

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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BXCOLOR® vs Other Brand – Daylight Fluorescent Colors

	BXCOLOR®	Radiant Color	DayGlo	Sun Chem	Sinloih	Sterling	Swada Fiesta
Paint Inks	FA/FC Solvent-Resisting	MC					
Paint Inks	FB Solvent-Resisting					210	RTS
Paint Inks	FD 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	P7	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

◆ recommended; ▽ may be used

BXCOLOR® Fluorescent Product Codes →		FE	FF	FA/FC FB/FD	FH	FI	FG FK	FL FM	FG GL	FG	FO
Recommended Applications ↓		High Strength Thermoplastic	Thermoset*	Thermoset Spherical Particle	Water-Solubl HCHO-Free	Solvent-Soluble	Melt-in HCHO-Free	Heat-Stable Melt-in/HCHO-Free	Thermoset SphericalParticle	HCHO-Free	Ink bases
Modeling Clay/Crayons		◆	▽	▽						◆	
Flexo Ink	<i>Water</i>	▽	▽		◆						
	<i>Solvent</i>		◆	◆		◆			▽		◆
	<i>UV</i>					◆					
Gravure Ink	<i>Aliphatic</i>	◆	▽	▽							
	<i>Aromatic</i>	▽	▽	▽							
	<i>Alcohol/Ester</i>		◆	◆		◆			▽		
	<i>Water</i>	◆	▽		◆						
Paper Coating		◆	▽	▽							
Paint	<i>Water Based</i>	◆	▽								
	<i>Solvent Based</i>		◆	◆					▽		
	<i>Aerosol</i>		◆	◆					▽		
Powder Coating		▽	▽	▽			▽	▽			
Plastisol	<i>Coatings</i>	◆	◆	▽							
	<i>Molded Parts</i>	◆	◆	▽							
Screen Ink	<i>Plastisol</i>	▽	◆	◆							
	<i>Water/Aliphastic</i>	◆									
	<i>OtherSolvents</i>		◆	◆							
	<i>UV</i>										
Textile	<i>Dying</i>	▽								▽	
	<i>Printing</i>	▽								▽	
Plastics	<i>Liquid-Color Masterbatch</i>						▽	◆	◆		
	<i>Vinyl</i>						▽	◆	◆		
	<i>< 240°C</i>	▽					◆	▽	◆		
	<i>185-290°C</i>							◆	◆		

BXCOLOR® FA SERIES

Solvent and bleed resistant Fluorescent Pigments; Thermoset & Microspherical

RECOMMENDED APPLICATOINS:	Bleed Resistant Vinyl Plastisols, Specialty Coatings/Inks, Solvent Sensitive Systems, and Crayons				
HIGHLIGHT OF PROPERTIES:	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, Green, Orange-Yellow, Orange, Orange-Red, Red, Cerise, Pink, Magenta, Blue, Purple				
CHEMICAL NATURE:	A solid solution of fluorescent dyes in an amino resin				
PHYSICAL PROPERTIES:					
Shape and state:	Solid micron-sized spherical particles				
pH:	3.8~ 6 (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 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
	Bleed	2	1-2	1	0
Bleed scales: 0 – negligible; 1 – slight; 2 – moderate; 3 – considerable					
Particle Size (Microscope):	Maximum 10 µm; Average <5 µm				
Softening Point:	Thermoset; no softening point. But observed color changes at ~260°C				
Decomposition Point:	> 300°C ; Maximum Processing Temperature: 260°C				
COLOR ASSESSMENT:	Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing side-by-side drawdowns 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, FA 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® 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:	<ol style="list-style-type: none"> 1. Items marked with * are standard QC items taken on batch bases. 2. 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 Microspherical Fluorescent pigments														
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 PROPERTIES:	Thermoset, narrow distributed microspherical particles render properties of much improved resistance to solvent and bleed (color migration), excellent resistance to plate-out; excellent light scattering and opacity, dispersability, tinting strength, and broad compatibility. Higher color strength than GQ.														
RECOMMENDED APPLICATOINS:	EVA foam, PVC rubber, Rubber, Plastics, Bleed resistant Vinyl Plastics, Specialty Coatings/Inks, Solvent Sensitive Systems														
PHYSICAL PROPERTIES:															
Shape and state:	Solid micron-sized spherical particles	*Particle Size*	Average 2 - 4 μm												
pH:	3 ~ 8 (5% dispersion in water)	Specific Gravity:	1.3 (20°C)												
Moisture:	< 4% (2 gram under 140°C for 0.5 hours)														
Softening Point:	Thermoset, not detectable	Decomposition:	>220°C												
Light Fastness:	Good in indoor applications; Limited with UV exposure or direct sunshine.														
Solvent Resistance:	Not soluble in most solvent systems. Swelling observed in some polar systems such as MEK, ethyl alcohol, 2-propanol. 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:	<table border="1"> <thead> <tr> <th>Solvent</th> <th>Acetone, Methanol, Methyl Ethyl Ketone</th> <th>Ethanol, 2-Propanol</th> <th>Ethyl Acetate</th> <th>Mineral Spirits, Toluene, Xylene</th> </tr> </thead> <tbody> <tr> <td>Bleed</td> <td>1-2</td> <td>1</td> <td>0-1</td> <td>0</td> </tr> </tbody> </table>	Solvent	Acetone, Methanol, Methyl Ethyl Ketone	Ethanol, 2-Propanol	Ethyl Acetate	Mineral Spirits, Toluene, Xylene	Bleed	1-2	1	0-1	0	Bleed scales: 0 – negligible; 1 – slight; 2 – moderate; 3 – considerable			
Solvent	Acetone, Methanol, Methyl Ethyl Ketone	Ethanol, 2-Propanol	Ethyl Acetate	Mineral Spirits, Toluene, Xylene											
Bleed	1-2	1	0-1	0											
COLOR ASSESSMENT:	Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing side-by-side drawdowns 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 contaminants, FB 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 electrostatic charges, and ignition sources.														
TOXICITY:	Tests conducted through independent laboratories have found BXCOLOR® FB-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.														
REGULATION:	EN71.3 (Heavy metal) compliant; RoHS compliant														
NOTE:	Items marked with * are standard QC items taken on batch bases.														

