

## + Chroma-Chem® UCD® SF

### Pigment Dispersions for Polyester, Epoxy, and Polyurethane Coatings

The UCD® SF colorants have been designed for broad use in reactive industrial coatings. These products use a highly durable resin with closely controlled color strength and viscosity to permit reproducible color matches by volumetric machine dispensers or weight measurement in the plant.

#### ► Key Benefits

The UCD® SF Line colorants provide a broad color spectrum in a colorless, unsaturated, low-molecular-weight polyester resin containing no solvents or reactive monomers. These products are formulated at maximum pigment loading to minimize the effects of the polyester vehicle on the coating film while maintaining a pourable colorant system.

The multi-functional resin allows the UCD® SF colorants to be cured into multiple coatings systems. Therefore, it is an excellent colorant system to use as a single system for multiple coatings chemistries. The unsaturation allows for cross-linking through double bonds as occurs in peroxide-cured polyesters or PMMA coatings. The acid end groups provide a reactive group to crosslink the polyester resin in amine-cured epoxy resins. In addition, the secondary hydroxyl groups provide a means to crosslink the resin with polyisocyanates.

#### ► Properties

The UCD® SF colorant vehicle is an unsaturated polyester with secondary hydroxyl and acid end groups. For urethane coatings, the equivalent weight of 319 (on solids) for the polyester resin can be used to calculate isocyanate demand. The acid number for the resin is 20 - 25.

The tint strength of these colorants is controlled by volume to  $\pm$  2% to ensure optimal tinting performance in volumetric dispensing equipment. The density of the colorants are also tightly controlled to provide consistent in-plant tinting capabilities.

#### ► Applications

The UCD® SF line is formulated for use in many industrial coatings including, but not limited to automotive putties, coil, concrete protection, gel coats, general industrial finishes, UV, and wood coatings.

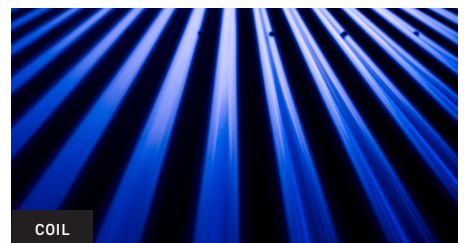
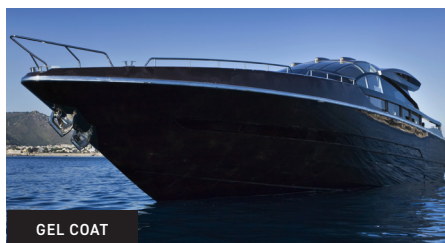
#### ► Compatibility

Although the UCD® SF colorants are primarily used in curing formulations based on unsaturated polyesters, epoxy or polyol resins, the vehicle is also compatible with a variety of non-crosslinking resins, including acrylic, vinyl, alkyd, nitrocellulose, acetate, and acrylic lacquer. However, a plasticizing effect occurs when levels of the UCD SF resin reaches levels above 15% of the total vehicle solids. Therefore, the UCD® SF colorants can act as a non-phthalate plasticizer if the resin is uncured.

#### ► Shelf Life

Proper handling is essential to maintain good quality. It is recommended that the colorants be mixed prior to use. Containers should be tightly sealed when not in use.

Shelf life on the UCD® SF line colorants is 5 years from the date of manufacture in unopened containers.



Product Code	Description	CI Name	% Pigment		% Non-Volatiles		% Other Non-Volatiles		Specific Gravity	VOC <sup>a</sup> g/L	Pigment Lightfastness		Pigment Resistance	
			X Wt.	X Vol.	X Wt.	X Vol.	X Wt.	X Vol.			g/L	Mass	Tint	Acid
1106SF	Titanium Dioxide	White 6	60.0	28.0	38.5	70.3	1.5	1.7	1.89	<10	N	N	N	N
1507SF	Carbon Black	Black 7	12.0	7.3	88.0	92.7	0.0	0.0	1.09	<10	N	N	N	N
1625SF	Lampblack	Black 7	11.2	6.8	88.8	93.2	0.0	0.0	1.09	<10	N	N	N	N
4820SF	Phthalo Blue GS	Blue 15:3	13.0	8.6	87.0	91.4	0.0	0.0	1.09	<10	N	N	N	N
4830SF	Phthalo Blue RS	Blue 15:2	12.0	7.7	88.0	92.3	0.0	0.0	1.08	<10	N	N	N	N
5138SF	Phthalo Green BS	Green 7	17.0	9.2	83.0	90.8	0.0	0.0	1.13	<10	N	N	N	N
5639SF	Diarylide Yellow	Yellow 14	15.0	10.9	85.0	89.1	0.0	0.0	1.08	<10	S	A	N	N
5696SF	Organic Yellow	Yellow 151	20.0	14.3	80.0	85.7	0.0	0.0	1.11	<10	N*	N*	N	A
5752SF	Yellow Oxide	Yellow 42	47.0	18.9	52.5	80.4	0.5	0.7	1.58	<10	N	N	N	N
5832SF	Raw Umber	Brown 7	38.0	16.1	62.0	83.9	0.0	0.0	1.40	<10	N	N	N	N
5861SF	Burnt Umber	Brown 7	35.0	13.5	62.6	83.8	2.4	2.7	1.38	<10	N	N	N	N
6012SF	Organic Orange	Orange 34	23.5	18.2	76.5	81.8	0.0	0.0	1.11	<10	A	A	N	N
6080SF	Red Oxide	Red 101	51.7	18.3	48.3	81.7	0.0	0.0	1.75	<10	N	N	N	N
7945SF	Arylide Red	Red 170	15.0	10.9	85.0	89.1	0.0	0.0	1.08	<10	N*	S*	N	N
7959SF	Quinacridone Red	Violet 19	15.0	11.2	85.0	88.8	0.0	0.0	1.08	<10	S	S	N	N
8087SF	Quinacridone Violet	Violet 19	11.0	7.8	89.0	92.2	0.0	0.0	1.07	<10	S	S	N	N

<sup>a</sup>Expected value based on formulation

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Lightfastness and Resistance Key			
N	no bleed/discoloration	*	no Florida data, only Fadeometer
S	slight	**	no data
A	appreciable		

Lightfastness and Resistance information is provide for guidance purposes only.  
Source: NPRI Raw Materials Data Handbook Volume 4 (@ 2000)



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