TECHNICAL BULLETIN

SPL-J Series FINE GRIND
FLUORESCENT PIGMENT DISPERSIONS

DAYGLO SPL-J 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-J Series Dispersions are dispersed in water and suitable for use in water based inks and coatings.

Available Colors:

SPL-11J	Aurora Pink*
SPL-12J	Neon Red*
SPL-13J	Rocket Red*
SPL-14J	Fire Orange*
SPL-15J	Blaze Orange*
SPL-17J	Saturn Yellow*
SPL-21J	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-J Series Dispersions contain approximately 58% fluorescent pigment dispersed in water and a small percentage of alkali soluble acrylic resin. The SPL-J 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	Waterborne Coatings
Water Based Gravure Ink	Paper Coatings

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

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Lightfastness:

SPL-J 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-J Series Dispersions will meet their lightfastness requirements.

Stability:

SPL-J Series Dispersions are freeze/thaw stable. However, it is recommended that they should be protected from freezing wherever possible. SPL-J Series Dispersions are stable to shear and pH. Temperature during manufacturing should be kept below 60°C.

Handling:

SPL-J 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-J Series Dispersions should be mixed before use to ensure homogeneity. The pH of the SPL-J 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-J 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-J Series Dispersions are recommended for use in water-based applications. The following are suggested starting formulas for using the SPL-J Series products.

Basic Starting Formulation

	Parts by Weight
DAYGLO SPL-J Series Dispersion	70.0
Isopropyl Alcohol	2.0
G-Cryl 250 (Acrylic Binder)[1]	14.0
Lucidene 602 (Acrylic Binder)[2]	14.0
Wax, Defoamer, Biocide	As Needed
	100.0

Packaging Flexo (Coated Paper and Board)

	Parts by Weight
DayGlo® SPL-J Series Dispersion	70.0
Joncryl ECO-2177[3]	22.5
Jonwax 28[3]	3.0
Joncryl 60[3]	5.0
28% Aqueous Ammonia	0.3
Joncryl 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-J Series Dispersion	75.0
Joncryl 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-J Series Dispersion	25.0
(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-J Series Dispersions. Testing should be conducted to determine their affects on final application formulas.

G-Cryl 250[1]/Lucidene 602[2]
Lucidene 602[2]
Joncryl 73[3]
Joncryl 73[3]/Joncryl 142[3]
Joncryl 60[3]
Joncryl 87[3]
Joncryl 73[3]/Joncryl 142[3]/Joncryl 89[3]
G-Cryl 250[1]
Joncryl 50[3]
Joncryl 74[3]
Joncryl 50[3]/Joncryl 89[3]
Joncryl 61[3]
Joncryl 89[3]

Viscosity Control:

Formulations based on SPL-J 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.

[1]Henkel Corp.
[2]Morton International
[3]S.C. Johnson & Son, Inc.
[4]Air Products

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