PRODUCT INFORMATION SHEET

PRODUCT:	BXCOLOR® FC SERIES				
	Thermoset Microspherical Fluorescent Pigments				
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 PROPERTIES:	Thermoset, narrow distributed microspherical particles render properties of much improved resistance to solvent and bleed (color migration), and excellent light scattering and opacity, dispersability, tinting strength, and broad compatibility.				
RECOMMENDED APPLICATOINS:	Bleed Resistant Vinyl Plastisols, Specialty Coatings/Inks, Solvent Sensitive Systems, and Crayons				
PHYSICAL PROPERTIES:					
Shape and state:	Solid micron-sized spherical particles				
pH:	3.8~ 6 (5% dispersion in water)				
Moisture:	< 4% (2 gram under 140°C for 0.5 hours)				
Specific Gravity:	1.3 (20°C)				
Solvent Resistance:	Not soluble in most solvent systems. Swelling observed in some polar systems such as MEK, ethyl alcohol, 2-propanol. Solubility is tested in a 40°C 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
	Bleed	1-2	1	0-1	0
	Bleed scales: 0 – negligible; 1 – slight; 2 – moderate; 3 – considerable				
Particle Size (Microscope):	Maximum 10 µm				
Particle Size	Average <5 µm				
Softening Point:	Thermoset, not detectable				
Decomposition Point:	> 300°C				
Maximum Processing Temperature:	260°C				
COLOR ASSESSMENT:	Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing side-by-side drawdowns 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 contaminants, FC 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 electrostatic charges, and ignition sources.				
TOXICITY:	Tests conducted through independent laboratories have found BXCOLOR® FC-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:	1. Items marked with * are standard QC items taken on batch bases. 2. Prepared by: HJW; Revised by: ZH 2011-12-5				

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 PROPERTIES:	Thermoset, narrow distributed microspherical particles render properties of much improved resistance to solvent and bleed (color migration), and excellent light scattering and opacity, dispersability, tinting strength, and broad compatibility.				
RECOMMENDED APPLICATOINS:	PVC rubber, Bleed Resistant Vinyl Plastics, Specialty Coatings/Inks, Solvent Sensitive Systems, Rubber, Paper Coatings, Textile Printing Inks, etc.				
PHYSICAL PROPERTIES:					
Shape and state:	Solid micron-sized spherical particles	*Particle Size*	Average <3 μm		
pH:	6 ~ 7 (5% dispersion in water)	Specific Gravity:	1.3 (20°C)		
Moisture:	< 4% (2 gram under 140°C for 0.5 hours)				
Softening Point:	Thermoset, not detectable	Heat resistance:	< 190°C		
Light Fastness:	Good in indoor applications; Limited with UV exposure or direct sunshine.				
Solvent Resistance:	Not soluble in most solvent systems. Swelling observed in some polar systems such as MEK, ethyl alcohol, 2-propanol. 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
	Bleed	1-2	1	0-1	0
	Bleed scales: 0 – negligible; 1 – slight; 2 – moderate; 3 – considerable				
COLOR ASSESSMENT:	Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing side-by-side drawdowns 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 contaminants, FD 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 electrostatic charges, and ignition sources.				
TOXICITY:	Tests conducted through independent laboratories have found BXCOLOR® FD-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.				
REGULATION:	EN71.3 (Heavy metal) compliant; RoHS compliant				
NOTE:	1. Items marked with * are standard QC items taken on batch bases. 2. Prepared by: YSP 2015-2-26; Revised by: ZXQ/ZH 2015-2-27; Translated & revised by: HJW 2015-3-16				

