Baoxu Fluorescent Pigment Profile

Baoxu Chemical products find diverse applications in fields such as plastics, coatings, paints, inks, LED, LCD, cosmetics, skin care products, etc.

BXColor Fluorescent Colorants are essentially fluorescent dyes and pigments dissolved in polymer matrices. The typical polymer matrices include different amino resins, polyesters, copolymer of ester and amide, polyamide, and acrylic resin. They are in powder forms with various particle sizes, or powders dispersed in water/solvent or vehicle. Some of our products are formaldehyde-free.

Each of **BXColor® Fluorescent Colorants** has unique sets of properties and functionalities. Some of them have multiple functions and applications, while others are designed with particular functionalities for specialized applications. It is critical that end-users provide application information in as much details as possible for us to come up with best possible recommendations.

Without pausing at existing products, **Baoxu Chemical** is constantly exploring and developing various new technologies and markets. We welcome inquiries and appreciate any opportunity for potential collaborations in technology, marketing, and joint-venturing. Particularly, we invite those business organizations who are experienced and with established network to work with us as business partners, represent us and distribute for us. We also invite those individuals with specialized talents or experiences in technology or market development to consider joining our dynamic teams. Baoxu Chemical is set to grow. Let's grow together.

Disclaimer:

The information in this brochure has been compiled from sources which we believe to be reliable, but we assume no responsibility or liability for its accuracy or for the result of any application made of any information contained herein, nor do we assume any liability for infringement of any patent which may result from the application of such information. We strongly suggest that end-users thoroughly test the products for compatibility in their systems prior to any scaled-up applications.

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| FE Amino resin | water and weak solvent; thermoplastic | Inks, Paints & Coatings | 9 |
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| FI Amino resin | solvent-soluble fluorescent toners | Flexo, gravure and UV-cure inks; | 13-14 |
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| FM Polyamide-ester resin | non-formaldehyde; thermoplastic | high-temperature plastics | 18 |
| FN Amino resin | Microspheres; Anti-Plate out; bleed-resistant; | Extruded (Masterbatch) & molded polyolefins; PVC coating & molding | 19 |
| FO Amino resin in modified alkyd resin as vehicle | Fluorescent ink base with ultra fine, thermoplastic fluorescent pigments dispersed in a modified alkyd vehicle. | Offset printing and letterpress printing | 20 |
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BXCOLOR® vs Other Brand – Daylight Fluorescent Colors

| | BXCOLOR® | Radiant Color | DayGlo | Sun Chem | Sinloihi | Sterling | Swada Fiesta |
|---------------------------|---|------------------|-----------|----------------|--------------------------------------|-------------------|-----------------|
| Paint | FA/FC | MC | | | | | |
| Inks | Solvent-Resisting | MC | | | | | |
| Paint | FB | | | | | 210 | PTS |
| Inks | Solvent-Resisting | | | | | 210 | K15 |
| Paint | FD | | | | | | |
| Inks | Solvent-Resisting | | | | | | |
| Paint Inks | FE Waterborne systems | R5, R6 | A, AX | B3500 B2800 | FZ2000 FZ3500 FZ5000 FZ6000 | 610 710 | A/D, E, FEX |
| Paint Inks | FF Solvent- Resisting | Р7 | T GT | SR TS | FA200 FR50 FA40 | 810 850 | T FTX |
| Textile | FG Non-Formaldehyde | T1 | | | | | |
| Marker Inks | FH Non-Formaldehyde Water-soluble Toner | ST | | | | 450 | |
| Inks | FI Solvent-Soluble Toner | GF | HM HMS | HVT | FM100 | 410 | EBT |
| Plastics | FG Non-Formaldehyde | K6 | | | | | |
| Plastics | FK Non-Formaldehyde | K8 | | | | | LMP |
| Plastics High- temp | FL Non-Formaldehyde | K7 | Z, | | | 911 915 920 | HMP |
| Plastics | FM Non-Formaldehyde | K2000 | ZQ | Vizitek | SB10 | 510 520 | XSP |
| Plastics | FN Anti-plateout | MP AFC | | | FX300 | | RTS |
| Inks | FO | VF | SFB | | | 325 | BPC |

Recommended Applications for BXCOLOR® Fluorescent Colors

 \blacklozenge recommended; \bigtriangledown may be used

| BXCOLO | R ® Fluorescent | | | FA/FC | | | FG | FL | FG | | |
|---------------|------------------------|--------------------|--------------------|--------------------|--------------|-----------------|--------------------|--------------------|--------------------|--------------------|-----------|
| Pr | roduct Codes → | FE | FF | FB/FD | FH | FI | FK | FM | GL | FG | FO |
| Recommend | led | High Strength | Thermoset* | Thermoset | Water-Solubl | Solvent-Soluble | Melt-in | Heat-Stable | Thermoset | HCHO-Free | Ink bases |
| Application | ns↓ | Thermoplastic | | Spherical Particle | HCHO-Free | | HCHO-Free | Melt-in/HCHO-Free | SphericalParticle | | |
| Modeling Clay | y/Crayons | • | \bigtriangledown | \bigtriangledown | | | | | | • | |
| Flexo Ink | Water | \bigtriangledown | \bigtriangledown | | • | | | | | | |
| | Solvent | | • | • | | • | | | \bigtriangledown | | • |
| | UV | | | | | • | | | | | |
| Gravure Ink | Aliphatic | • | \bigtriangledown | \bigtriangledown | | | | | | | |
| | Aromatic | \bigtriangledown | \bigtriangledown | \bigtriangledown | | | | | | | |
| | Alcohol/Ester | | • | • | | • | | | \bigtriangledown | | |
| | Water | • | \bigtriangledown | | • | | | | | | |
| Paper Coating | 5 | • | \bigtriangledown | \bigtriangledown | | | | | | | |
| Paint | Water Based | • | \bigtriangledown | | | | | | | | |
| | Solvent Based | | • | ♦ | | | | | \bigtriangledown | | |
| | Aerosol | | • | ♦ | | | | | \bigtriangledown | | |
| Powder Coatin | ng | \bigtriangledown | \bigtriangledown | \bigtriangledown | | | \bigtriangledown | \bigtriangledown | | | |
| Plastisol | Coatings | • | • | \bigtriangledown | | | | | | | |
| | Molded Parts | • | • | \bigtriangledown | | | | | | | |
| Screen Ink | Plastisol | \bigtriangledown | • | • | | | | | | | |
| | Water/Aliphastic | • | | | | | | | | | |
| | OtherSolvents | | • | • | | | | | | | |
| | UV | | | | | | | | | | |
| Textile | Dying | \bigtriangledown | | | | | | | | \bigtriangledown | |
| | Printing | \bigtriangledown | | | | | | | | \bigtriangledown | |
| Plastics | Liquid-Color | | | | | | \bigtriangledown | • | • | | |
| | Masterbatch | | | | | | | | | | |
| | Vinyl | | | | | | \bigtriangledown | • | • | | |
| | < 240°C | \bigtriangledown | | | | | • | \bigtriangledown | • | | |
| | 185-290°C | | | | | | | • | • | | |

