



Technical Bulletin

TX Pigment Dispersions

TX Dispersions™ are fluorescent pigment dispersions that have been formulated for use in a broad range of applications including water-based textile printing, pad dyeing, pigment exhaust dyeing, printing inks, paper coating and poster colors.

The **TX Dispersions** are based on DayGlo's GOTS 3.0 approved **ECO Pigments™**. These revolutionary colorants are created using recycled materials and offer high tinctorial strength, excellent dispersion stability and unsurpassed thermal characteristics.

TX Dispersions offer uncompromising performance in earth-friendly products that are free of the following chemicals.

- Formaldehyde
- Alkylphenols
- Alkylphenols Ethoxylates
- Azo Compounds
- Aromatic Amines
- Bisphenol A (BPA)
- SVHC Chemicals
- Heavy Metals
- Perfluorooctanoic Acid
- Phthalates
- Polyaromatic Hydrocarbons
- Acrylonitrile
- Styrene
- California Prop. 65 Chemicals

TX Dispersions also have the following characteristics.

- Oeko-Tex 100 compliant
- CONEG compliant
- EN-71 compliant
- RoHS compliant
- Non-Toxic
- Zero VOC
- Made with recycled materials
- REACH compliant

Available Colors

Color	Product Code	Color	Product Code
Aurora Pink*	TX-11	Signal Green*	TX-18
Rocket Red*	TX-13	Horizon Blue*	TX-19
Fire Orange*	TX-14	Ultra Violet	TX-20
Blaze Orange*	TX-15	Rose	TX-2021
Saturn Yellow*	TX-17	Corona Magenta*	TX-21

*Trademark of DayGlo Color Corp., Cleveland, OH

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Typical Physical Properties

Pigment Particle Size	1.5 - 1.7 microns
Pigment solids	50 +/- 2%
PH	6.5-7.5
Viscosity	1500-2500 cps*
Density	1.1 g/ml (9.2 lbs./US gallon)

* **TX Dispersions** are thixotropic in nature, stir thoroughly before using.

Formulations

Screen Ink

44.75	Water
5.00	Glycerin
0.25	Natrosol 250 MHBR (Ashland Chemical)
10.00	ASE-95NP (Dow Chemical)
as needed	Aqueous Ammonia
20.00	Rhoplex ECO-3482 (Dow Chemical)
<u>20.00</u>	TX Dispersion
100.00	

1. Mix water and glycerin.
2. Dissolve Natrosol using high speed disperser.
3. Add ASE-95NP with slow agitation.
4. Adjust pH to 7.6-8.0 using aqueous ammonia.
5. Add Rhoplex ECO-3482 with slow agitation.
6. Add TX dispersion with slow agitation.
7. Cure prints at 160°C for 3 minutes.

Print Paste

60	Thickener Solution - 90/10 Water/Dow ASE-95NP, adjust pH with aqueous ammonia
20	Dow Rhoplex E-2680/1642RBC Self-Crosslinking Acrylic Polymer
<u>20</u>	TX Dispersion
100	

Dried @ 50°C
Cured 170°C for 3 minutes

DISCLAIMER: Our technical advice, information and statements - given verbally, in writing or in the form of test results - is offered for your guidance without warranty. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE. This also applies where protective rights of third parties are involved. It does not release the user from obligation to test the suitability of the products and formulas for the intended process and applications. Our guarantee is limited to the consistent quality of our product.



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Fastness Properties

Colorfastness to Laundering

AATCC Test Method 61-2A, Atlas Launder-ometer, AATCC Std. Detergent w/OB and Multifiber Fabric No. 10

Fading rated using AATCC Gray Scale for Color Change, 5 = No Change to 1 = Significant Change
 Staining rated using AATCC Gray Scale for Staining, 5 = No Staining to 1 = Significant Staining

Product Code	Fade	Staining					
	Resistance	Wool	Acrylic	Polyester	Nylon	Cotton	Acetate
TX-11	4	4.5	4.5	4.5	4.5	4.5	4.5
TX-13	4	4.5	4.5	4.5	4.5	4.5	4.5
TX-14	4	4.5	4.5	4.5	4.5	4.5	4.5
TX-15	4	5	5	5	4.5	5	4.5
TX-17	4.5	4.5	5	5	4	5	4
TX-18	4.5	4.5	5	5	4	5	4
TX-19	4.5	4.5	5	5	4	5	4
TX-20	3.5	4.5	4.5	4.5	4.5	4.5	4.5
TX-2021	4	4.5	4.5	4.5	4.5	4.5	4.5

Colorfastness to Water

AATCC Test Method 107

Fading rated using AATCC Gray Scale for color change, 5 = no change to 1 = significant change
 Staining Rated using AATCC Gray Scale for staining, 5 = no staining to 1 = significant staining

Product Code	Fade	Staining					
	Resistance	Wool	Acrylic	Polyester	Nylon	Cotton	Acetate
TX-11	5	5	5	5	5	4.5	5
TX-13	5	5	5	5	5	4.5	5
TX-14	5	5	5	5	5	5	5
TX-15	5	5	5	5	5	5	5
TX-17	5	5	5	5	5	4.5	4.5
TX-18	5	5	5	5	5	5	5
TX-19	5	5	5	5	5	5	5
TX-20	4.5	5	5	5	5	4.5	5
TX-2021	5	5	5	5	5	4.5	5

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Crocking Result

AATCC Test Method 8

Crock samples rated by AATCC Gray Scale for staining, 5 = no staining to 1 = very severe staining or transfer

Product Code	Dry Face	Wet Face
TX-11	4.5	3
TX-13	4.5	3
TX-14	4.5	3
TX-15	4.5	3
TX-17	4.5	3
TX-18	4.5	3
TX-19	4.5	3
TX-20	4.5	3
TX-2021	4	3

Cationic Pigment Exhaust Dyeing (6% pigment OWF*)

1. Using a 20:1 liquor ratio, let fabric circulate in bath for 5-10 minutes to allow fabric to wet out completely.
2. Add Cationic Pretreatment (6% OWF): Added Orco PT-92L cationic pretreat (6% OWF). Add NaOH (0.5 g/L, pH around 12) heat to 140°F/60°C and hold for 20 minutes.
3. Drop bath, DO NOT neutralize. Refill, (pH should be ~9.5)
4. Add pigment (6% OWF) cold, let circulate ~10 minutes.
5. Heat @ 4°F/minute to 120°F/49°C.
6. Add Orco G-30L binder (6% OWF, 1:1 binder:pigment) SLOWLY over 10 minutes. Circulate for 10 minutes at 120°F/49°C.
7. Heat @ 4°F/minute to 140°F/60°C.
8. At 140°F/60°C, add diluted acetic acid (10% solution) SLOWLY to lower pH to 4.5-5. Hold for 20 minutes.
9. Cool to 120°F/49°C.
10. Drop and rinse until bath is clear and pH is neutral.

*On the Weight of the Fabric

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