BXCOLOR® FE-SERIES

Thermoplastic Fluorescent Pigments; for waterborne and non-polar solvents

RECOMMENDED APPLICATOINS:	For a wide range of applications where resistance to strong solvents is not needed. Perform well in a system based on aliphatic and some aromatic hydrocarbons. Also usable in water systems where prolonged shelf life is not required. Recommended for such applications as paper coatings, vinyl coated fabric, A-type gravure inks, paints, screen inks, vinyl plastisols, plastics, modeling clay, and crayons.						
HIGHLIGHT OF PROPERTIES:	Thermoplastic, 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 an amino resin						
PHYSICAL PROPERTIES:							
Shape and state:	Solid irregular shaped particles						
Oil Absorption:	50-60g/100g						
Moisture:	< 2% (2 gram under 140C for 0.5 hours)						
Specific Gravity:	1.3 (20°C)						
Solvent Resistance:	Solvent	Acetone	Methanol Ethanol	Ethyl Acetate	Mineral Spirits	Methyl Ethyl Ketone	Pentane Toluene Xylene
	Solubility	2	3	3	5	3	5
Solubility scales: 1- Entirely Soluble; 2- Soluble; 3-Slight 4-Negligible; 5-None; NOTE: The above information is offered as a reference only.							
Particle Size (Microscope):	Maximum 10 µm; Average <5 µm						
Softening Point:	80~110°C						
Decomposition Point:	> 300°C						
Maximum Processing Temperature:	190°C						
COLOR ASSESSMENT:	Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing side-by-side drawdowns or 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, 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 electrostatic charges, and ignition sources.						
TOXICITY:	Tests conducted through independent laboratories have found BXCOLOR® FE-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:	1. Items marked with * are standard QC items taken on batch bases. 2. Prepared by: HJW; Revised by HJW 2012-3-6						

BXCOLOR® FF-SERIES

Solvent resistant, Thermoset Fluorescent Pigments

RECOMMENDED APPLICATOINS:	Coatings and Inks where strong solvent are applied; other solvent sensitive systems					
HIGHLIGHT OF PROPERTIES:	Thermoset, narrow distributed particles; Excellent resistance to solvent and bleed; Good 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					
PHYSICAL PROPERTIES:						
Shape and state:	Solid irregular shaped particles					
pH:	6~ 7 (5% dispersion in water at 20°C)					
Moisture:	< 4% (2 gram under 140°C for 0.5 hours)					
Specific Gravity:	1.3 (20°C)					
Solvent Resistance:	Not soluble in most solvent systems and water. Slightly soluble in polar solvent systems such as MEK, 2-propanol, ethyl acetate, and toluene. Solubility is tested in a 40C water bath for 30 minutes, following which the appearance of the supernatant is observed and marked for bleed scales.					
Bleed Resistance:	Solvent	Acetone, Methanol, MEK	Ethanol, 2-Propanol	Ethyl Acetate	Mineral Spirits, Xylene	Toluene
	Bleed	2 - 3	2	2 - 3	0	1 - 2
Bleed scales: 0 – negligible; 1 – slight; 2 – moderate; 3 – considerable						
Particle Size (Microscope):	Maximum 10 µm					
Particle Size	Average <5 µm					
Softening Point:	Thermoset; no softening point. But observed color changes at ~190°C					
Decomposition Point:	> 300°C					
COLOR ASSESSMENT:	Shade (hue) and strength are compared against an approved standard by trained technicians upon preparing side-by-side drawdowns 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, FF 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 electrostatic charges, and ignition sources.					
TOXICITY:	Tests conducted through independent laboratories have found BXCOLOR® FF-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:	1. Items marked with * are standard QC items taken on batch bases. 2. Prepared by: HJW; Revised by: HJW 2012-3-6					