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BXCOLOR® FA SERIES

Solvent and bleed resistant Fluorescent Pigments; Thermoset & Microspherical

| RECOMMENDED APPLICATOINS: | Bleed Resist and Crayon | Bleed Resistant Vinyl Plastisols, Specialty Coatings/Inks, Solvent Sensitive Systems, and Crayons | | | | | |
|----------------------------------|---|---|---|--|---|--|--|
| HIGHLIGHT OF PROPERTIES: | Thermoset, resistance to dispersabili | Thermoset, narrow distributed microspherical particles render properties of good resistance to solvent and bleed, and excellent light scattering and opacity, dispersability, tinting strength, and broad compatibility. | | | | | |
| SHADES: | Chartreuse, Blue, Purpl | Green, Orange-Yellow e | , Orange, Orange-Red | d, Red, Cer | ise, Pink, Magenta, | | |
| CHEMICAL NATURE: | A solid solu | tion of fluorescent dye | es in an amino resin | | | | |
| PHYSICAL PROPERTIE | ES: | | | | | | |
| Shape and state: | Solid micro | on-sized spherical partic | cles | | | | |
| pH: | 3.8~ 6 (5% | dispersion in water) | | | | | |
| *Moisture*: | < 4% (2 gra | am under 140C for 0.5 | hours) | | | | |
| Specific Gravity: | 1.3 (20°C) | | | | | | |
| Solvent Resistance: | Not soluble minutes. Fo marked for | Not soluble in most solvent systems. (Solubility is tested in a 40C water bath for 30 minutes. Following the solubility test, appearance of the supernatant is observed and marked for bleed scales.) | | | | | |
| Bleed Resistance. | Solvent | Acetone, Methanol, Methyl Ethyl Ketone | Ethanol, 2-Propanol | Ethyl Acetate | Mineral Spirits, Toluene, Xylene | | |
| Dieed Resistance. | Bleed Bleed scale | $\frac{2}{\text{s: } 0 - \text{negligible; } 1}$ | $\frac{1-2}{-\text{ slight; } 2-\text{ moderate}}$ | $\frac{1}{1}$ ate; 3 – con | 0 siderable | | |
| *Particle Size* (Microscope): | Maximum | 10 μm; Average <5 μm | | | | | |
| Softening Point: | Thermoset; | no softening point. Bu | t observed color chan | ges at ~260 |)°C | | |
| Decomposition Point: | $> 300 ^{\circ}\mathrm{C}$; | Maximum Processing | g Temperature: 260°C | | | | |
| *COLOR ASSESSMENT*: | Shade (hue technicians equipped w | e) and strength are co upon preparing side-b ith UV and D65 light s | ompared against an a y-side drawdowns an ource. | approved st d placed in | tandard by trained standard light box | | |
| STORAGE: | Under cond airborne co Chemical w purchasing. | litions that are cool, dry ntaminates, FA pigmen vill not assume respons Stay away from electr | y, covered, away from ts have an indefinite s ibility for storage time ostatic charges, and ig | direct sunl shelf life. B e longer tha gnition sour | ight and free of ut Baoxu un 6 months upon rces. | | |
| TOXICITY: | Tests condu FA-Series I upon reques of all produ | Tests conducted through independent laboratories have found BXCOLOR® FA-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous. | | | | | |
| NOTE: | Items n Prepare | Items marked with * are standard QC items taken on batch bases. Prepared by: HJW; Revised: LS 2011-12-5, HJW 202-3-6 | | | | | |

PRODUCT INFORMATION SHEET

| PRODUCT: | BXCOLOR® FB SERIES | | | | | | | |
|---------------------|--|--|----------|--------------------|------------------------|---------------------|---------|--|
| | Better Solvent & Bleed Resistance; Excellent Plate-out resistance; Thermoset | | | | | | | |
| | Microspher | Microspherical Fluoresent pigments | | | | | | |
| SHADES: | Chartreuse, | Green, Orange-Yellow | , Oran | ge, Orange-Rec | l, Red, Ceris | se, Pink, Magenta, | | |
| CHEMICAL | A solid solu | ution of fluorescent dye | es in ar | amino resin | | | | |
| NATURE: | | | | | | | | |
| HIGHLIGHT OF | Thermoset, | narrow distributed mid | crosph | erical particles i | render prope | erties of much imp | roved | |
| PROPERTIES: | resistance t | o solvent and bleed (co | lor mi | gration), excelle | ent resistanc | e to plate-out; exc | ellent | |
| | light scatter | ring and opacity, disper | sabilit | y, tinting streng | th, and broa | d compatibility. H | igher | |
| | color streng | gth than GQ. | | | | | | |
| RECOMMENDED | EVA foam | , PVC rubber, Rubbe | er, Pla | stics, Bleed re | esistant Vin | yl Plastisols, Spo | ecialty | |
| APPLICATOINS: | Coatings/Ir | iks, Solvent Sensitive S | System | S | | | | |
| PHYSICAL PROPE | RTIES: | | | | | | | |
| Shape and state: | Solid micro | on-sized spherical parties | cles | *Particle Size | * | Average 2 - 4 | ım | |
| pH: | 3~8(5%) | lispersion in water) | | Specific Grav | ity: | 1.3 (20°C) | | |
| *Moisture*: | < 4% (2 gra | am under 140° C for 0. | 5 hours | 5) | | | | |
| Softening Point: | Thermoset, | not detectable | | Decompositio | n: | >220°C | | |
| Light Fastness: | Good in ind | loor applications; Limi | ted wi | h UV exposure | or direct su | inshine. | | |
| Solvent Resistance: | Not soluble | e in most solvent syst | ems. S | Swelling observ | ved in some | e polar systems su | ich as | |
| | MEK, ethy | MEK, ethyl alcohol, 2-propanol. Solubility is tested in a 40C water bath for 30 minutes. | | | | | | |
| | Following | Following the solubility test, appearance of the supernatant is observed and marked for | | | | | | |
| | bleed scale | S. | | | | | | |
| Bleed Resistance: | Solvent | Acetone, Methanol, | _ | Ethanol, | Ethyl | Mineral Spirits, | | |
| | | Methyl Ethyl | 2 | -Propanol | Acetate | Toluene, | | |
| | | Ketone | | | | Xylene | | |
| | Bleed | 1-2 | | 1 | 0-1 | 0 | I | |
| | Bleed scale | es: $0 - \text{negligible}; 1$ | – sligł | it; 2 – modera | ite; $3 - \cos \theta$ | iderable | | |
| + 001 00 | <u> </u> | × • • | | | | | <u></u> | |
| *COLOR | Shade (hue |) and strength are com | pared a | against an appro | oved standar | rd by trained techr | acians | |
| ASSESSMENT*: | upon prepa | ring side-by-side draw | downs | and placed in s | tandard ligh | it box equipped wi | th UV | |
| STODACE. | and Dos Ing | gnt source. | | | 1: | -1-4 1 | | |
| SIOKAGE: | Under cond | EP nigmonts have | y, cove | finite chalf life | in theory D | ght and free of air | orne | |
| | not assume | responsibility for sto | un muc | inne longer the | n 6 months | unon purchasing | | |
| | away from | electrostatic charges a | nd ion | tion sources | n o monuis | s upon purchasing | . Stay | |
| | Tests cond | ucted through indepen | ndent | laboratorias ha | we found I | BACUT OD ® EB | Sorias | |
| TOXICITY: | Fluorescen | t Pigments to be "ess | entiall | v non-toxic " | MSFF is | available upon re | ouest | |
| | Good indu | strial hygiene and ha | ndling | methods are e | ssential in | the use of all pr | oducts | |
| | whether or | not they are determined | d to be | hazardous | ssentiur III | the use of an pr | 544010 | |
| REGULATION: | EN71.3 (H | eavy metal) compliant: | RoHS | compliant | | | | |
| NOTE: | Items mark | ed with * are standard | OC ite | ms taken on ba | tch bases. | | | |
| | | | | | | | | |

