

## What is *LumiNova*® ?

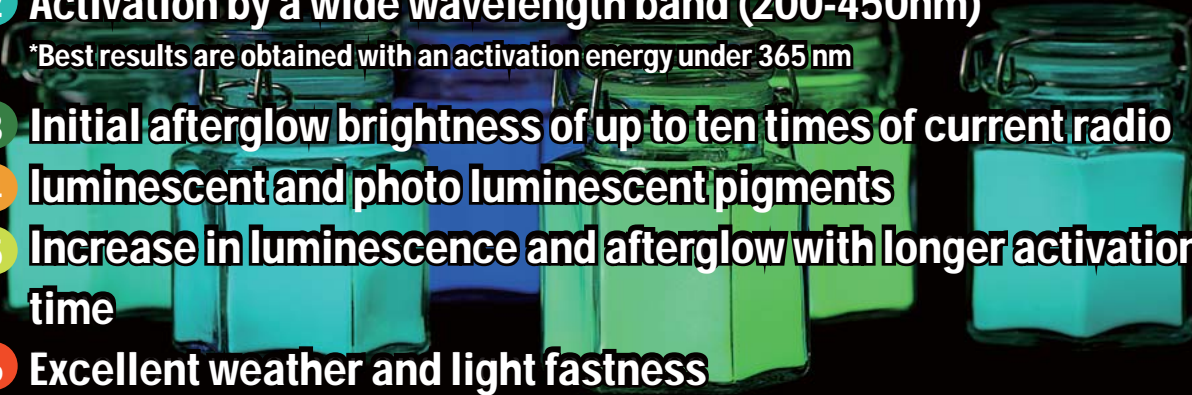
LumiNova® is a phosphorescent (glow-in-the-dark) pigments which are based on Strontium Oxide Aluminate chemistry. They are drastically different from conventional phosphorescent pigments which are either based on Zinc Sulfide or on radioisotopes for their self-luminous properties.

LumiNova® was invented and developed by NEMOTO & CO. LTD., of Tokyo, Japan. Nemoto has been in the luminous pigments business since 1941 and is one of the leading phosphorescent pigments manufacturers in the world. The development of LumiNova® resulted from the demands placed upon NEMOTO & CO. LTD., by the Japanese watch and clock manufacturers which did not want to use radioactive luminous dials in their products. This challenge created LumiNova® !

LumiNova® which glows practically all night long without the aid of any radioactive substances was chosen as Most Innovative Product in Japan in 1993 !

### Features of *LumiNova*®

Some of the advantages and distinguishing features of *LumiNova*® pigments are:

- 1 Afterglow period of ten times current ZnS based phosphorescent pigments
  - 2 Activation by a wide wavelength band (200-450nm)  
\*Best results are obtained with an activation energy under 365 nm
  - 3 Initial afterglow brightness of up to ten times of current radio
  - 4 luminescent and photo luminescent pigments
  - 5 Increase in luminescence and afterglow with longer activation time
  - 6 Excellent weather and light fastness
  - 7 Free of radioactive substance
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### Applications of *LumiNova*®

LumiNova® was originally developed to satisfy the current and future needs of the clock, watch and the instrument dial industries, but soon it was found out that like many other new products, the application possibilities are almost limitless.

The following applications are those that come to mind immediately:

**Electronic instrument dial pads; Home appliances; Lighting apparatus and switches; Exit sign boards; Emergency signage and low level lighting escape systems; Aircraft and automobile dials and instrument panels; Firemen' s equipment; Traffic signs & high visibility signs ; Fishing equipment; Military applications; Outdoor path marking; Camping equipment; Textile printing and textile fibers; Writing & printing inks;**

Other applications where a long afterglow and/or light fastness is needed.



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○ : Suitable

G Series

BG Series

Grade	Chemical Composition	Body Color	Emission Color	Average particle size D50 (μm)	Charging Type		Afterglow Brightness (mcd/m <sup>2</sup> )		Printing			Paint		Resin Mold			Textile	Glass	Ceramics	
					Quick	Standard	Excitation Condition: CIE Standard Illuminant D65 200lx 20min.		Screen	Flexo	Gravure	Water Base	Solvent Base	Injection	Extrusion	Casting				
							20 min	60 min												
G-300C	SrAl <sub>2</sub> O <sub>4</sub> :Eu,Dy	Light Yellowish Green		40	●	131	41	○				○			○					
G-300M				25	●	107	34	○				○	○	○						
G-300F				14	●	82	26	○				○	○	○						
G-300FF				3	●	56	17	○	○	○			○	○	○	○		○		
G-300M (PS-2)				25	●	107	34	○				○	○				○			
G-300F (PS-2)				14	●	82	26	○				○	○				○			
G-300FF (PS-2)				2.5-3	●	56	17	○	○	○	○	○					○			
G-300L160				160	●	250	82										○		○	○
G-300L700				-	●	275	87										○		○	○
GLL-300M				Light Yellowish Green			25	●	100	26	○						○	○	○	
GLL-300F	14	●	65				17	○	○			○	○	○						
GLL-300FF/FFS	2.5-3	●	37				9	○	○	○			○	○	○	○		○		
GLL-300M (PS-2)	25	●	100				26	○				○	○				○			
GLL-300F (PS-2)	14	●	65				17	○				○	○				○			
GLL-300FF(PS-2)	2.5-3	●	37				-	○	○	○	○	○					○			
BG-300M	Sr <sub>4</sub> Al <sub>14</sub> O <sub>25</sub> :Eu,Dy	Light Yellowish Green		25	●	112	36	○				○	○	○	○					
BGL-300M				25	●	105	32	○				○	○	○	○					
BGL-300FF/FFS				2.5-3	●	38	13	○	○	○	○	○	○	○	○	○				
BG-300L160				-	●	-	-										○		○	○
BG-300L700				-	●	173	67										○		○	○
EG-300M	SrAl <sub>2</sub> O <sub>4</sub> :Eu,Dy+Sr <sub>4</sub> Al <sub>14</sub> O <sub>25</sub> :Eu,Dy	Light Yellowish Green		25	●	90	27	○				○	○	○	○					
B-300M	Sr <sub>4</sub> Al <sub>14</sub> O <sub>25</sub> :Eu,Dy+CaAl <sub>2</sub> O <sub>4</sub> :Eu,Nd	White		25	●	31	11	○				○	○	○	○					
V-300M	CaAl <sub>2</sub> O <sub>4</sub> :Eu,Nd	White		20	●	2	1	○				○	○	○	○					