BXCOLOR® FG-SERIES

Formaldehyde-Free Thermoplastic Fluorescent Pigments

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 NATURE:	A solid solution of fluorescent dyes in a polyamide resin																																		
PHYSICAL PROPERTIES:																																			
Shape and state:	Solid irregular shaped particles																																		
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 (Microscope):	Maximum 10 µm; Average <5 µm																																		
Softening Point:	140-160°C																																		
Decomposition Point:	> 300°C																																		
Solubility and bleed Resistance	<table border="1"> <thead> <tr> <th></th> <th>Alcohols</th> <th>Esters</th> <th>Glycols & Glycol Ethers</th> <th>Chlorinated Solvents</th> <th>Plasticizers</th> <th>Aliphatics</th> <th>Aromatics</th> <th>Ketones</th> </tr> </thead> <tbody> <tr> <td>Solubility</td> <td>B – C</td> <td>D</td> <td>A</td> <td>B</td> <td>A</td> <td>A</td> <td>A</td> <td>B</td> </tr> <tr> <td>Bleed</td> <td>1 – 2</td> <td>3</td> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> </tr> </tbody> </table> <p style="margin-left: 40px;"> A – Insoluble 0 - None B - Slightly Soluble 1 - Slight C - Partly Soluble 2 - Moderate D – Soluble 3 - Considerable </p>									Alcohols	Esters	Glycols & Glycol Ethers	Chlorinated Solvents	Plasticizers	Aliphatics	Aromatics	Ketones	Solubility	B – C	D	A	B	A	A	A	B	Bleed	1 – 2	3	1	1	1	0	0	1
	Alcohols	Esters	Glycols & Glycol Ethers	Chlorinated Solvents	Plasticizers	Aliphatics	Aromatics	Ketones																											
Solubility	B – C	D	A	B	A	A	A	B																											
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.																																		

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 lightfastness 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 Felt 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	Mix well and adjust solvents to the desired rate of drying	
Total	100		

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;

Good 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

Formulation A: Unmodified Gloss Solution

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-Soluble 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 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 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
PHYSICAL PROPERTIES:	
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°C Decomposition Point: > 260°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.
NOTE:	Items marked with * are standard QC items taken on batch bases.

BXCOLOR® FK-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 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
PHYSICAL PROPERTIES:	
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.
TOXICITY:	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
PHYSICAL PROPERTIES:	
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°C Maximum Processing Temperature: 290°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:	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
PHYSICAL PROPERTIES:	
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 (Microscope):	Maximum 100 µm ; Average <60 µm
Softening Point:	105-115°C
Decomposition Point:	> 290°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

Anti Plate-out Fluorescent Pigments

RECOMMENDED APPLICATOINS:	Extruded (Masterbatch) & moulded polyolefin plastics; PVC coating & moulding
HIGHLIGHT OF PROPERTIES:	Thermoset, narrow distributed microspherical particles render new properties ever 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
PHYSICAL PROPERTIES:	
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 (Microscope):	Maximum 10 µm; Average <5 µm
Softening Point:	Thermoset; no softening point. But observed color changes at ~270°C
Decomposition Point:	> 300°C
Maximum Processing Temperature:	260°C
COLOR ASSESSMENT:	Shade (hue) and strength are compared against an approved standard by trained 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 fluid

Particle size: < 1 micron

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.

RECOMMENDED STARTING FORMULAS

	Quickset	Heat set	News
BXCOLOR® JCF FLUSHES	80.0	80.0	80.0
Quickset Gel Varnish	7.0		
Quickset Gloss Varnish	5.0		
Heatsset 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

BXCOLOR® FLUORESCENT PIGMENTS

Summary of Technical Specifications

	Density (g/cm ³)	Softening Point	Average Particle Size	Maximum Particle Size	Processing Temperature	Decomposing Temperature (inert gas)
FA	1.3	n/a	~5 μ m	<10 μ m	<260°C	> 280°C
FB	1.3	n/a	~5 μ m	<10 μ m	<260°C	> 280°C
FC	1.3	n/a	~5 μ m	<10 μ m	<260°C	
FD	1.3	n/a	~5 μ m	<10 μ m	<260°C	
FE	1.30	90-100°C	~5 μ m	<10 μ m	<190°C	> 200°C
FF	1.32	~150 °C	~5 μ m	<10 μ m	<300°C	> 280°C
FG	1.25	140-155°C	~5 μ m	<10 μ m	<300°C	>300°C
JM	1.25	60-70°C	~20 μ m	~60 μ m	<200°C	> 200°C
EM	1.26	60-70°C	~20 μ m	~60 μ m	<200°C	> 200°C
FK	1.27	80-90°C	<60 μ m	<100 μ m	135 - 240°C	> 260°C
FL	1.27	70-80°C	<60 μ m	<100 μ m	135 - 220°C	> 250°C
FM	1.25	~110°C	<60 μ m	<100 μ m	150 - 280°C	>300°C
FL	1.25	140-155°C	<60 μ m	<100 μ m	185-290°C	>300°C
FG	1.31	n/a	~5 μ m	<10 μ m	<260°C	> 280°C

Available Color Selections

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