PRODUCT INFORMATION SHEET

| PRODUCT: | BXCOLOR® FC SERIES | | | | | | |
|--|--|--|---|---|--|--|--|
| | Thermoset Microspherical Fluorescent Pigments | | | | | | |
| SHADES: | Chartreuse, | Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, | | | | | |
| CHEMICAL NATURE: | A solid solu | tion of fluorescent dye | es in an amino resin | | | | |
| HIGHLIGHT OF | Thermoset, | narrow distributed mid | crospherical particles | ender prop | erties of much | | |
| PROPERTIES: | improved r | esistance to solvent and | d bleed (color migratio | on), and exc | cellent light | | |
| | scattering a | nd opacity, dispersabil | ity, tinting strength, ar | d broad co | mpatibility. | | |
| RECOMMENDED | Bleed Resi | stant Vinyl Plastisols, S | Specialty Coatings/Ink | s, Solvent | Sensitive Systems, | | |
| APPLICATOINS: | and Crayor | IS | | | | | |
| PHYSICAL PROPERTIE | ES: | | | | | | |
| Shape and state: | Solid micro | on-sized spherical partie | cles | | | | |
| pH: | 3.8~ 6 (5% | dispersion in water) | | | | | |
| *Moisture*: | < 4% (2 gra | am under 140°C for 0. | 5 hours) | | | | |
| Specific Gravity: | 1.3 (20℃) | | | | | | |
| Solvent Resistance: | Not soluble | e in most solvent syste | ms. Swelling observe | d in some j | polar systems such | | |
| | as MEK, e | thyl alcohol, 2-propane | ol. Solubility is tested | in a 40°C | water bath for 30 | | |
| | minutes. Fo | ollowing the solubility | test, appearance of th | e supernata | ant is observed and | | |
| | marked for | bleed scales. | | | | | |
| Bleed Resistance: | Solvent | Acetone, Methanol, | Ethanol, | Ethyl | Mineral Spirits, | | |
| | | Methyl Ethyl | 2-Propanol | Acetate | Toluene, | | |
| | | Ketone | | | Xylene | | |
| | Bleed 1-2 1 0-1 0 | | | | | | |
| | Bleed scale | s: $0 - \text{negligible}; 1$ | - slight; 2 - modera | te; $3 - \cos \theta$ | siderable | | |
| *Particle Size* | Maximum | 10 µm | | | | | |
| | | | | | | | |
| (Microscope): | | | | | | | |
| (Microscope): *Particle Size* | Average <5 | μm | | | | | |
| (Microscope): *Particle Size* Softening Point: | Average <5 Thermoset, | μm not detectable | | | | | |
| (Microscope): *Particle Size* Softening Point: Decomposition Point: | Average <5 Thermoset, > 300°C | μm not detectable | | | | | |
| (Microscope):*Particle Size*Softening Point:Decomposition Point:Maximum Processing | Average <5 Thermoset, > 300°C 260°C | μm not detectable | | | | | |
| (Microscope): *Particle Size* Softening Point: Decomposition Point: Maximum Processing Temperature: | Average <5 Thermoset, > 300°C 260°C | μm not detectable | | | | | |
| (Microscope):*Particle Size*Softening Point:Decomposition Point:Maximum ProcessingTemperature:*COLOR | Average <5 Thermoset, > 300°C 260°C Shade (hue | μm not detectable e) and strength are co | ompared against an a | pproved st | tandard by trained | | |
| (Microscope):*Particle Size*Softening Point:Decomposition Point:Maximum ProcessingTemperature:*COLORASSESSMENT*: | Average <5 Thermoset, > 300°C 260°C Shade (hud technicians | μm not detectable e) and strength are constrained upon preparing side-b | ompared against an a by-side drawdowns and | pproved st d placed in | tandard by trained standard light box | | |
| (Microscope): *Particle Size* Softening Point: Decomposition Point: Maximum Processing Temperature: *COLOR ASSESSMENT*: | Average <5 Thermoset, > 300°C 260°C Shade (huo technicians equipped w | μm not detectable and strength are constrained by the strength are constrained by the strength of the strength of | ompared against an a by-side drawdowns and source. | pproved st d placed in | tandard by trained standard light box | | |
| (Microscope):*Particle Size*Softening Point:Decomposition Point:Maximum ProcessingTemperature:*COLORASSESSMENT*:STORAGE: | Average <5 Thermoset, > 300°C 260°C Shade (huc technicians equipped w Under cond | μm not detectable and strength are constrained by the strength are constrained by the strength of the strength are constrained by the strength of the strength of | ompared against an a by-side drawdowns an source. lry, covered, away fro | pproved st d placed in m direct su | tandard by trained standard light box unlight and free of | | |
| (Microscope):*Particle Size*Softening Point:Decomposition Point:Maximum ProcessingTemperature:*COLORASSESSMENT*:STORAGE: | Average <5 Thermoset, > 300 °C 260 °C Shade (hud technicians equipped w Under cond airborne co | μm not detectable and strength are constrained by the strength are constrained by the strength of the strength of | ompared against an a by-side drawdowns and source. Iry, covered, away fro nts have an indefinite s | pproved st d placed in m direct su shelf life in | tandard by trained standard light box unlight and free of theory. But Baoxu | | |
| (Microscope): *Particle Size* Softening Point: Decomposition Point: Maximum Processing Temperature: *COLOR ASSESSMENT*: STORAGE: | Average <5 Thermoset, > 300°C 260°C Shade (hua technicians equipped w Under cond airborne co Chemical w | μm not detectable e) and strength are constrained by the strength are constrained by the strength of t | ompared against an a by-side drawdowns and source. Iry, covered, away fro nts have an indefinite s sibility for storage tin | pproved st d placed in m direct su shelf life in he longer th | tandard by trained standard light box unlight and free of theory. But Baoxu nan 6 months upon | | |
| (Microscope): *Particle Size* Softening Point: Decomposition Point: Maximum Processing Temperature: *COLOR ASSESSMENT*: STORAGE: | Average <5 Thermoset, > 300 °C 260 °C Shade (hud technicians equipped w Under cond airborne co Chemical w purchasing | μm not detectable and strength are constrained by the strength and by the strength are constrained by the strength are constrained by the strength are strength and the strength are strength are | ompared against an a by-side drawdowns an source. Iry, covered, away fro hts have an indefinite s sibility for storage tim costatic charges, and ig | pproved st d placed in m direct su shelf life in he longer th gnition sour | tandard by trained standard light box unlight and free of theory. But Baoxu nan 6 months upon ces. | | |
| (Microscope): *Particle Size* Softening Point: Decomposition Point: Maximum Processing Temperature: *COLOR ASSESSMENT*: STORAGE: TOXICITY: | Average <5 Thermoset, > 300 °C 260 °C Shade (hue technicians equipped w Under cond airborne co Chemical w purchasing Tests cond EC 2 | μm not detectable e) and strength are constrained by the strength are constrained by the strength of the strength | ompared against an a by-side drawdowns and source. Iry, covered, away fro nts have an indefinite s sibility for storage tim costatic charges, and ig pendent laboratories | pproved st d placed in m direct su shelf life in he longer th gnition sour have fou | tandard by trained standard light box unlight and free of theory. But Baoxu han 6 months upon ces. und BXCOLOR® | | |
| (Microscope): *Particle Size* Softening Point: Decomposition Point: Maximum Processing Temperature: *COLOR ASSESSMENT*: STORAGE: TOXICITY: | Average <5 Thermoset, > 300 °C 260 °C Shade (hud technicians equipped w Under cond airborne co Chemical w purchasing Tests cond FC-Series | μm not detectable and strength are constrained by the strength are constrained by the strength of the | ompared against an a by-side drawdowns and source. Iry, covered, away from his have an indefinite s sibility for storage time costatic charges, and ig pendent laboratories to be "essentially non since and here " | pproved st d placed in m direct su shelf life in he longer th mition sour have fou h-toxic."] | tandard by trained standard light box unlight and free of theory. But Baoxu nan 6 months upon ces. and BXCOLOR® MSFE is available | | |
| (Microscope): *Particle Size* Softening Point: Decomposition Point: Maximum Processing Temperature: *COLOR ASSESSMENT*: STORAGE: TOXICITY: | Average <5 Thermoset, > 300 °C 260 °C Shade (hud technicians equipped w Under cond airborne co Chemical w purchasing Tests cond FC-Series upon reque | μm not detectable and strength are constrained by the strength are constrained by the strength of the strength of | ompared against an a by-side drawdowns and source. Iry, covered, away from hts have an indefinite a sibility for storage tim rostatic charges, and ig pendent laboratories to be "essentially non giene and handling mod | pproved st d placed in m direct su shelf life in he longer th mition sour have fou have fou hethods are e | tandard by trained standard light box unlight and free of theory. But Baoxu nan 6 months upon ces. und BXCOLOR® MSFE is available essential in the use | | |
| (Microscope): *Particle Size* Softening Point: Decomposition Point: Maximum Processing Temperature: *COLOR ASSESSMENT*: STORAGE: TOXICITY: | Average <5 Thermoset, > 300 °C 260 °C Shade (hud technicians equipped w Under cond airborne co Chemical w purchasing Tests cond FC-Series upon reque of all produ | μm not detectable and strength are constrained by the strength are constrained by the strength are constrained by the strength of the | ompared against an a by-side drawdowns and source. Iry, covered, away from hts have an indefinite s sibility for storage time costatic charges, and ig pendent laboratories to be "essentially not giene and handling me y are determined to be | pproved st d placed in m direct su shelf life in he longer th mition sour have fou have fou have fou have fou have fou | tandard by trained standard light box unlight and free of theory. But Baoxu nan 6 months upon ces. and BXCOLOR® MSFE is available essential in the use | | |
| (Microscope): *Particle Size* Softening Point: Decomposition Point: Maximum Processing Temperature: *COLOR ASSESSMENT*: STORAGE: TOXICITY: NOTE: | Average <5 Thermoset, > 300 °C 260 °C Shade (hud technicians equipped w Under cond airborne co Chemical w purchasing Tests cond FC-Series upon reque of all produ 1. Items ma | μm not detectable and strength are constrained by the strength are constrained by the strength of the strength of | ompared against an a by-side drawdowns and source. Iry, covered, away from the have an indefinite as sibility for storage time costatic charges, and ig pendent laboratories to be "essentially non giene and handling mod y are determined to be rd QC items taken on | pproved st d placed in m direct su shelf life in he longer th mition sour have fou have fou have fou hatok are e hazardous. | tandard by trained standard light box unlight and free of theory. But Baoxu han 6 months upon ces. Ind BXCOLOR® MSFE is available essential in the use | | |

