RADGLO® RBA SERIES

01/01/2014

Technical Information

Product description

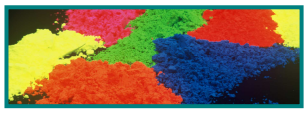
RADGLO® RBA bases are a unique combination of ultra-fine, high strength fluorescent pigments dispersed in a rheologically controlled vehicle system. This yields maximum colour density and excellent printability.

RADGLO® RBA bases are designed for use in offset and letterpress inks.

Chemical composition

RADGLO® RBA bases are composed of a solid solution of dyestuffs in a thermoplastic sulphonamide-melamine-paraformaldehyde resin, dispersed in an alkyd resin.

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



Standard colours

RBA-09: UV Blue

RBA-10: Chartreuse

RBA-12: Orange Yellow

RBA-13: Orange

RBA-14: Orange Red

RBA-15: Red

RBA-17: Pink

RBA-18: Magenta

Special colours

RBA-0-0932: Chartreuse

RBA-9P1: Blue

RBA-1P2: Green

RBA-0P3: Yellow

RBA-3P4: Orange

RBA-5P5: Red

RBA-7P6: Pink

RBA-8P7: Magenta

Applications:

Offset & Letterpress inks

Physical properties

- Pigment concentration / type: > 50% / thermoplastic dyed polymer.
- Vehicle/type: proprietary/resin modified alkyd.
- Particle size: submicron
- Grind: > 6.5 Hegman gauge
- Spec. Gravity: 1.15 g/ml
- Bulking value: 1.15 g/ml
- Laray viscosity: 3 500 -10 000P
  exception:
  RBA-9P1: 70-150 sec (200gr)
  RBA-1P2: > 2 500P

Regulatory and Ecotox information

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

RADGLO® RBA 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 binderpolymer
- 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® RBA series can be used for short dwell times in applications with processing temperatures up to 180°C without affecting the colouristic properties.

Applications & Storage

Applications

Excellent tack stability, anti-emulsification properties, faster setting and thorough drying characteristics, combined with a high colour-strength and colour brightness, make RADGLO® RBA bases especially suitable for offset and letterpress inks.

RADGLO® RBA series are recommended for offset and letterpress inks.

Storage

RADGLO® RBA bases remain stable provided they are kept in a dry storage place at temperatures < 50°C.

Starting point formulations

SHEETFED INK	
RADGLO® RBA base	77.5%
Ultrex 47 (Hexion Spec. Chemicals)	20%
Ce drier (6%) (Multiple suppliers)	1%
Mn drier (8%) (Multiple suppliers)	1.5%

Tack Inkometer
= 13-15 @ 1000 RPM, 32°C

HEATSET INK	
RADGLO® RBA base	70 parts
Luminex (Hexion Spec. Chemicals)	23 - 25 parts
PKWF 4/7 (Halterman)	3 - 5 parts
Wax additives (Multiple suppliers)	1 - 2 parts

Tack Inkometer
= 10-11 @ 1000 RPM, 32°C

Processing conditions & specific considerations

COLOURSTRENGTH, BRIGHTNESS & FINISH
Innovative vehicle technology has given Radiant Color the ability to disperse a high loading of submicron fluorescent pigment particles in the RADGLO® RBA bases, and yet maintain a workable rheology.

LOW ODOUR
RADGLO® RBA bases contain hydrotreated ink oils. They have been formulated to produce low odour on the press, even when using infra-red lamps as drying assist. RADGLO® RBA bases can be used to formulate low odour inks for napkins, tableclothes and other items.

PRESS PERFORMANCE
Sheetfed offset inks made from the RADGLO® RBA bases have been run on high speed sheetfed presses at 8 000 - 10 000 impressions per hour and are capable of much higher press speeds with excellent performance characteristics.

EXTENDER VARNISHES
For optimum results, a low tack urethane is recommended. Optimum setting characteristics are developed with this varnish as well as optimum colour brightness and mat finish. Always pretest the ink formulation for drying and adhesion on the stock to be printed.

RUB & SLIP ADDITIVES
Where maximum setting speed and good rub resistance is required, the use of a high quality dry wax is recommended. Usually 2-3 % dry wax is sufficient. This permits the use of additional vehicles, oils and other modifiers which will contribute to faster setting speed, and improved printability and finish. Where maximum rub and slip properties are desired, the addition of 0.5 - 1.0 % PTFE-powder is recommended.

DRIERS
A combination drier of 1% of 6% cerium and 1% of 8% manganese is recommended for sheetfed offset inks made from RBA bases. The addition of cobalt drier will accelerate the drying, but will darken the colour and cause colour instability. This condition is accentuated when heat is involved in the printing process or in ink storage.

TACK REDUCING AGENTS
High boiling aliphatic oils such as Magiesol 52 are recommended as primary tack reducers. Optifilm Enhancer 300 and Tridecyl alcohol (TDA) are secondary tack reducers, but are much more effective in helping to control flow and transfer properties in the ink when used in small percentages. Drying oils such as tung, oiticica and linseed oil can also be used to reduce tack.

ADDITIVES FOR WATER RESISTANCE AND ANTI EMULSIFICATION PROPERTIES
The RBA bases have been formulated to resist emulsification in most common ink formulations. Additional anti-emulsification additives should not be necessary.

COMBINATIONS WITH NON-FLUORESCENT COLOURS
Small amounts of non-fluorescent colour can be used effectively without significantly detracting from colour brightness. Increases in colour strength will usually compensate for any loss in brilliance. For example, 5 % Lake Red C flushed colour added to 70-80 % RBA14 in the finished ink will result in a noticeable stronger ink without a significant change in the hue or brightness. Conversely, small amounts of RBA-bases can be added to conventional colours to help “clean up” the colour. This has been found to be particularly effective when printing on uncoated paper stocks where the conventional inks lose colour brightness when absorbed into the stock.

*Available colours & package of the RBA/RBA-*P* series:*

COLOUR	RBA		RBA*P*
	Standard	Not standard	Standard
Chartreuse	RBA-10	RBA-0-0932	—
Yellow	—	—	RBA-0P3
Green	—	—	RBA-1P2
Orange Yellow	RBA-12	—	—
Orange	RBA-13	—	RBA-3P4
Orange Red	RBA-14	—	—
Red	RBA-15	—	RBA-5P5
Cerise	—	RBA-16	—
Pink	RBA-17	—	RBA-7P6
Magenta	RBA-18	—	RBA-8P7
Blue	—	—	RBA-9P1
UV Blue	—	RBA-09	—

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.

P* stands for the Pantone colours

Package:		
1 metal can = 20 kg		= Minimal order
1 metal drum = 200 kg		

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