Technical Bulletin

Phantom™ Invisible Pigments

The DINV Phantom Invisible Pigments are organic, UV reactive pigments. They are virtually invisible in most applications until excited by UV light (long wave 365nm or short wave 254nm). They have strong, bright emissions. They are best for indoor applications due to limited lightfastness. These pigments have no afterglow.

Typical Physical Properties

	DINV-13	DINV-17	DINV-18
Emission Color	Red	Yellow	Green
Peak Emission	614 nm	533 nm	507 nm
Appearance	Off white powder	Off white powder	Off white powder
Specific Gravity	1.4	1.4	1.02
Average Particle Size	5 µm	5 µm	5 µm
Maximum Processing Temperature	50°C	100°C	250°C
Lightfastness Blue Wool Scale	1-2	1-2	1-2
Oil Absorption per 100 g of pigment	41 g	49 g	42 g
Bulk Density (g/ml)	0.210	0.155	0.183
Bulk Density (lbs/gal)	1.75	1.29	1.53

Chemical Composition

DINV-13: Organic europium complex
DINV-17: Organic non-ionogenic oxazine derivative
DINV-18: Quinazolinone

Dispersion

DINV Phantom Invisible Pigments can be easily incorporated into most water or solvent-based formulations. They should be dispersed with high-speed mixing or moderate milling. If necessary for formulation stability, suspending or dispersing aids can be used.

Day-Glo Color Corp.• 4515 St. Clair Avenue• Cleveland, OH 44103• (216) 391-7070• www.dayglo.com

Applications

DINV Phantom Invisible Pigments are designed for use where they are not intended to be apparent, such as tracers and security applications. They can also be used for a variety of novelty effects where its invisible nature can be exploited. Because each application can require different levels of UV response, recommended use levels vary. Use 0.5% as a starting point and adjusted as needed. Prolonged outdoor exposure is not recommended due to the limited lightfastness properties of this product.

Notes on Use

- DINV Phantom Invisible Pigments can be milled as necessary to reduce particle size. However, strong milling or grinding may result in a reduction of emission intensity.

- The use of opaque fillers or extenders should be avoided as these may quench luminescent emissions. In addition, DINV Phantom Invisible Pigments should not be blended with conventional pigments. They can be mixed with other invisible pigments, as these colors work additively. The invisible color can be applied over another color in the form of a clear lacquer to achieve a different color under UV light.

Health and Safety

DINV Phantom Invisible Pigments are generally considered to be of a low toxicity if used and stored as recommended. If stored in sealed containers in darkness, the shelf life should be indefinite. Please refer to the separate MSDS for specific information.

Ver. 140724

DayGlo®