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PRODUCT INFORMATION SHEET

| PRODUCT: | BXCOLOR® FFEERIES |
|--------------------|--|
| | Better Solvent & Bleed Resisting Fluorescent Pigments; Thermoset Microspherical |
| SHADES: | Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, |
| CHEMICAL NATURE: | A solid solution of fluorescent dyes in an amino resin |
| HIGHLIGHT OF | Thermoset, narrow distributed microspherical particles render properties of much |
| PROPERTIES: | improved resistance to solvent and bleed (color migration), and excellent light |
| | scattering and opacity, dispersability, tinting strength, and broad compatibility. |
| RECOMMENDED | PVC rubber, Bleed Resistant Vinyl Plastisols, Specialty Coatings/Inks, Solvent |
| APPLICATOINS: | Sensitive Systems, Rubber, Paper Coatings, Textile Printing Inks, etc. |

| Shape and state: | Solid micro | on-sized spherical partie | cles | *Particle Size* | | Ave | erage <3 μm |
|---------------------|--------------|---|----------|-------------------|----------|------------|----------------------|
| *pH*: | 6~7(5%) | lispersion in water) | | Specific Grav | ity: | 1.3 (20°C) | |
| *Moisture*: | < 4% (2 gra | am under 140°C for 0. | 5 hour | s) | | | |
| Softening Point: | Thermoset, | Thermoset, not detectableHeat resistance:< 190°C | | | | | 90℃ |
| Light Fastness: | Good in indo | or applications; Limite | d with | UV exposure of | or direc | t sun | shine. |
| Solvent Resistance: | Not soluble | e in most solvent syste | ms. Sv | welling observe | d in sc | ome j | polar systems such |
| | as MEK, e | thyl alcohol, 2-propan | ol. So | lubility is teste | d in a | 40C | water bath for 30 |
| | minutes. Fo | ollowing the solubility | test, a | ppearance of th | e supe | ernata | ant is observed and |
| | marked for | bleed scales. | | | - | | |
| Bleed Resistance: | Solvent | Acetone, Methanol, | | Ethanol, | Eth | yl | Mineral Spirits, |
| | | Methyl Ethyl | 2 | 2-Propanol | Acet | ate | Toluene, |
| | | Ketone | | | | | Xylene |
| | Bleed | 1-2 | | 1 | 0-1 | 1 | 0 |
| | Bleed scale | Bleed scales: 0 – negligible; 1 – slight; 2 – moderate; 3 – considerable | | | | | |
| | | | | | | | |
| *COLOR | Shade (hue | Shade (hue) and strength are compared against an approved standard by trained | | | | | |
| ASSESSMENT*: | technicians | upon preparing side-b | y-side | drawdowns an | d place | ed in | standard light box |
| | equipped w | vith UV and D65 light s | source. | | | | |
| STORAGE: | Under con | ditions that are cool, d | ry, co | vered, away fro | om dire | ect si | unlight and free of |
| | airborne co | ntaminates, FD pigmer | nts hav | ve an indefinite | shelf li | ife in | theory. But Baoxu |
| | Chemical v | vill not assume respons | sibility | / for storage tin | ne long | ger th | nan 6 months upon |
| | purchasing | . Stay away from electr | ostatic | c charges, and ig | gnition | sour | ces. |
| TOXICITY | Tests con | ducted through indep | pender | nt laboratories | have | fou | and BXCOLOR® |
| IUMUITI. | FD-Series | Fluorescent Pigments | to be | "essentially not | n-toxic | 2." 1 | MSFE is available |
| | upon reque | st. Good industrial hyg | giene a | and handling m | ethods | are e | essential in the use |
| | of all produ | icts whether or not they | v are d | etermined to be | hazarc | lous. | |
| REGULATION: | EN71.3 (H | eavy metal) compliant; | RoHS | S compliant | | | |
| NOTE: | 1. Items ma | arked with * are standar | rd QC | items taken on | batch b | bases | |
| | 2. Prepared | by: YSP 2015-2-26; R | evised | l by: ZXQ/ZH 2 | 2015-2- | -27; | |
| | Translate | ed & revised by: HJW 2 | 2015-3 | 3-16 | | | |

BXCOLOR® FE-SERIES

Thermoplastic Fluorescent Pigments; for waterborne and non-polar solvents

| | For a wide range of applications where resistance to strong solvents is not needed. | | | | | |
|--------------------|--|--|--|--|--|--|
| DECOMMENDED | Perform well in a system based on aliphatic and some aromatic hydrocarbons. Also | | | | | |
| A DDL ICATOINS | usable in water systems where prolonged shelf life is not required. Recommended for | | | | | |
| APPLICATOINS: | such applications as paper coatings, vinyl coated fabric, A-type gravure inks, paints, | | | | | |
| | screen inks, vinyl plastisols, plastics, modeling clay, and crayons. | | | | | |
| HIGHLIGHT OF | Thermonlestic tinting strength and have deemestibility | | | | | |
| PROPERTIES: | Thermoplastic, unting strength, and broad compatibility. | | | | | |
| | Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, | | | | | |
| SHADES: | Blue, Purple | | | | | |
| CHEMICAL NATURE: | A solid solution of fluorescent dyes in an amino resin | | | | | |

| Shape and state: | Solid irregula | r shaped pa | rticles | | | | | |
|----------------------|---|--------------|----------------|---------------|----------------|----------------|------------|--|
| Oil Absorption: | 50-60g/100g | | | | | | | |
| Moisture: | < 2% (2 gram under 140C for 0.5 hours) | | | | | | | |
| Specific Gravity: | 1.3 (20°C) | | | | | | | |
| | Solvent | Acetone | Methanol | Ethyl | Mineral | Methyl | Pentane | |
| | | | Ethanol | Acetate | Spirits | Ethyl | Toluene | |
| Calarant Danistanaa | | | | | | Ketone | Xylene | |
| Solvent Resistance: | Solubility | 2 | 3 | 3 | 5 | 3 | 5 | |
| | Solubility sca | les: 1- Enti | rely Soluble; | 2- Soluble | ; 3-Slight 4-1 | Negligible; 5 | 5-None; | |
| | NOTE: The a | above inform | mation is off | ered as a re | ference only | • | | |
| *Particle Size* | Manimum 10 | | | | | | | |
| (Microscope): | Maximum 10 | μiii, Ave | rage <3 μm | | | | | |
| *Softening Point*: | 80~110℃ | 80~110°C | | | | | | |
| Decomposition Point: | > 300 °C | | | | | | | |
| Maximum Processing | 100°C | | | | | | | |
| Temperature: | 190 C | | | | | | | |
| *COLOR | Shade (hue) a | nd strength | are compare | ed against a | in approved s | standard by t | rained | |
| ASSESSMENT*: | technicians upon preparing side-by-side drawdowns or plastic chips and placed in | | | | | | | |
| | standard light box containing UV and D65. | | | | | | | |
| | Under conditi | ons that are | e cool, dry, c | overed, awa | ay from dired | et sunlight ar | nd free of | |
| STORAGE: | airborne contaminates, FE pigments have an indefinite shelf life in theory. But Baoxu | | | | | | | |
| | Chemical will not assume responsibility for storage time longer than 6 months upon | | | | | | | |
| | purchasing. | Stay away | from electro | static charg | ges, and ignit | ion sources. | | |
| | Tests conduct | ed through | independent | laboratorie | es have found | BXCOLO | ₹® | |
| TOXICITY: | FE-Series Flu | orescent Pi | gments to be | e "essentiall | y non-toxic. | " MSFE is | available | |
| | upon request. | Good indu | strial hygien | e and handl | ling methods | are essential | in the use | |
| | of all product | s whether o | r not they ar | e determine | ed to be haza | rdous. | | |
| NOTE: | 1. Items mark | ed with * a | re standard (| QC items ta | ken on batch | bases. | | |
| | 2. Prepared by: HJW; Revised by HJW 2012-3-6 | | | | | | | |

