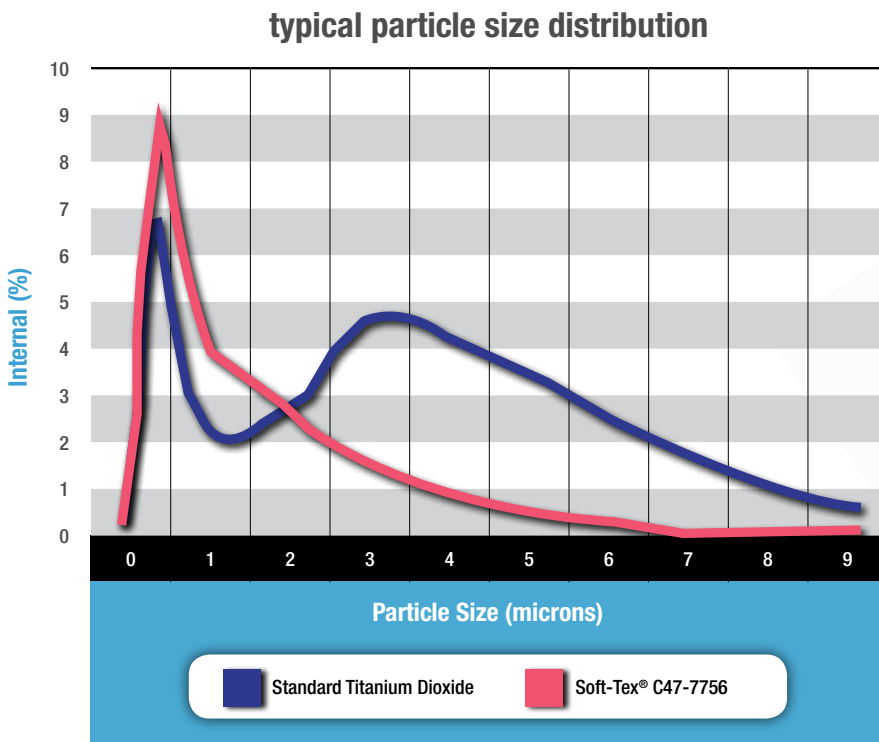


figure 3:

The narrow and uniform particle size distributions found in Soft-Tex® pigments aid processability in end-product applications.



strength development vs. traditional pigments.

