



Phosphor Information Leaflet

GENERAL

Name	Barium copper silicate
Chemical formula	BaCuSi ₄ O ₁₀
Application areas	Light emitting diodes, paintings, NIR marker
Optical transition	[Ar]3d ⁹ (² B _{1g}) - [Ar]3d ⁹ (² B _{2g})

OPTICAL PROPERTIES

Excitation maxima @ 492 nm	624 nm (2.0 eV), 804 nm (1.5 eV)
Emission maximum @ 292 nm exc.	950 nm (1.3 eV)
Centroid wavelength	956 nm (1.3 eV)
Full width @ half emission maximum	126 nm (0.17 eV)
Lumen equivalent	0
CIE1931 chromaticity coordinates (x, y)	-
Band edge of host lattice	340 nm (3.6 eV)
Decay time $\tau_{1/e}$	ca. 150 μ s

PHYSICAL PROPERTIES

Body colour	turquoise
Density	3.5 g/cm ³
Refractive index (at $\lambda = 589.3$ nm)	1.6
Mineral type	-
Crystal system	Tetragonal
Space group (#)	P4/ncc (130)