BXCOLOR® FF-SERIES

| RECOMMENDED | Coatings an | nd Inks where strop | ng solvent are appl | lied; other s | solvent sensitiv | e systems | | |
|----------------------|--------------|---|-----------------------|---------------|-------------------|---------------|--|--|
| APPLICATOINS: | - | | | | | - | | |
| HIGHLIGHT OF | Thermoset, | Thermoset, narrow distributed particles; Excellent resistance to solvent and bleed; | | | | | | |
| PROPERTIES: | Good tintin | ng strength, and bro | oad compatibility. | | | | | |
| SHADES: | Chartreuse | , Green, Orange-Ye | ellow, Orange, Ora | unge-Red, H | Red, Cerise, Pin | k, Magenta, | | |
| | Blue, Purpl | le | | | | | | |
| CHEMICAL NATURE: | A solid solu | ution of fluorescen | t dyes in a thermos | set amino r | esin | | | |
| PHYSICAL PROPERTIE | ES: | \$: | | | | | | |
| Shape and state: | Solid irregu | ular shaped particle | es | | | | | |
| pH: | 6~ 7 (5% d | ispersion in water | at 20℃) | | | | | |
| *Moisture*: | < 4% (2 gra | am under 140°C fo | or 0.5 hours) | | | | | |
| Specific Gravity: | 1.3 (20℃) | | | | | | | |
| Solvent Resistance: | Not soluble | e in most solvent s | ystems and water. | Slightly sol | uble in polar so | olvent | | |
| | systems suc | ch as MEK, 2-prop both for 20 minute | anol, ethyl acetate | e, and tolue | ne. Solubility is | s tested in a | | |
| | observed a | nd marked for blee | d scales. | in the appea | arance of the su | ipernatant is | | |
| Bleed Resistance: | Solvent | Acetone, | Ethanol, | Ethyl | Mineral | Toluene | | |
| | | Methanol, | 2-Propanol | Acetate | Spirits, | | | |
| | | MEK | - | | Xylene | | | |
| | Bleed | 2 - 3 | 2 | 2 - 3 | 0 | 1 - 2 | | |
| | Bleed scale | es: 0 – negligible | ; 1 – slight; 2 – | - moderate; | 3 – considerab | le | | |
| *Particle Size* | Maximum | 10 µm | | | | | | |
| (Microscope): | | | | | | | | |
| *Particle Size* | Average <5 | δµm | | | | | | |
| Softening Point: | Thermoset; | ; no softening poin | t. But observed co | lor changes | at ~190℃ | | | |
| Decomposition Point: | > 300°C | | | | | | | |
| *COLOR | Shade (hue | e) and strength a | re compared again | nst an app | roved standard | by trained | | |
| ASSESSMENT*: | technicians | upon preparing si | ide-by-side drawdo | owns and p | laced in standa | rd light box | | |
| | equipped w | ith UV and D65 li | ght source. | | | | | |
| STORAGE: | Under cond | litions that are coo | l, dry, covered, aw | ay from di | ect sunlight an | d free of | | |
| | airborne co | ntaminates, FF pig | gments have an ind | lefinite she | f life in theory. | But Baoxu | | |
| | Chemical v | vill not assume res | ponsibility for stor | age time lo | onger than 6 mo | onths upon | | |
| | purchasing | | | | | | | |
| | Stay away | from electrostatic | charges, and ignition | on sources. | | | | |
| TOXICITY: | Tests con | ducted through | independent labo | ratories h | ave found B | XCOLOR® | | |
| | FF-Series | Fluorescent Pigme | ents to be "essenti | ially non-to | oxic." MSFE | is available | | |
| | upon reque | est. Good industria | l hygiene and han | dling meth | ods are essentia | al in the use | | |
| | of all produ | icts whether or not | they are determin | ed to be ha | zardous. | | | |
| NOTE: | 1. Items ma | arked with * are sta | andard QC items ta | aken on bat | ch bases. | | | |
| | 2. Prepared | l by: HJW; Revised | d by: HJW 2012-3- | -6 | | | | |

Solvent resistant, Thermoset Fluorescent Pigments

BXCOLOR® FG-SERIES

| RECOMMENDED APPLICATOINS: | Aqueous and Non- aqueous systems; Flexo and gravure inks; Screen and textile inks; Aerosol, brush-on, and spray paints; Coatings; Colorants for crayons; Plastisols |
|------------------------------|---|
| HIGHLIGHT OF PROPERTIES: | Formaldehyde free, thermoplastic, heat stability up to 300C, good tinting strength, broad compatibility, fade-resistant |
| SHADES: | Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, Blue, Purple |
| CHEMICAL | A solid solution of fluorescent dyes in a polyamide resin |
| NATURE: | |

Formaldehyde-Free Thermoplastic Fluorescent Pigments

| pH: N/A Moisture: < 2% (2 gram under 140°C for 0.5 hours) Gravity: Specific Gravity 1.3 (20°C); Bulk ~ 0.5 *Particle Size* Maximum 10 µm; Average <5 µm (Microscope): *Softening Point*: 140-160°C Decomposition > 300°C Point: | Shape and state: | Solid irregula | Solid irregular shaped particles | | | | | | | |
|---|----------------------|--|--|----------|------------------|-------------------------|--------------|------------|------------|---------|
| Moisture: < 2% (2 gram under 140°C for 0.5 hours) Gravity: Specific Gravity 1.3 (20°C); Bulk ~ 0.5 *Particle Size* Maximum 10 µm; Average <5 µm (Microscope): *Softening Point*: 140-160°C Decomposition > 300°C Point: Solubility and bleed Resistance Alcohols Esters Glycols Chlorinated Plasticizers Aliphatics Aromatics Ketones Solubility and bleed Resistance Alcohols Esters Glycols Chlorinated Plasticizers Aliphatics Aromatics Ketones Solubility and bleed Resistance Solubility B - C D A B A A B A - Insoluble 0 - None B Sight Soluble 1 - Slight C Partity Soluble 1 - Slight C Considerable *COLOR ASSESSMENT*: Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. STORAGE: Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG | pH: | N/A | N/A | | | | | | | |
| Gravity: Specific Gravity 1.3 (20°C); Bulk ~ 0.5 *Particle Size* Maximum 10 μm; Average <5 μm | Moisture: | < 2% (2 gran | < 2% (2 gram under 140°C for 0.5 hours) | | | | | | | |
| *Particle Size* (Microscope): Maximum 10 μm; Average <5 μm | Gravity: | Specific Grav | Specific Gravity 1.3 (20°C); Bulk ~ 0.5 | | | | | | | |
| (Microscope): *Softening Point*: 140-160°C Decomposition > 300°C Point: Solubility and bleed Resistance Alcohols Esters Glycols Chlorinated Plasticizers Aliphatics Aromatics Ketones Solubility B - C D A B A A B Bleed 1 - 2 3 1 1 0 0 1 A - Insoluble 0 - None B Slight Slight C - Partly Soluble 1 - Slight C - Partly Soluble 2 - Moderate D - Solubility 3 - Considerable D - Soluble 3 - Considerable *COLOR AssEssMENT*: Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. STORAGE: Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. TOXICITY: Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentia | *Particle Size* | Maximum 10 |)μm; A | verage | <5 µm | | | | | |
| *Softening Point*: 140-160°C Decomposition > 300°C Point: Solubility and bleed Resistance Alcohols Esters Glycols Chlorinated Plasticizers Aliphatics Aromatics Ketones Solubility and bleed Resistance Solubility B - C D A B A A A B Solubility B - C D A B A A A B Solubility B - C D A B A A A B Bleed 1 - 2 3 1 1 1 0 0 1 A - Insoluble 0 - None B - Slightly Soluble 1 - Slight C Partly Soluble 2 - Moderate D - Soluble 3 - Considerable *COLOR AAssessment*: Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. STORAGE: Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assu | (Microscope): | | | | | | | | | |
| Decomposition Point: > 300°C Solubility and bleed Resistance Alcohols Esters Glycols Chlorinated Plasticizers Aliphatics Aromatics Ketones Solubility B A A A B A A B Solubility B - C D A B A A A B A Insoluble 0 - None B Sightly Soluble 1 - Slightly C - Partly Soluble 2 - Moderate D - Soluble 3 - Considerable 3 - Considerable Stade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. STORAGE: Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. TOXICITY: Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous. NOTE: Items marked with * are standa | *Softening Point*: | 140-160℃ | | | | | | | | |
| Point: Solubility and bleed Resistance Alcohols Esters Glycols Chlorinated Plasticizers Aliphatics Aromatics Ketones Solubility B - C D A B A A B Solubility B - C D A B A A B Bleed 1 - 2 3 1 1 0 0 1 A - Insoluble 0 - None B Slight Solubility Slight - Considerable *COLOR Assessment*: Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. STORAGE: Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. TOXICITY: Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous. NOTE: Items mar | Decomposition | > 300°C | | | | | | | | |
| Solubility and bleed Resistance Alcohols Esters Glycols Chlorinated Solvents Plasticizers Aliphatics Aromatics Ketones Solubility B – C D A B A A B Solubility B – C D A B A A B Bleed 1 – 2 3 1 1 1 0 0 1 A – Insoluble 0 - None B A A A B A A A B A – Insoluble 0 - None B - Slightly Soluble 1 - Slight C- Partly Soluble 2 - Moderate D – Soluble 3 - Considerable *COLOR Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. STORAGE: Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. TOXICITY: Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially | Point: | | | | | | | | | |
| Resistance Alcohols Esters Glycols Chlornated Glycol Plasticizers Alphatics Aromatics Ketones Solubility B – C D A B A A B Bleed 1 – 2 3 1 1 1 0 0 1 A – Insoluble 0 - None B A A A B A – Insoluble 0 - None B Slightly Soluble 1 - Slight C Partly Soluble 2 - Moderate D – Soluble 3 - Considerable 3 - Considerable 3 - Considerable Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. STORAGE: Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. TOXICITY: Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous. | Solubility and bleed | | | - | | | | | | |
| Solubility B - C D A B A A A B Bleed 1-2 3 1 1 1 0 0 1 A - Insoluble 0 - None B - Slightly Soluble 1 - Slight 0 0 1 A - Insoluble 0 - None B - Slightly Soluble 1 - Slight 0 0 1 COLOR Assessment*: Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. STORAGE: Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. TOXICITY: Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous. NOTE: Items marked with * are standard QC items taken on batch bases. | Resistance | | Alcohols | Esters | Glycols & | Chlorinated Solvents | Plasticizers | Aliphatics | Aromatics | Ketones |
| SolubilityB - CDABAAABBleed1-23111001A - Insoluble0 - NoneB - Slightly Soluble1 - SlightC - Partly Soluble2 - ModerateD - Soluble3 - Considerable*COLORASSESSMENT*:Shade (hue) and strength are compared against an approved standard by trainedtechnicians upon preparing plastic chips and placed in standard light box containing UVand D65.STORAGE:Under conditions that are cool, dry, covered, away from direct sunlight and free ofairborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemicalwill not assume responsibility for storage time longer than 6 months upon purchasing.Stay away from electrostatic charges, and ignition sources.TOXICITY:Tests conducted through independent laboratories have found BXCOLOR® FG-SeriesFluorescent Pigments to be "essentially non-toxic." MSFE is available upon request.Good industrial hygiene and handling methods are essential in the use of all productswhether or not they are determined to be hazardous.NOTE:Items marked with * are standard QC items taken on batch bases. | | | | | Glycol Ethers | | | | | |
| Bleed1-2311001A - Insoluble0 - NoneB - Slightly Soluble1 - SlightCOLOR- Partly Soluble2 - ModerateD - Soluble3 - Considerable*COLORShade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65.STORAGE:Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources.TOXICITY:Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous.NOTE:Items marked with * are standard QC items taken on batch bases. | | Solubility | B - C | D | Α | В | А | Α | А | В |
| A - Insoluble B - Slightly Soluble C - Partly Soluble D - Soluble0 - None 1 - Slight 2 - Moderate 3 - Considerable*COLOR ASSESSMENT*:Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65.STORAGE:Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources.TOXICITY:Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous.NOTE:Items marked with * are standard QC items taken on batch bases. | | Bleed | 1 - 2 | 3 | 1 | 1 | 1 | 0 | 0 | 1 |
| *COLOR ASSESSMENT*:Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65.STORAGE:Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources.TOXICITY:Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous.NOTE:Items marked with * are standard QC items taken on batch bases. | | A - B - C - D - | A - Insoluble0 - NoneB - Slightly Soluble1 - SlightC - Partly Soluble2 - ModerateD - Soluble3 - Considerable | | | | | | | |
| ASSESSMENT*:technicians upon preparing plastic chips and placed in standard light box containing UV and D65.STORAGE:Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources.TOXICITY:Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous.NOTE:Items marked with * are standard QC items taken on batch bases. | *COLOR | Shade (hue) | and str | ength | are con | npared agai | inst an ap | proved st | andard by | trained |
| STORAGE:Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources.TOXICITY:Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous.NOTE:Items marked with * are standard QC items taken on batch bases. | ASSESSMENT*: | technicians u and D65. | ipon prep | aring p | lastic ch | ips and pla | ced in stan | dard light | box contai | ning UV |
| TOXICITY: Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous. NOTE: Items marked with * are standard QC items taken on batch bases. | STORAGE: | Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FG pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. | | | | | | | | |
| NOTE: Items marked with * are standard QC items taken on batch bases. | TOXICITY: | Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous. | | | | | | | | |
| | NOTE: | Items marked | d with * a | re stand | dard QC | items taken | on batch b | ases. | | |

