

# Technical Data Sheet

## Radiant MP Series

### General Description

A daylight fluorescent pigment based on a unique thermoset resin matrix plastics applications to limit migration in PVC, rubber, HDPE, PP and LDPE where dye migration occurs with other types of pigments. MP is a dyed/pigmented modified benzoguanamine formaldehyde thermoset copolymer

### Applications

- Specialty Coatings/Inks
- Solvent Sensitive Systems
- Thermoplastic and Thermoset Elastomers
- Vinyl Plastisol
- Low Density Polyethylene (LDPE)
- Thermoplastic Elastomers
- Polyurethane
- Liquid Colorant
- PVC Calendaring
- Flexible PVC
- Gel Coats
- Natural and Synthetic Rubber
- High Density Polyethylene (HDPE)\*
- Polypropylene (PP)\*

\* Caution: The maximum processing temperature for HDPE and PP is not to exceed 460°F (238°C)

### Available Colors

Product Code	Color
MP-CH5510	Chartreuse
MP-GR5511	Green
MP-OY5512	Orange-Yellow
MP-OG5513	Orange
MP-RD5515	Red
MP-CE5606	Cerise
MP-PK5661	Pink
MP-MG5518	Magenta
MP-PR5547	Purple
MP-BL6182	Blue

### Storage

When stored in a cool, dry environment, MP pigments have an indefinite shelf life. Colorant containers should be kept closed to minimize contamination.

### Product Features

Fine particle size	Pigments exhibit excellent dispersibility.
Spherical shape	Offers excellent light scattering/opacity.
Bleed resistant	Plasticized PVC and elastomers
Solvent resistant	Allows for use in wide range of solvents.
Broad Compatibility:	Wide-ranging utility

### Physical properties

Specific Gravity	1.3
Average Particle size	2-3 microns
Hegman Grind	5.0 +
Decomposition Point	255 +/- 5°C Maximum
Processing Range	460°F (238°C)

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Solvent Characteristics		
Solvent	Solubility	Bleed
Water	Insoluble	Negligible
Mineral Spirits	Insoluble	Negligible
Toluene	Insoluble	Negligible
Xylene	Insoluble	Negligible
Ethanol	Insoluble	Moderate
Methanol	Insoluble	Considerable
2-Propanol	Insoluble	Moderate
Acetone	Insoluble	Considerable
Methyl Ethyl Ketone	Insoluble	Considerable
Ethyl Acetate	Insoluble	Slight to Moderate

### Plate-out

One of the challenges that plastics processors have faced when handling fluorescent colorants is the occurrence of plate-out. This phenomenon occurs when lower molecular weight organic materials, such as oligomeric species or fluorescent dyestuffs, thermally decompose and separate from the compounding mixture. Consequently, these materials deposit on screws, blow-pins, and other metal processing equipment, resulting in what is commonly referred to as plate-out.

Due to its thermoset nature, the MP series greatly reduces, and in many cases eliminates, the occurrence of plate-out. Therefore, a simple purge with clear has been found to be a sufficient method of cleaning. This results in less down time for the processor due to extensive equipment clean-up.

### Processing Temperatures

MP is recommended for use in plastics encountering process temperatures up to 460oF. However, MP is unlike typical fluorescent colorants which "melt-in," because it remains intact as a pigment. Therefore, higher shear than is typically applied to fluorescent colorants is required to disperse the pigment and develop optimum color.

### Processing Aids

In some instances, the MP series has been found to process easily without dispersion aids. However, if it is determined that processing aids are necessary, zinc-based additives should be avoided. 0.10-0.50% of EBS (ethylene bis stearamide) can be added as a dispersion agent in dry blends or masterbatches to promote flow, enhance processability.

### Aging and Stability

The degree of colorfastness will be dependent on the following factors: Type of plastic, concentration of colorant, film thickness, type of exposure (outdoor versus indoor) and direction of exposure.

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