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RADIANT COLOR NV HOUTHALEN BELGIUM

Technical Information

Applications:

Extrusion
Injection moulding
Blowmoulding
Filmblowing
in various plastics

Product description

Based on their good temperature resistance, tinctorial strength and brilliance, RADGLO® RPC fluorescent pigments are especially recommended for processes, such as extrusion, injection moulding, blowmoulding, filmblowing etc., for articles as e.g. safety materials, toys, packaging, shopping bags and other eye-catching products.
RADGLO® RPC fluorescent pigments offer the industry a broad compatibility in many plastics, brilliant fluorescent colours and easy dispersion over a wide temperature range without formaldehyde outgassing.

Compared to all other commercially available fluorescent pigments for plastics, RPC series offers the advantage of negligible, if any, sticking or plating, whereby both heatstability and light resistance are optimized.

Chemical composition

RADGLO® RPC pigment is a solid solution of dyes in a thermoplastic polyamide-ester resin.

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

Standard colours

RPC-10: Chartreuse

RPC-13: Orange

RPC-15: Red

RPC-17: Pink

RPC-18: Magenta

Available colour

RPC-X-0935: UV Green (See specific information sheet)

Physical properties

- Melting point: 125°-150°C
- Decomp.T°: >320°C
- Min. process. T°: 160°C
- Spec. Gravity: 1.2 g/ml
- Bulking value: 0.35g/ml
- Average particle size: 8-15µm

Regulatory and Ecotox information

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

RADGLO® RPC series is basically free from heavy metals.
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 pigmentloading and thickness, the better the lightfastness.
- Type of plastic.
- Intensity and angle of the incident sunlight.

The lightfastness may be improved by including UV–absorber(s) in the formulation.

Heatstability

Heatstability tested by injection moulding in HDPE shows a maximum processing temperature of 280°C during 10 minutes.

Applications & Storage

RADGLO® RPC series is formaldehyde free and melt completely up in the polymer.

Applications

Colouring following plastics are recommended (R),
not recommended (NR) or
should be individually tested (T).

Polyethylene	**R**
Polypropylene	**R**
Polystyrene	**T**
ABS	**T**
Ionomers	**T**
PA (nylon)	**T**
Polycarbonate	**T**
PMMA (polyacrylic)	**T**
Rigid PVC	**T**
Urethane	**T**
TPU	**R**

Storage

RADGLO® RPC series remains stable provided it is kept in a dry storage place at temperatures < 50°C.

Processing conditions and specific considerations

Recommended pigment loading

RADGLO® RPC series produce the most brilliant colours when used in clean, clear plastic compounds. Opaque plastics have a negative effect on the colour, resulting in pastel shades or colourshift.

The pigment loading needed to develop fluorescent brightness, will depend on the thickness of the plastic part.

Part thickness in mm	Pigment level in %
0.1 - 0.25	5 -10
0.25 - 0.75	3 - 7
0.75 - 1.5	2 - 3
1.5 and more	1 - 2

Processing temperature & Additives

RADGLO® RPC pigments require a minimum processing temperature of 160°-170°C. To optimize processing it is recommendable to predisperse the pigment into a concentrated form (masterbatch). Masterbatches based on RPC pigments may be loaded up to 40%.

Additives:

Certain metal ions and nucleated polymers are known to cause colour changes and loss of brightness to fluorescent colorants. Typical examples are zinc and calciumstearates. These commonly used lubricants/additives will cause various degrees of colour changes in fluorescent coloured materials.

Similar effects may be seen when using calciumcarbonate as an extender. Any additive to a fluorescent platstic system should be examined to determine if it will adversily affect the brightness and hue of the fluorescent colorant.

For more specific information, please consult the bulletin: “Effects of metal ions on fluorescent colorants in plastics”.

For obtaining pastel shades, we recommend to use ZnS instead of TiO2 in order to keep the brilliancy level under black light illumination.

Avoid metal ions (stearates) in combination with fluorescent products.

Available standard colours & package of the RPC series:

COLOUR	RPC	Others
Chartreuse	RPC-10	-
Orange	RPC-13	-
Red	RPC-15	-
Pink	RPC-17	-
Magenta	RPC-18	-
UV Green	-	RPC-X-0935(*)

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.

Additional series and colours are available on request.

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

(*) See specific information sheet. Minimal order for this product = 5 kg.

® = registered trademark
Disclaimer: This technical information is just an advice. No warranty of fitness for a particular purpose is made.

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