BXCOLOR® FH-SERIES

NON-FORMALDEHYDE WATER-SOLUBLE FLUORESCENT TONERS

Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, Blue

TARGETED APPLICATIONS

Water-based flexographic and gravure inks; Highlighter inks for felt tip markers

SUMMARY OF PROPERTIES

Thermoplastic, polyester based, dry granular powders, formaldehyde-free Water-soluble (with small amount of ammonia and alcohol), Excellent film forming properties with high color strength and high gloss. Superior lightfastnes comparing to most solvent-based counterparts, Excellent transparency

STORAGE In a sealed container, away from heat, humidity, and direct sunlight. Stay away from electrostatic charges, and ignition sources. Otherwise, tend to solidify and form lumps, which, upon crashing and milling, can also be used. Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing.

TOXICITY Formaldehyde-free; complies with currently available international standards on heavy metal concentrations. MSFE available upon request.

| Typical 30% Solids JM Ink Formula (by weight) | | | Typical JM Water Based Fe | lt Tip Marker Ink |
|---|----|--|---------------------------------|----------------------------|
| Water | 25 | | Ink (30% solid) | 40 |
| Isopropanol | 16 | | Ethylene Glycol or PEG 200 | 30 |
| Ammonium Hydroxide (9%) | 4 | | Water | 30 |
| FH (Dry) | 30 | | Total | 100 |
| Water | 25 | | | |
| Total 100 | | | Mix well and adjust solvents to | the desired rate of drying |

RECOMMENDED PROCEDURE FOR PREPARING 30% JM INK

In covered container, prepare pre-mixture of water (100g), isopropanol (64g) and ammonium hydroxide (9%, 16g). An equivalent amount of amines such as triethanolamine and aminomethylpropanol may be substituted for ammonia.

Prepare 40% solids ink concentrate at room temperature by slowly adding 120g **JM** to above pre-mixture systems at high mixing speed and mixing for 15 - 20 minutes until a clear solution is obtained. Apply additional Ammonium Hydroxide (9%) if the solution remains cloudy. Ensure that pH is between 6.8 - 7.0, or color shift or an unstable solution may result.

Finish ink by addition of approximately 100g water bringing the total to 400g to produce a 30% solids ink. It is recommended that ink be prepared for immediate use.

BXCOLOR® FI-SERIES

SOLVENT-SOLUBLE FLUORESCENT TONERS FOR PRINTING INKS

Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, Blue

RECOMMENDED APPLICATIONS

Solvent-based flexographic and gravure printing inks, and UV-cure inks. Can be applied on gift wraps, label stocks, tissue coating, corrugated containers, flexible packaging papers, plastics, glass, metal, wood, films, foils, and other specialty coatings. For indoor applications.

SUMMARY OF PROPERTIES

Form: dry granular powder, **Nature**: amino resin based, thermoplastic **Softening Point**: 60-70 °C

Solubility:

Excellent in propyl acetate, isopropyl acetate, ethyl acetate, 2-Nitropropane, Diethylene glycol, Dipropylene glycol;

Good in Monochlorobenzene, Orthodichlorobenzene;

<u>*Good*</u> in Ethylene glycol monoethyl ether, Ethanol, Isopropanol, Propylene glycol when used as cosolvents.

Compatibility: Compatible with most flexographic ink binders, including nitrocellulose, ethyl cellulose, cellulose acetate butyrate, other alcohol-soluble butyrate, acrylics, ketone resins, and maleic resins. Also compatible with low percentage (around 2%) waxes and/or polyethylene dispersion additives. More compatible modifiers have to be applied to improve the limited compatibility with Polyamide resins.

STORAGE AND SHELF LIFE: When stored in a sealed container, away from heat, humidity, and direct sunlight, BXCOLOR® FI have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources.

EM Series Starting Point Formulations

|--|

| Ingredients | EM soluble toner | Ethyl alcohol | Ethyl acetate | Total | Viscosity (cps); |
|-------------|------------------|---------------|------------------|-------|------------------|
| % by Wt | 45.0 | 33.0 | 22.0 | 100 | 15 ~ 30 |

Formulation B: Nitrocellulose Modification

| Ingredients | EM Toner | Nitrocellulose | Plasticizer | Ethyl alcohol | Ethyl acetate | Total | Viscosity (cps) |
|-------------|----------|----------------|-------------|------------------|------------------|-------|--------------------|
| % by Wt | 36.3 | 4.2 | 2.1 | 37.3 | 20.1 | 100.0 | 105~130 |

Formulation C: Polyamide Modification

| Ingredients | EM Toner | Nitrocellulose | Alcohol-soluble polyamide resin | Ethyl alcohol | Ethyl acetate | Total | Viscosity (cps) |
|-------------|----------|----------------|---------------------------------|------------------|------------------|-------|--------------------|
| % by Wt | 35.0 | 3.5 | 3.5 | 40.0 | 18.0 | 100.0 | 70~120 |

Formulation D: Alcohol-Souble Butyrate Modification

| Ingredients | EM Toner | Alcohol-soluble butyrate | Ethyl alcohol | Ethyl acetate | Total | Viscosity (cps) |
|-------------|----------|-----------------------------|------------------|------------------|-------|--------------------|
| % by Wt | 34.0 | 6.0 | 39.0 | 21.0 | 100.0 | 105~180 |

Formulation E: UV-Cure Concentrate

| Ingredients | EM Toner | Ethoxylated Trimethylol Propane Triacrylate (TMPTA) | Total | Viscosity (cps) |
|-------------|----------|--|-------|-----------------|
| % by Wt | 35.0 | <u>65.0</u> | 100.0 | 1000~1600 |

1.Ethyl acetate may be replaced with less volatile isopropyl acetate or normal propyl acetate (active retarder solvents) to improve leveling properties or to slow the drying rate

2. Viscosity is measured by Brookfield, No. 1 spindle

3. Use denatured ethyl alcohol

Flexographic inks prepared with BXCOLOR® FI can be formulated with better cellophane tape resistant adhesion, crinkle resistance, block resistance and abrasion resistance. Reference formulations are available upon request.