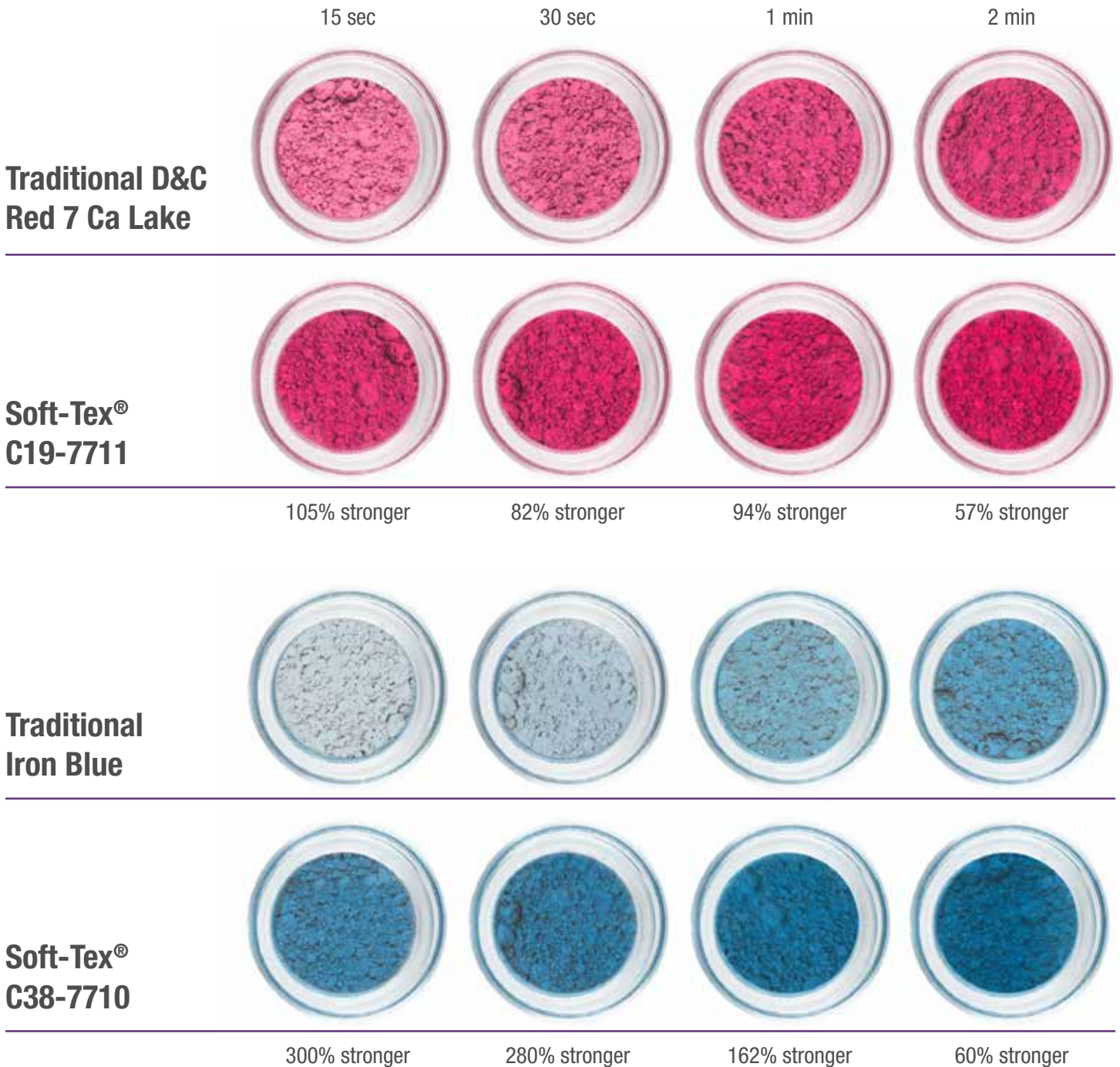


figure 4:

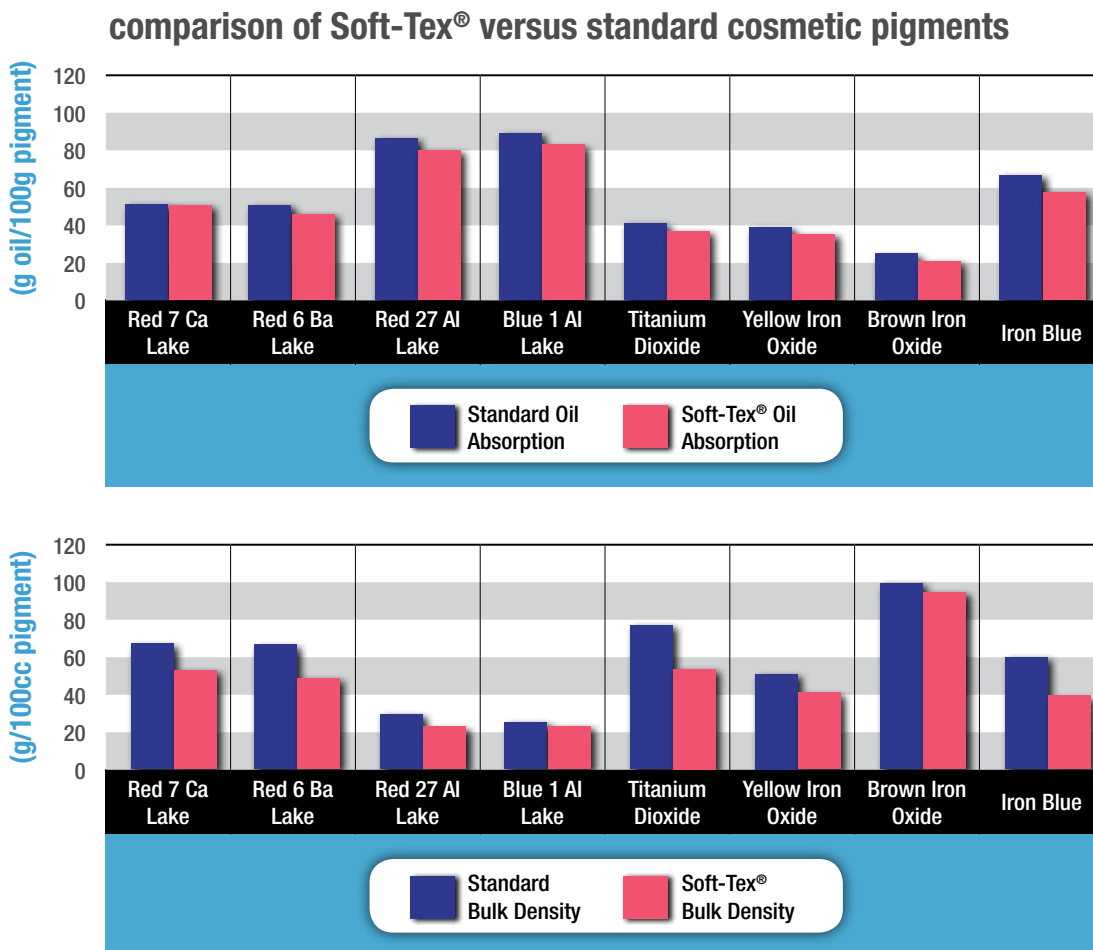
Soft-Tex® pigments display greater color strength when compared to conventional colorants. When Osterized in a talc base for one minute, Soft-Tex® pigments of D&C Red 7 Calcium Lake and Iron Blue develop 94% and 162% greater strength, respectively, than their traditional counterparts. Soft-Tex® pigments quickly achieve uniform color development; reducing the need for extensive milling and batch to batch variation. The color strength of the conventional pigments continues to develop over time.

