



# Technical Bulletin

## ECO Pigments™

Day-Glo Color Corp., the industry leader in fluorescent technologies introduces its latest product innovation.

**ECO Pigments** are the first formaldehyde-free pigments to attain the color brilliance and stability offered by traditional formaldehyde containing products with the added benefit of being produced using recycled materials. Uncompromising performance and earth-friendly materials that:

- Reduce the volume of plastic waste disposed in landfills
- Conserve energy and natural resources
- Eliminates many “Chemicals of Concern “

DayGlo **ECO Pigments** are thermoplastic fluorescent pigments that are recommended for a wide range of applications where resistance to strong solvents is not required. They perform well in a system based on aliphatic and aromatic hydrocarbons. They are also suitable for aqueous systems. **ECO Pigments** can be used in applications such as paper coatings, textile printing, A-type gravure inks, craft and hobby paints, and vinyl plastisols.

**ECO Pigments** offer uncompromising performance in earth-friendly products that are free of the following chemicals.

- Formaldehyde
- Azo Compounds
- Aromatic Amines
- Bisphenol A (BPA)
- SVHC Chemicals
- Heavy Metals
- Perfluorooctanoic Acid
- Regulated Phthalates
- Polyaromatic Hydrocarbons

**ECO Pigments** also have the following characteristics.

- Oeko-Tex 100 compliant
- CONEG compliant
- EN-71 compliant
- GOTS 4.0 compliant
- Non-Toxic
- REACH compliant
- RoHS compliant

DayGlo Color Corp. • 4515 St. Clair Avenue • Cleveland, OH 44103 • (216) 391-7070 • [www.dayglo.com](http://www.dayglo.com)



## Available Colors:

Aurora Pink®	ECO-11
Rocket Red™	ECO-13
Fire Orange™	ECO-14
Blaze Orange™	ECO-15
Saturn Yellow®	ECO-17
Signal Green™	ECO-18
Horizon Blue™	ECO-19
Ultra Violet™	ECO-20
Corona Magenta™	ECO-21



\* Trademark of Day-Glo Color Corp., Cleveland, OH

## Lightfastness:

Higher pigment concentrations generally produce films with improved lightfastness. Plasticizers, stabilizers, and other additives can also influence the lightfastness of fluorescent pigments. The following table gives the recommended percentage of pigment for optimum color and light stability with respect to film thickness.

## **Wet Film Thickness:**

<u>Film Thickness</u>	<u>Pigment Loading</u>
3-5 mil (75-125 microns)	20-35%
10 mil (250 microns)	10-20%
20 mil (500 microns)	7-15%
40 mil (1,000+ microns)	2-8%

## Typical Physical Properties:

T <sub>g</sub>	120°C (248°F)
Melting Range	145-150°C (284-302°F)
Density	1.2 g/ml
Apparent Density	0.37 g/ml (23 lbs./cu. ft.)
Oil Absorption	80 gram oil/100 gram pigment
Mean Particle Size	4.5 µm

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## Typical Formulations:

### Acrylic Aerosol Concentrate (parts by weight)

45.5	Paraloid F-10 <sup>1</sup> or Elvacite 2044 <sup>2</sup>
35.0	<b>ECO Pigment</b>
<u>19.5</u>	Lactol Spirits
100.0	

Prepare with high speed mixing. Thin with Lactol Spirits. To can, use 65% of the thinned aerosol concentrate and 35% of a propellant, such as A-70 (propane/isobutene blend). Paraloid F-10 is 40% solids in Mineral Thinner/Amsco F and Elvacite 2044 should be dissolved in Minerals Spirits at 40% resin solids.

### Alkyd Brushing Paint (parts by weight) (high speed mix)

40.00	Beckosol 11-081 <sup>3</sup> (50% in VM&P Naphtha)
0.40	Cyatorb UV-24 <sup>4</sup>
50.50	<b>ECO Pigment</b>
0.08	12% Cobalt Hex Chem <sup>5</sup>
0.20	Skino #2 <sup>5</sup>
0.20	Cab-O-Sil <sup>6</sup>
<u>8.62</u>	Mineral Spirits
100.0	

### Water Dispersion (parts by weight)

#### Part A

56.00	Water
1.23	Methocel K4MS <sup>7</sup>
0.20	Dowcil 75 <sup>7</sup>
40.00	Water
2.56	Tamol 731 (25%) <sup>1</sup>
<u>0.01</u>	Triethanolamine
100.00	

#### Part B

49.4	Part A
50.0	<b>ECO Pigment</b>
<u>0.6</u>	Hodag PX-110 <sup>8</sup>
100.0	

Add the materials in the order listed and completely disperse before making the next addition. Use a high-speed dissolver to achieve proper dispersion.

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**A-Type Gravure Ink** (parts by weight) (high speed mix)

30.0	Paraloid NAD-10 <sup>1</sup>
50.0	<b>ECO Pigment</b>
<u>20.0</u>	Heptane
100.0	

Add the materials in the order listed and completely disperse before making the next addition. Use a high-speed dissolver to achieve proper dispersion.

**PVC & Phthalate Free Plastisol Ink** (parts by weight)

47.9	168 Plasticizer <sup>9</sup>
0.7	Bykoplast-1000 <sup>10</sup>
40.5	Dianal LP-3202 <sup>11</sup>
0.9	Ti-Pure R-101 <sup>12</sup>
<u>10.0</u>	<b>ECO Pigment</b>
100.0	

Mix the 168 Plasticizer and Bykoplast-1000. Disperse Dianal LP-3202 into the mixture using a high speed disperser. Disperse the Ti-Pure R-101 using a high speed disperser or a 3-roll mill. Disperse the **ECO Pigment** using a high speed disperser.

Prints cured 150°C for 3 minutes.

<sup>1</sup>Rohm and Haas Co

<sup>2</sup>Lucite International

<sup>3</sup>Reichhold Chemical Inc.

<sup>4</sup>Cytec

<sup>5</sup>OM Group

<sup>6</sup>Cabot Corp.

<sup>7</sup>Dow Chemical

<sup>8</sup>Lambent Technologies

<sup>9</sup>Eastman Chemical

<sup>10</sup>Byk-Chemie

<sup>11</sup>Mitsubishi Rayon Co.

<sup>12</sup>DuPont

Ver. 20180823

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