NANOCMS
NANO MATERIALS & APPLICATIONS

NANOCMS CO., LTD.

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Website : http://www.nanocms.co.kr

Product Data Sheet

2018-10-11

Product : Invisible Fluorescent Materials : Blue 464

Lot. No. : #170406

Main use : Gravure, flexo, letterpress, offset, screen printing inks

Supply form : Powder or Inks

* Testing varnish type : Modified rosin phenol resin

Chemical & Physical properties

(determined on powder)

Product name	Appearance form	Appearance color	Solubility (Water, 20℃)	Grindometer test
Blue 464	Powder	Off white	-	max. ≤ 1mil

Luminescent properties

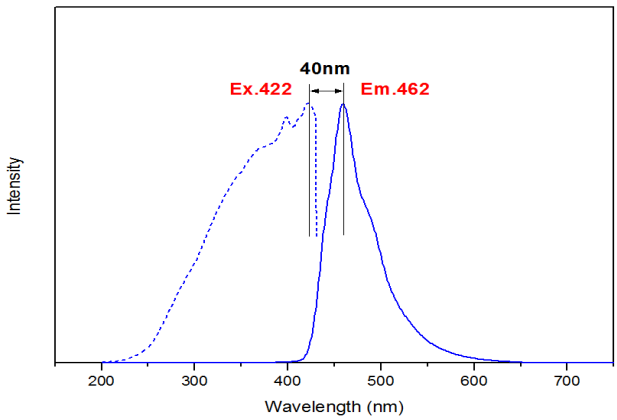
(determined on film by PL Spectrometer)

Product name	Excitation Point (nm)	Color of fluorescence	CIE-chromaticity coordinates	DWL (nm)
Blue 464	365 (Abs_{max}422)	Blue	x= 0.1573 y= 0.1515	457 ± 5

- Excitation & Emission

(determined by PL Spectrometer)

Blue 464



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Chemical resistance test

(determined on 10% film by Visual Check or Color Difference Meter, PL Spectrometer)

- Test for Appearance Color Fastness – *Gray Scale (Color Staining)*

Product name	Blue 464
Gray Scale (1-5)	4-5

* Gray Scale (Color Staining) = 5: dE*0.00, 4.5: dE*3.36, 4: dE*5.40, 3.5: dE*7.14, 3: dE*13.65, 2.5: dE*18.25, 2: dE*23.56, 1.5: dE*29.33, 1: dE* 34.28

- Test for Fluorescence Fastness – *Function Class (Residual Fluorescent Intensity)*

No.	Items	Function Class (1-5)	
		Blue 464	
		daylight	under uv light
0	Initial		5
1	Ethyl alcohol (30min.)		5
2	Ethyl acetate (30min.)		5
3	Perchloro Ethylene (30min)		4
4	Xylene (30min.)		5
5	Gasoline (30min.)		5
6	Acetone (30min.)		5
7	Toluene (30min.)		4
8	Acetic acid (20% Sol,, 30min.)		5
9	H_2SO_4 (2% Sol., 30min.)		5
10	HCl (5% Sol., 30min.)		5
11	NaOH (2% Sol., 30min.)		5
12	Soap solution (5% Sol.,80℃,30min.)		5
13	NaOCl (5% Sol., 30min.)		5
14	Hot water (100℃, 30min.)		5
15	Artificial sweat (30min.)		5

* Function Class = 5: 100-81%, 4: 80-61%, 3: 60-41%, 2: 40-21%, 1: 20-1%
Above picture may be different from the original.

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Product Data Sheet

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Light fastness test

(determined on 10% film by Visual Check or Color Difference Meter, PL Spectrometer)

- Test for Appearance Color Fastness at 100hr – *Blue Wool Scale & 20% Change from unexposed strip*

Product name	Blue 464
Blue Wool Scale (1-8)	5-6
Gray Scale (Color Staining) (1-5)	2.5-3

* Gray Scale (Color Staining) = 5: dE*0.00, 4.5: dE*3.36, 4: dE*5.40, 3.5: dE*7.14, 3: dE*13.65, 2.5: dE*18.25, 2: dE*23.56, 1.5: dE*29.33, 1: dE* 34.28

- Test for Fluorescence Fading at 100hr - *Function Class (Residual Fluorescent Intensity)*

Product name	Blue 464
Function Class (1-5) at each bws	2

* Function Class = 5: 100-81%, 4: 80-61%, 3: 60-41%, 2: 40-21%, 1: 20-1%

Blue Wool



Test for Color Fastness



Test for Fluorescence Fading
(Residual Fluorescent Intensity)



* 0.89W/m2 at 340nm(NB) uv lamp, Chamber temp. 60℃, Humidity: not controlled
Modified ASTM G154 Cycle 1 by QUV Accelerated Weathering Tester (model: Q-Lab QUV/spray)