BXCOLOR® FG-SERIES

Formaldehyde-Free Thermoplastic Fluorescent Pigments

| RECOMMENDED | Plastics. May be used in injection, rotational and blow molding, extruded film and sheet, | | | |
|-----------------------------|---|--|--|--|
| APPLICATOINS: | blown and calendared film, vacuum forming, casting, etc. | | | |
| HIGHLIGHT OF PROPERTIES: | Formaldehyde free, thermoplastic, low melt point, melt-in, heat stability up to 240C, good tinting strength, broad compatibility, fade-resistant, minimal color shifts over a wide processing temperature range | | | |
| SHADES: | Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, Blue | | | |
| CHEMICAL NATURE: | A solid solution of fluorescent dyes in a polyester resin | | | |

| Shape and state: | Solid irregular shaped particles |
|------------------------------------|--|
| Moisture: | < 2% (2 gram under 140C for 0.5 hours) |
| Specific Gravity: | 1.3 (20°C) |
| *Particle Size* (Microscope): | Maximum 100 μm; Average <60 μm |
| *Softening Point*: | 70-80 $^{\circ}$ C Decomposition Point: > 260 $^{\circ}$ C |
| Maximum Processing Temperature: | 240°C |
| Application in Plastic Systems: | JC100 series has been successfully applied in HDPE, LDPE, PP, and PS systems with minimum adjustment to the processing conditions. In theory, it should be also applicable in many other plastic systems, but we suggest that the end-users perform thorough test of their own to determine the suitability and adjust the formulation and processing parameters accordingly. |
| Lightfastness: | The degree of colorfastness of FG series fluorescent pigments vary depending upon many factors such as the specific properties and dimensions of plastic systems, pigment loading, presence of a protective overcoat or agent and the light source. It is reported that an improvement of 10 to 30% in exterior light stability results from the incorporation of 0.5 to 1.0% of a benzotriazole or benzophenone type UV screen. It is essential to select an UV screen that is compatible with the plastic in which it is to be incorporated. |
| *COLOR ASSESSMENT*: | Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. |
| STORAGE: | Indefinite shelf life under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates. Upon exposure to heat and humidity, FG pigment tends to form lumps that need to be crashed prior to use. Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. |
| TOXICITY: | Tests conducted through independent laboratories have found BXCOLOR® FG-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous. |
| NOIE: | items marked with * are standard QC items taken on batch bases. |

BXCOLOR® FK-SERIES

| RECOMMENDED APPLICATOINS: | Plastics. May be used in injection, rotational and blow molding, extruded film and sheet, blown and calendared film, vacuum forming, casting, etc. |
|--|---|
| HIGHLIGHT OF PROPERTIES: | Formaldehyde free, thermoplastic, low melt point, melt-in, heat stability up to 220C, good tinting strength, broad compatibility, fade-resistant, minimal color shifts over a wide processing temperature range |
| SHADES: | Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, Blue, Purple |
| CHEMICAL NATURE: | A solid solution of fluorescent dyes in a polyester resin |

Formaldehyde-Free Thermoplastic Fluorescent Pigments

| Shape and state: | Solid irregular shaped particles |
|------------------------------------|--|
| Moisture: | < 2% (2 gram under 140C for 0.5 hours) |
| Specific Gravity: | 1.3 (20°C) |
| Application in Plastic Systems: | FK series has been successfully applied in HDPE, LDPE, PP, and PS systems with minimum adjustment to the processing conditions. In theory, it should be also applicable in many other plastic systems, but we suggest that the end-users perform thorough test of their own to determine the suitability and adjust the formulation and processing parameters accordingly. |
| Lightfastness: | The degree of colorfastness of FK series fluorescent pigments vary depending upon many factors such as the specific properties and dimensions of plastic systems, pigment loading, presence of a protective overcoat or agent and the light source. It is reported that an improvement of 10 to 30% in exterior light stability results from the incorporation of 0.5 to 1.0% of a benzotriazole or benzophenone type UV screen. It is essential to select an UV screen that is compatible with the plastic in which it is to be incorporated. |
| *Particle Size* (Microscope): | Maximum 100 μm; Average <60 μm |
| *Softening Point*: | 70-90°C Decomposition Point: > 240 °C |
| Maximum Processing Temperature: | 220°C |
| *COLOR ASSESSMENT*: | Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. |
| STORAGE: | Indefinite shelf life under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates. Upon exposure to heat and humidity, FK pigment tends to form lumps that need to be crashed prior to use. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. |
| ΤΟΧΙΟΙΤΥ: | Tests conducted through independent laboratories have found BXCOLOR® FK-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling metho FE are essential in the use of all products whether or not they are determined to be hazardous. |
| NOTE: | Items marked with * are standard QC items taken on batch bases. |

BXCOLOR® FL-SERIES

Formaldehyde-Free Thermoplastic Fluorescent Pigments

| RECOMMENDED APPLICATOINS: | Plastics. Can be used for preparing extruded color compounds and liquid color dispersions for use in injection, rotational and blow molding, extruded film and sheet, blown and calendared film, vacuum forming, casting, etc. | | | | | |
|------------------------------|--|--|--|--|--|--|
| HIGHLIGHT OF PROPERTIES: | Formaldehyde free, thermoplastic, good resistance to plateout, melt-in, heat stability up to 300C, good tinting strength, broad compatibility, fade-resistant, minimal color shifts over a wide processing temperature range | | | | | |
| SHADES: | Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, Blue, Purple | | | | | |
| CHEMICAL NATURE: | A solid solution of fluorescent dyes in a polyamide resin | | | | | |

| Shape and state: | Solid irregular shaped particles | | | | |
|------------------------------------|--|--|--|--|--|
| Moisture: | < 2% (2 gram under 140C for 0.5 hours) | | | | |
| Specific Gravity: | 1.3 (20°C) | | | | |
| Application in Plastic Systems: | FL series has been successfully applied in HDPE, LDPE, PP, and PS systems with minimum adjustment to the processing conditions. In theory, it should be also applicable in many other plastic systems, but we suggest that the end-users perform thorough test of their own to determine the suitability and adjust the formulation and processing parameters accordingly. | | | | |
| Lightfastness: | The degree of colorfastness of JC-200 series fluorescent pigments vary depending upon many factors such as the specific properties and dimensions of plastic systems, pigment loading, presence of a protective overcoat or agent and the light source. It is reported that an improvement of 10 to 30% in exterior light stability results from the incorporation of 0.5 to 1.0% of a benzotriazole or benzophenone type UV screen. It is essential to select an UV screen that is compatible with the plastic in which it is to be incorporated. | | | | |
| *Particle Size* (Microscope): | Maximum 100 μm; Average <60 μm | | | | |
| *Softening Point*: | 140-160°C | | | | |
| Decomposition Point: | $> 300^{\circ}$ Maximum Processing Temperature: 290° | | | | |
| *COLOR ASSESSMENT*: | Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. | | | | |
| STORAGE: | Under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates, FL pigments have an indefinite shelf life. But Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. | | | | |
| TOXICITY: | Tests conducted through independent laboratories have found BXCOLOR® FL-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous. | | | | |
| NOTE: | Items marked with * are standard QC items taken on batch bases. | | | | |

BXCOLOR® FM-SERIES

Formaldehyde-Free Thermoplastic Fluorescent Pigments

| RECOMMENDED APPLICATOINS: | Plastics. May be used in injection, rotational and blow molding, extruded film and sheet, blown and calendared film, vacuum forming, casting, etc. |
|------------------------------|---|
| HIGHLIGHT OF PROPERTIES: | Formaldehyde free, thermoplastic, low melt point, melt-in, heat stability up to 260C, good tinting strength, broad compatibility, fade-resistant, minimal color shifts over a wide processing temperature range |
| SHADES: | Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, Blue, Purple |
| CHEMICAL NATURE: | A solid solution of fluorescent dyes in a polyamide resin |

| Shape and state: | Solid irregular shaped particles |
|------------------------------------|--|
| Moisture: | < 2% (2 gram under 140C for 0.5 hours) |
| Specific Gravity: | 1.3 (20°C) |
| Application in Plastic Systems: | FM series has been successfully applied in HDPE, LDPE, PP, and PS systems with minimum adjustment to the processing conditions. In theory, it should be also applicable in many other plastic systems, but we suggest that the end-users perform thorough test of their own to determine the suitability and adjust the formulation and processing parameters accordingly. |
| Lightfastness: | The degree of colorfastness of FM series fluorescent pigments vary depending upon many factors such as the specific properties and dimensions of plastic systems, pigment loading, presence of a protective overcoat or agent and the light source. It is reported that an improvement of 10 to 30% in exterior light stability results from the incorporation of 0.5 to 1.0% of a benzotriazole or benzophenone type UV screen. It is essential to select an UV screen that is compatible with the plastic in which it is to be incorporated. |
| *Particle Size* | Maximum 100 μ m ; Average <60 μ m |
| (Microscope): | 105 115% |
| *Softening Point*: | 105-115 C |
| Decomposition Point: | $> 290^{\circ}$ C; Maximum Processing Temperature: 280° C |
| *COLOR ASSESSMENT*: | Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing plastic chips and placed in standard light box containing UV and D65. |
| STORAGE: | Indefinite shelf life under conditions that are cool, dry, covered, away from direct sunlight and free of airborne contaminates. Upon exposure to heat and humidity, FM pigment tends to form lumps that need to be crashed prior to use. Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources. |
| TOXICITY: | Tests conducted through independent laboratories have found BXCOLOR® FM-Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon request. Good industrial hygiene and handling methods are essential in the use of all products whether or not they are determined to be hazardous. |
| NOTE: | Items marked with * are standard QC items taken on batch bases. |

