



## Technical Information

### Product description

RADGLO® GM-2\* pigments are composed of a unique thermoset resin matrix for paint and ink applications where strong solvents are used and for PVC where dye migration occurs with other types of pigments.

GM2\* series are resistant to and insoluble in most common solvents including ketones, esters and alcohols.

### Chemical composition

RADGLO® GM-2\* pigments are composed of a solid solution of dyestuffs in a thermoset benzoguanamine-formaldehyde copolymer.

RADGLO® fluorescent pigments as such are not classified in the Colour Index (CI), but certain colour components are.



### Standard colours

- GM-20: Chartreuse
- GM-21: Green
- GM-22: Orange-Yellow
- GM-23: Orange
- GM-24: Orange Red
- GM-25: Red
- GM-27: Pink
- GM-28: Magenta
- GM-29: Blue
- GM-78 Purple

### Applications:

- Solvent based inks and paints*
- PVC plastisols and organosols*
- PVC calendaring*
- Extruded and moulded polyolefines*
- Mass colouration of rubber*

### Physical properties

- Melting point: Completely thermoset
- Decomp. T°: >220°C
- Spec. Gravity: 1.3 g/ml
- Average particle size: < 3µm
- Hegman grind: 3-5 µm
- pH (5% aq. slurry): 4.5 - 7.0 @20°C

## Regulatory and Ecotox information

All components of RADGLO® GM-2\* series are registered in EINECS. All components as well as the polymeric resin of the GM-2\* series are registered in TSCA. RADGLO® GM-2\* series is in conformity with the purity requirements of EN71 part 3.

RADGLO® GM-2\* series is basically free from heavy metals & RoHS compliant. For detailed information, please consult the individual MSDS.

## Lightfastness & Heatstability

### Lightfastness

Fluorescent pigments are more fugitive than conventional pigments. They are stable to indoor light or outdoor conditions other than direct sunlight. By exposure to outdoor sunlight the colour will change, whereby the degree of fading is depending on following factors:

- Colour of the pigment
- Pigment loading and thickness of the endproduct. The higher the pigment loading and thickness, the better the lightfastness.
- Type of binder polymer
- Intensity and angle of the incident sunlight.

**The lightfastness may be improved by including UV-absorber(s) in the formulation and/or by making use of clear overcoats containing UV-absorber(s).**

### Heatstability

RADGLO® GM-2\* pigments can be used for short dwell times in applications with processing temperatures up to 240°C (masterbatches) without affecting the colouristic properties.

RADGLO® GM-2\* pigments are resistant to plate-out in plastics applications.

RADGLO® GM-2\* series is especially developed for applications where extreme resistance to solvents and fastness to migration and bleeding are essential.

## Applications & Storage

### Applications

In view of the thermoset nature of RADGLO® GM-2\* pigments, these pigments are especially recommended for applications demanding high resistance to polar solvents, plasticizers, heat, pressure and migration.

### Typical applications are:

- Solvent based inks and paints
- PVC plastisols and organosols
- PVC calendering
- Extruded and moulded polyolefins
- Mass colouration of rubber

### Storage

RADGLO® GM-2\* pigments remain stable provided they are kept in a dry storage place at temperatures < 50°C.

## Processing conditions and specific considerations

RADGLO® GM-2\* pigments are small spherical particles and ensures easy dispersion. Additional grinding is not required.

Check on beforehand the compatibility of RADGLO® GM-2\* series in the solvents of your formulations. Use the solubility table on next page as a guideline. Specific guideline formulations are available upon request.

## Solubility and bleeding data

### Effects of solvents and plasticizers on RADGLO® fluorescent pigments, used for coatings, printing inks and paints.

Fluorescent pigments in mixtures of various solvents or exposed to higher temperatures should be carefully tested prior to use. All data are average values per series and may vary per colour.

#### Testmethod solubility (S):

1 gram of pigment dispersed in 10 ml of solvent; after stirring 1 minute, the mixture is left at 38°C over 30 minutes. The solvent attack on the resin indicates the solubility.

The higher the number (5) the better.

5	Insoluble
4	Very slightly soluble
3	Slightly soluble
2	Fairly soluble
1	Completely soluble

#### Testmethod bleeding (B):

1 gram of pigment dispersed in 10 ml of solvent; after stirring 1 minute and storage for one week at room temperature, the mixture is filtered. The transmission % is measured of a 50 times diluted filtrate.

The higher the number (5) the better.

5	Absolutely none
4	Very slight
3	Slight
2	Moderate
1	Heavy

		GM-2*	
		S	B
<b>ALIPHATIC HYDRO CARBONS</b>	Mixed pentanes	5	5
	Mixed hexanes	5	5
	Heptane	5	5
	Destillates 35-260°C	5	5
<b>AROMATIC HYDRO CARBONS</b>	Ethylbenzene	5	4-5
	Toluene	5	4-5
	Xylene	5	4-5
	Destillates 150-250°C	5	5
<b>ALCOHOLS</b>	Methyl alcohol	5	3-4
	Ethyl alcohol	5	4
	Isopropyl alcohol	5	4
	Butyl alcohol	5	4-5
	Cyclohexanol	5	4-5
	2-Ethylhexanol	5	4-5
	Diacetone alcohol	5	4-5
<b>KETONES</b>	Acetone	5	3-4
	Methyl ethyl ketone (= MEK)	5	3-4
	Methyl iso butyl ketone	5	3-4
	Ethyl butyl ketone	5	3
	Diisobutyl ketone	5	3-4
	Cyclohexanone	5	3-4
	Isophorone	5	4
<b>ESTERS</b>	Ethyl acetate	5	3-4
	Iso/n-Propyl acetate	5	4
	n-Butyl acetate	5	4
<b>GLYCOLS &amp; ETHERS</b>	Glycerine	5	5
	Ethylene glycol	5	4-5
	Diethylene glycol	5	4-5
	Monopropylene glycol	5	4-5
	Dipropylene glycol	5	3-4
	Ethylene glycol monoethyl ether	5	3
<b>CHLORINATED SOLVENTS</b>	Carbon tetrachloride	5	4-5
	Trichloroethylene	5	4
	Perchloroethylene	5	4
	Chlorobenzene	5	3
	Methylene chloride	5	4
	Ethylene chloride	5	4-5
<b>PLASTICIZERS</b>	Dibutyl phthalate	5	5
	Diocetyl phthalate	5	5
	Diisodecyl phthalate	5	5
	Diocetyl adipate	5	5
	Diocetyl sebacate	5	5
	Castor oil	5	5
	Epoxidezed soya oil	5	5

## Available standard colours & package of the GM series:

COLOUR	GM	Others
Chartreuse	GM-20	
Green	GM-21	
Orange-Yellow	GM-22	
Orange	GM-23	
Orange Red	GM-24	
Red	GM-25	
Pink	GM-27	
Magenta	GM-28	
Purple	GM-78	
Blue	GM-29	
UV Blue	-	P-09
UV Green	-	P-X-0936

Similar codes in the different series offer a comparable colour but are not 100% identical.  
Colour may depend on the specific formulations of the customer.

Package:	Bags containing:	
1 box = 25 kg	1 x 25 kg	= Minimal order

® = registered trademark

**Disclaimer:** This technical information is just an advice. No warranty of fitness for a particular purpose is made.



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