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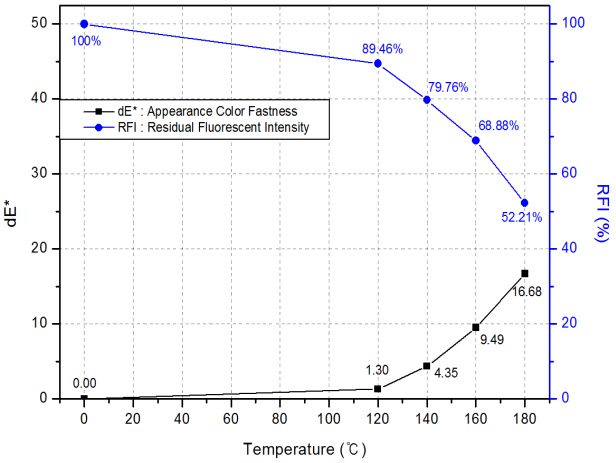
2018-10-11

Thermal stability test

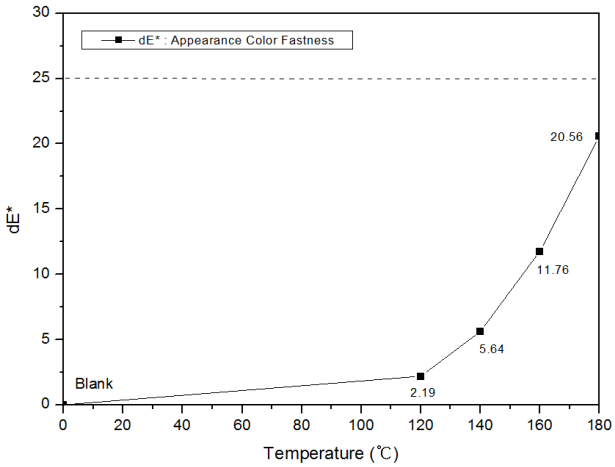
(determined on 10% film by Visual Check or Color Difference Meter, PL Spectrometer)

- Test for Appearance Color Fastness & Residual Fluorescent Intensity

Blue 464



Blank



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Product Data Sheet

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Humidity test

(determined on 10% film by Visual Check or Color Difference Meter, PL Spectrometer)

- Test for Appearance Color Fastness at 100hr – *Gray Scale (Color Staining)*

Product name	Blue 464
Gray Scale (Color Staining) (1-5)	3-3.5

* Gray Scale (Color Staining) = 5: dE*0.00, 4.5: dE*3.36, 4: dE*5.40, 3.5: dE*7.14, 3: dE*13.65, 2.5: dE*18.25, 2: dE*23.56, 1.5: dE*29.33, 1: dE* 34.28

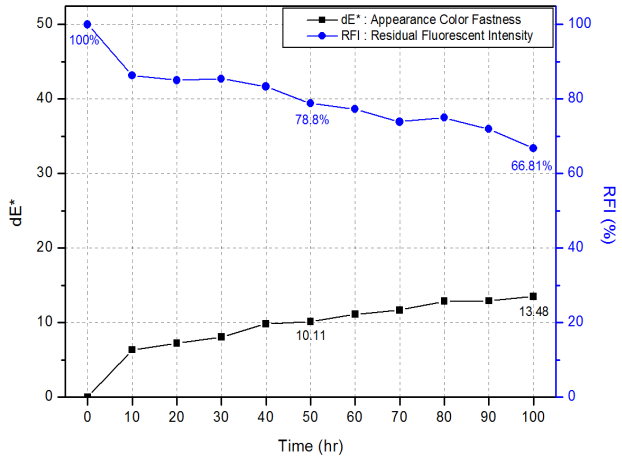
- Test for Fluorescence Fading at 100hr - *Function Class (Residual Fluorescent Intensity)*

Product name	Blue 464
Function Class (1-5)	4

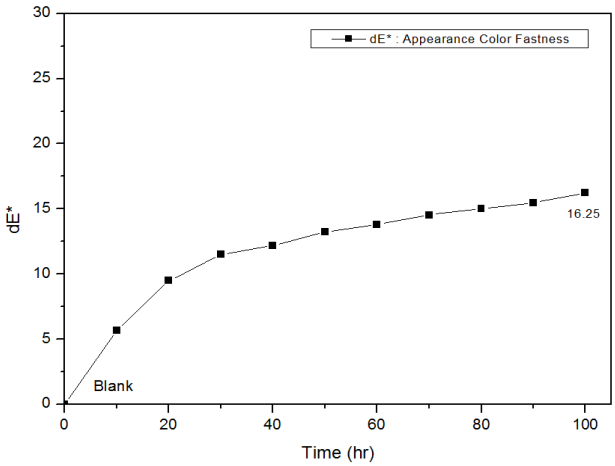
* Function Class = 5: 100-81%, 4: 80-61%, 3: 60-41%, 2: 40-21%, 1: 20-1%

- Test for Appearance Color Fastness & Residual Fluorescent Intensity

Blue 464



Blank



* Temperature 80℃, Relative humidity 80% (model: Jeio Tech, TH-G-180)

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