



Phosphor Information Leaflet

GENERAL

Name	Barium silicon oxynitride europium
Chemical formula	BaSi ₂ N ₂ O ₂ :Eu ²⁺
Application areas	Light emitting diodes
Optical transition	[Xe]4f ⁷ (⁸ S _{7/2}) - [Xe]4f ⁶ 5d ¹

OPTICAL PROPERTIES

Excitation maxima @ 492 nm	220 nm (5.6 eV), 292 nm (4.2 eV), 423 nm (2.9 eV)
Emission maximum @ 292 nm exc.	493 nm (2.5 eV)
Centroid wavelength	502 nm (2.5 eV)
Full width @ half emission maximum	34 nm (0.17 eV)
Lumen equivalent	233 lm/W _{VIS}
CIE1931 chromaticity coordinates (x, y)	0.084, 0.410
Band edge of host lattice	5.1 eV
Decay time τ _{1/e}	~1 μs

PHYSICAL PROPERTIES

Body colour	yellow-green
Density	4.5 g/cm ³
Refractive index (at λ 589 nm)	1.9
Mineral type	-
Crystal system	Orthorhombic
Space group (#)	<i>Pbcn</i> (60)