BXCOLOR® FNSERIES

| RECOMMENDED | Extruded (Masterbatch) & moulded polyolefin plastics; PVC coating & moulding | | | | | |
|----------------------|---|--|--|--|--|--|
| APPLICATOINS: | | | | | | |
| HIGHLIGHT OF | Thermoset, narrow distributed microspherical particles render new properties ever | | | | | |
| PROPERTIES: | seen before: the best resistance to plateout, and plasticizers, and excellent light | | | | | |
| | scattering and opacity, dispersability, tinting strength, and broad compatibility. | | | | | |
| SHADES: | Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, | | | | | |
| | Blue, Purple | | | | | |
| CHEMICAL NATURE: | A solid solution of fluorescent dyes in a thermoset amino resin | | | | | |

Anti Plate-out Fluorescent Pigments

| Shape and state: | Solid micron-sized spherical particles |
|----------------------|--|
| pH: | 6~ 8 (5% dispersion in water) |
| *Moisture*: | < 4% (2 gram under 140C for 0.5 hours) |
| Specific Gravity: | 1.3 (20°C) |
| Solvent Resistance: | Not soluble in most solvent and plasticizer. (Solubility is tested in a 40C water bath |
| | for 30 minutes. Following the solubility test, appearance of the supernatant is |
| | observed and marked for bleed scales.) |
| Plateout resistance | Minimizes the build up of plateout in moulded and extruded plastics |
| *Particle Size* | Maximum 10 μm; Average <5 μm |
| (Microscope): | |
| Softening Point: | Thermoset; no softening point. But observed color changes at ~270 $^\circ$ C |
| Decomposition Point: | > 300 °C |
| Maximum Processing | 260°C |
| Temperature: | |
| | |
| *COLOR | Shade (hue) and strength are compared against an approved standard by trained |
| ASSESSMENT*: | technicians upon preparing side-by-side plastic chips and placed in standard light box |
| | equipped with UV and D65 light source. |
| STORAGE: | Under conditions that are cool, dry, covered, away from direct sunlight and free of |
| | airborne contaminates, FN pigments have an indefinite shelf life. But Baoxu |
| | Chemical will not assume responsibility for storage time longer than 6 months upon |
| | purchasing. Stay away from electrostatic charges, and ignition sources. |
| TOXICITY: | Tests conducted through independent laboratories have found BXCOLOR® FN |
| | Series Fluorescent Pigments to be "essentially non-toxic." MSFE is available upon |
| | request. Good industrial hygiene and handling methods are essential in the use of all |
| | products whether or not they are determined to be hazardous. |
| NOTE: | Items marked with * are standard QC items taken on batch bases. |

BXCOLOR® FO

FLUORESCENT INK BASES

Chartreuse, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, Blue, White

PRODUCT DESCRIPTION

BXCOLOR® FO are fluorescent ink bases with ultra-fine, amino resin based thermoplastic fluorescent pigments dispersed in a modified vehicle, and offering excellent printability and color strength.

TARGETED APPLICATIONS Offset printing and letterpress printing

SUMMARY OF PROPERTIES

Appearance:Viscous colored fluidParticle size:< 1 micron</td>Pigment loading:> 50%Vehicle:Modified Alkyd Resin

STORAGE In a sealed container, away from heat, humidity, and direct sunlight. Baoxu Chemical will not assume responsibility for storage time longer than 6 months upon purchasing. Stay away from electrostatic charges, and ignition sources.

TOXICITY Complies with currently available international standards on heavy metal concentrations. MSFE available upon request.

| | Quickset | Heat set | News |
|------------------------|----------|----------|------|
| BXCOLOR® JCF FLUSHES | 80.0 | 80.0 | 80.0 |
| Quickset Gel Varnish | 7.0 | | |
| Quickset Gloss Varnish | 5.0 | | |
| Heatset Varnish | | 12.0 | 15.0 |
| Mineral Oil (Magiesol) | 3.0 | 3.0 | 5.0 |
| 6% Manganese Dryer | 0.5 | | |
| 18% Zirconium Dryer | 1.0 | 1.0 | |
| PTFE | 0.5 | 1.0 | |
| Wax | 3.0 | 3.0 | |
| Total | 100 | 100 | 100 |

RECOMMENDED STARTING FORMULAS

BXCOLOR® FLUORESCENT PIGMENTS

| | Density | Softening | Average | Maximum | Processing | Decomposing | | |
|----|----------------------|-----------------|---------------|----------------|------------------|-------------|--|--|
| | (g/cm ³) | Point | Particle Size | Particle Size | Temperature | Temperature | | |
| | | | | | | (inert gas) | | |
| FA | 1.3 | n/a | ~5 µ m | $< 10 \ \mu m$ | <260°C | > 280°C | | |
| FB | 1.3 | n/a | ~5 µ m | $< 10 \ \mu m$ | <260°C | >280°C | | |
| FC | 1.3 | n/a | ~5 µ m | $< 10 \ \mu m$ | <260°C | | | |
| FD | 1.3 | n/a | ~5 µ m | $< 10 \ \mu m$ | <260°C | | | |
| FE | 1.30 | 90-100℃ | ~5 µ m | $< 10 \ \mu m$ | <190°C | > 200°C | | |
| FF | 1.32 | ~150 °C | ~5 µ m | $< 10 \ \mu m$ | <300°C | > 280°C | | |
| FG | 1.25 | 140-155℃ | ~5 µ m | $< 10 \ \mu m$ | <300°C | >300°C | | |
| JM | 1.25 | 60-70℃ | ~20 µ m | ~60 µ m | <200°C | > 200°C | | |
| EM | 1.26 | 60-70℃ | ~20 µ m | ~60 µ m | <200°C | > 200°C | | |
| FK | 1.27 | 80-90° ℃ | <60 µ m | $<100 \ \mu m$ | 135 - 240℃ | > 260 °C | | |
| FL | 1.27 | 70-80℃ | <60 µ m | $<100 \ \mu m$ | 135 - 220°C | > 250°C | | |
| FM | 1.25 | ~ 110℃ | <60 µ m | $<100 \ \mu m$ | 150 - 280°C | >300°C | | |
| FL | 1.25 | 140-155℃ | <60 µ m | <100 µ m | 1 85-290℃ | >300°C | | |
| FG | 1.31 | n/a | ~5 µ m | $< 10 \ \mu m$ | <260°C | > 280°C | | |

Summary of Technical Specifications

Available Color Selections

| | FA | FD | FE | FF | FG | JM | EM | FK | FG | FM | FL | FN |
|----------------------|--------------|----|----|----|----|--------------|----|--------------|--------------|--------------|--------------|--------------|
| Chartreuse | | | ~ | | ~ | ~ | ~ | ~ | \checkmark | ~ | ~ | |
| Yellow | \checkmark | ~ | ~ | ~ | | | | | | | | \checkmark |
| Green | ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ | \checkmark | ~ | ~ | ~ |
| Orange-Yellow | ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ | \checkmark | ~ | ~ | ~ |
| Orange | ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ | \checkmark | ~ | ~ | ~ |
| Orange-Red | ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ | \checkmark | ~ | ~ | ~ |
| Red | \checkmark | ~ | ~ | ~ | ~ | ~ | ~ | ~ | \checkmark | \checkmark | \checkmark | \checkmark |
| Cerise | ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ | \checkmark | ~ | ~ | ~ |
| Pink | ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ | \checkmark | ~ | ~ | ~ |
| Magenta | ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ | \checkmark | ~ | ~ | ~ |
| Blue | ~ | ~ | ~ | ~ | ~ | \checkmark | ~ | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark |
| Purple | \checkmark | ~ | ~ | | ~ | | | ~ | \checkmark | | \checkmark | ~ |