

Technical Bulletin

SPL-JX Series FINE GRIND FLUORESCENT PIGMENT DISPERSIONS

DAYGLO® SPL-JX Series Dispersions are high solids, fluorescent pigment dispersions. This product offers a bright, finely ground, high strength, fluorescent pigment particle with good lightfastness properties. The SPL-JX Series Dispersions are dispersed in water and suitable for use in water based inks and coatings.

Available Colors:

SPL-11JX	Aurora Pink*
SPL-12JX	Neon Red*
SPL-13JX	Rocket Red*
SPL-14JX	Fire Orange*
SPL-15JX	Blaze Orange*
SPL-17JX	Saturn Yellow*
SPL-21JX	Corona Magenta*

Typical Physical Properties:

Product Form:	Aqueous Fluorescent Pigment Dispersion
Specific Gravity:	1.05 - 1.15
Hegman Grind:	5.0 minimum
Percent Solids:	57 - 63%
pH:	8.0 - 8.8
Brookfield Viscosity:	150 - 450 cps. @ 25°C, (RVT #1, 20 RPM)

Product Description:

The DayGlo® SPL-JX Series Dispersions contain approximately 58% fluorescent pigment dispersed in water and a small percentage of alkali soluble acrylic resin. The SPL-JX Series Dispersions are V.O.C. (Volatile Organic Compounds) free. They are compatible with a wide range of aqueous systems. Such systems may include the following:

Water Based Flexo Ink
Water Based Gravure Ink

Waterborne Coatings
Paper Coatings

Additives, co-solvents, and binder selection can influence the performance of the SPL-JX Series Dispersions. The effects of these raw materials should be tested in the final application formula.

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Lightfastness:

SPL-JX Series Dispersions exhibit good lightfastness for indoor applications. However, their exterior lightfastness is limited. The users should conduct their own tests to determine if the use of SPL-JX Series Dispersions will meet their lightfastness requirements.

Stability:

It is recommended that SPL-JX Dispersions be protected from freezing. SPL-JX Dispersions are stable to shear and pH. Temperature during manufacturing should be kept below 60°C.

Handling:

SPL-JX Series Dispersions are liquid products, which offer easy incorporation into aqueous systems with minimal mixing. These products are not compatible with non-aqueous formulations.

The SPL-JX Series Dispersions should be mixed before use to ensure homogeneity. The pH of the SPL-JX Series should be adjusted to a minimum of 8.0 before use with other ingredients to avoid shocking the ink or coating system.

These products are for industrial use only. Avoid contact with skin and eyes. Do not swallow. Use appropriate respirator if the product forms mists. See the available Material Safety Data Sheet for more information.

Shipping:

SPL-JX Series Dispersions are available in 55-gallon plastic drums and 5-gallon plastic pails. Tote tanks are available upon special request.

Starting Formulas:

The SPL-JX Series Dispersions are recommended for use in water-based applications. The following are suggested starting formulas for using the SPL-JX Series products.

Basic Starting Formulation

Parts by Weight

DayGlo SPL-JX Series Dispersion	70.0
Isopropyl Alcohol	2.0
G-Cryl 250 (Acrylic Binder) ¹	14.0
HydriPrint 602 (Acrylic Binder) ²	14.0
Wax, Defoamer, Biocide	<u>As Needed</u>
	100.0

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Packaging Flexo (Coated Paper and Board)

Parts by Weight

DayGlo SPL-JX Series Dispersion.....	70.0
Joncyl ECO-2177 ³	22.5
Jonwax 28 ³	3.0
Joncyl 60 ³	5.0
28% Aqueous Ammonia	0.3
Joncyl 646 ³	2.5
Surfynol 104PA ⁴	2.0
	100.0

Initial viscosity equals 30 seconds/#3 Zahn cup. Film formation and ink resolubility are excellent.

Packaging Flexo (Kraft and Bleached Kraft)

Parts by Weight

DayGlo SPL-JX Series Dispersion	75.0
Joncyl 91 ³	17.0
Jonwax 22 ³	3.0
Water	5.0
	100.0

Initial viscosity equals 30 seconds/#3 Zahn cup. This binder system offers an economical alternative for corrugated packaging.

Fluorescent Paper Coating

Parts by Weight

DayGlo SPL-JX Series Dispersion	25.0
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(Adjust pH to 8.0 minimum before adding other ingredients)

Calcium Carbonate	15.0
Thickener	As Needed
Latex Binder	23.0
Water	37.0
Defoamer, Biocide.....	As Needed
	100.0



Binders:

The following binders and binder blends have been found to work well with SPL-JX Series Dispersions. Testing should be conducted to determine their affects on final application formulas.

G-Cryl 250¹/HydriPrint 602²
HydriPrint 602²
Joncryl 73³
Joncryl 73³/Joncryl 142³
Joncryl 60³
Joncryl 87³
Joncryl 73³/Joncryl 142³/Joncryl
89³

G-Cryl 250¹
Joncryl 50³
Joncryl 74³
Joncryl 50³/Joncryl 89³
Joncryl 61³
Joncryl 89³

Viscosity Control:

Formulations based on SPL-JX Series Dispersions are designed to be thinned with water only. Formulations may tolerate small quantities of alcohols but levels should be kept below 5%. Testing should be conducted when solvents are used to determine their affects on the final application formulas.

Viscosity can be increased with the use of Joncryl 142 or a similar product. The addition of 5% of Joncryl 142 will increase viscosity approximately 20 seconds/#2 Zahn cup. Testing should be conduct with each thickener to determine their affects on the final application formulas.

¹Henkel Corp.

²Hydrite Chemical

³S.C. Johnson & Son, Inc.

⁴Air Products

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