



Technical Bulletin

A & AX PIGMENTS

DayGlo® A-series and AX-series pigments are thermoplastic, fluorescent pigments which are recommended for a wide range of applications where resistance to strong solvents is not needed.

They perform well in a system based on aliphatic and some aromatic hydrocarbons. They are also usable in water systems where prolonged shelf life is not required. The A-series and AX-series pigments are used in such applications as paper coatings, vinyl coated fabric, A-type gravure inks, paints, screen inks, vinyl plastisols and organosols and plastics with melt temperatures less than 380°F (193°C).

A-series pigments provide the brightest fluorescent color available. AX-series pigments are much stronger than the A-series pigments and usually represent a better money value.

Available Colors:

Colors*	A-series	AX-series
Aurora Pink®	A-11	AX-11-5
Neon Red™	---	AX-12-5
Rocket Red™	A-13-N	AX-13-5
Fire Orange™	A-14-N	AX-14-N
Blaze Orange™	A-15-N	AX-15-N
Arc Yellow™	---	AX-16-N
Saturn Yellow®	A-17-N	AX-17-N
Signal Green™	---	AX-18-N
Horizon Blue™	A-19	---
Corona Magenta™	A-21	AX-21

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Typical Physical Properties:

Specific Gravity:	1.36
Average Particle Size:	4.5-5.0 microns
Softening Point:	110°C min.
Decomposition Point:	195°C

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Solubility:

The A-series and AX-series pigments show the following typical solubilities in the listed solvents and plasticizers:

ALCOHOLS		PLASTICIZERS	
Ethyl Alcohol	PS	Butyl Benzyl Phthalate	PS
3-Heptanol	NS	Dibutyl Phthalate	PS
Isopropyl Alcohol	NS	Diocetyl Adipate	NS
Methyl Alcohol	PS	Diocetyl Phthalate	NS
Tetrahydrofurfuryl Alcohol	S	Diocetyl Sebacate	NS
GLYCOLS		KETONES	
Diethylene Glycol	PS	Acetone	S
Ethylene Glycol	NS	Cyclohexanone	S
Glycerine	NS	Diisobutyl Ketone	NS
Hexylene Glycol	NS	Ethyl Amyl Ketone	NS
Propylene Glycol	NS	Isophorone	S
ESTERS		Methyl Isobutyl Ketone	S
Butyl Acetate	PS	HALOGENATED SOLVENTS	
DPM Acetate	PS	Methylene Chloride	S
Ethyl Acetate	S	Tetrachloroethylene	PS
Isoamyl Acetate	NS	Trichloroethylene	PS
Isopropyl Acetate	PS	AROMATICS	
PM Acetate	S	Toluene	NS
GLYCOL-ETHERS		Xylene	NS
Butyl Ether	PS	ALIPHATICS	
Ethyl Ether	S	Heptane	NS
Isobutyl	PS	Lactol Spirits	NS
Methyl Carbitol	S	Mineral Spirits	NS
Methyl Ether	S	VM&P Naptha	NS

KEY: NS -- Not Soluble PS -- Partly Soluble S -- Soluble

NOTE: The above information is offered as a recommendation only. The suitability of DayGlo A-Series and AX-Series pigments should be determined by evaluation in your specific application.

DISCLAIMER: Our technical advice, information and statements - given verbally, in writing or in the form of test results are 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 the 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 products.



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Typical Formulations:

Acrylic Aerosol Concentrate (parts by weight)

45.5	Paraloid F-10 ¹ or Elvacite 2044 ²
35.0	DayGlo A or AX pigments.
<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 ³ (50% in VM&P Naphtha)
0.40	Cyasorb UV-24 ⁴
50.50	DayGlo A or AX pigments.
0.08	12% Cobalt Hex Chem ⁵
0.20	Skino #2 ⁵
0.20	Cab-O-Sil ⁶
<u>8.62</u>	Mineral Spirits
100.0	

Water Dispersion (parts by weight)

Part A

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

Part B

49.4	Part A
50.0	DayGlo A or AX pigments.
<u>0.6</u>	Hodag PX-110 ⁸
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.

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

30.0	Paraloid NAD-10 ¹
50.0	DayGlo A or AX pigments.
<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 ⁹
0.7	Bykoplant-1000 ¹⁰
40.5	Dianal LP-3202 ¹¹
0.9	Ti-Pure R-101 ¹²
<u>10.0</u>	DayGlo A or AX pigments.
100.0	

Mix the 168 Plasticizer and Bykoplant-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 A or AX Pigments using a high speed disperser.

Prints cured 150°C for 3 minutes.

¹Rohm and Haas Co

²Lucite International

³Reichhold Chemical Inc.

⁴Cytec

⁵OM Group

⁶Cabot Corp.

⁷Dow Chemical

⁸Lambent Technologies

⁹Eastman Chemical

¹⁰Byk-Chemie

¹¹Mitsubishi Rayon Co.

¹²DuPont

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Lightfastness:

The higher the pigment concentration, the better the lightfastness. Plasticizers, stabilizers, and other additives can influence the lightfastness of fluorescent pigment. The following table gives the recommended percentage of pigment for optimum color and light stability with respect to film thickness:

<u>Wet Film Thickness (mils)</u>	<u>% Pigment</u>
3 - 5 (75 -125 microns)	20 – 35
10 (250 microns)	10 – 20
20 (500 microns)	7 – 15
40 (1,000 microns) and over	2 – 8

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