ease of dispersion.

Dispersion Equipment	Conventional D&C Red 7 Ca Lake Pigment			Soft-Tex® C19-7711		
	Time	Hegman	Micron	Time	Hegman	Micron
Toothed Impeller Blade	9 min	4	50	6 min	8	<5
Rotor Stator Homogenizer	13 min	4	50	5 min	8	<5
Three Roll Mill	3 passes	5	40	1 pass	8	<5








figure 5:

Irrespective of the milling method used, Soft-Tex® pigments require less processing and yield higher quality grinds in oil based systems than their traditional counterparts. Soft-Tex® pigments demonstrate a clear advantage in their ease of dispersion.



figures 6 and 7:

Soft-Tex® pigments provide lower oil absorption and bulk density than traditional pigments, improving consistency of cosmetic preparations.

Masstone	Mid-tone	1/20 Tint	Soft-Tex® Product code Description	Color Index Number EU China Brazil	Japan Name	Average % Dye	Global Regulatory Restrictions	Comments
			C19-7712 D&C Red 6 Ba Lake	15850	/	38	Restricted from eye use in the U.S. Prohibited in Japan	
			C19-7722 D&C Red 6 Ba Lake	15850	/	18	Restricted from eye use in the U.S. Prohibited in Japan	
			C19-7711 D&C Red 7 Ca Lake	15850	Aka 202	39	Restricted from eye use in the U.S.	
			C14-7702 D&C Red 27 Al Lake	45410	/	16	Restricted from eye use in the U.S. Prohibited in Japan	
			C14-7723 D&C Red 28 Al Lake	45410	Aka 104(1)	22	Restricted from eye use in the U.S.	
			C37-7738 D&C Red 30 Al Lake	73360	Aka 226	38	Restricted from eye use in the U.S.	
			C39-7733 FD&C Blue 1 Al Lake	42090	Ao1	12	None	
			C69-7724 FD&C Yellow 5 Al Lake	19140	Ki4	26	None	



			Soft-Tex®	Color Index Number			
Masstone	Mid-tone	1/20 Tint	Product code Description	EU China Brazil	Japan Name	Global Regulatory Restrictions	Comments
			C33-7734 Black Iron Oxide	77499	Black Oxide of Iron	None	Brown shade
			C33-7751 Black Iron Oxide	77499	Black Oxide of Iron	None	
			C33-7775 Red Iron Oxide	77491	Red Oxide of Iron	None	Blue shade
			C33-7738 Russet Iron Oxide	77491 77499	Red Oxide of Iron Black Oxide of Iron	None	
			C33-7715 Brown Iron Oxide	77491 77492 77499	Red Oxide of Iron Yellow Oxide of Iron Black Oxide of Iron	None	
			C33-7720 Yellow Iron Oxide	77492	Yellow Oxide of Iron	None	Red shade
			C33-7773 Yellow Iron Oxide	77492	Yellow Oxide of Iron	None	Blue shade
			C38-7710 Iron Blue	77510	Ferric Ferrocyanide	Restricted from lip use in the U.S.	
			C47-7756 Titanium Dioxide	77891	Titanium Dioxide	None	Oil dispersible



Sun Chemical - Global Success in a World of Color and Metallic Effects

Sun Chemical Performance Pigments has been in the color and metallic effects business for over 100 years. Our leading-edge technology is unsurpassed as we continue our commitment to solve the color and metallic effects issues of today and develop new solutions for the future. Headquartered in Cincinnati, Ohio, Sun Chemical Performance Pigments is a division of Sun Chemical Corporation.

With annual revenues of more than \$3.5 billion, Sun Chemical Corporation is the world's largest producer of printing inks and pigments. We also are a leading provider of materials and services to the cosmetics, building materials, photovoltaic, packaging, publications, coatings, plastics and other industrial markets. Sun Chemical has a worldwide network of more than 250 locations that provide customers local service with a global perspective.

To learn more about our pigments, contact your local Sun Chemical representative.

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