



# Phosphor Information Leaflet

## GENERAL

Name	Barium magnesium aluminate europium manganese
Chemical formula	BaMgAl <sub>10</sub> O <sub>17</sub> :Eu <sup>2+</sup> ,Mn <sup>2+</sup>
Application areas	Fluorescent lamps, Plasma displays
Optical transition	Eu <sup>2+</sup> : [Xe]4f <sup>7</sup> ( <sup>8</sup> S <sub>7/2</sub> )-[Xe]4f <sup>6</sup> 5d <sup>1</sup> Mn <sup>2+</sup> : [Ar]3d <sup>5</sup> -[Ar]3d <sup>5</sup>

## OPTICAL PROPERTIES

Excitation maximum @	340 nm (3.65 eV)
Emission maximum @ 254 nm exc.	450 nm (2.76 eV), 515 nm (2.41 eV)
Centroid wavelength	515 nm (2.41 eV)
Full width @ half emission maximum	25 nm
Lumen equivalent	422 lm/W <sub>opt.</sub>
CIE1931 chromaticity coordinates (x, y)	0.139, 0.623
Band edge of host lattice	180 nm (6.9 eV)
Reflection @ 254 nm	10 %
Decay time τ <sub>1/e</sub>	~1 μs (@450 nm); ~10 ms (@515 nm)

## PHYSICAL PROPERTIES

Body colour	Greenish-white
Density	3.51 g/cm <sup>3</sup>
Refractive index (at λ)	1.77 (589.3 nm)
Mineral type	β-Alumina
Crystal system	Hexagonal
Space group (#)	P 63/mmc (194)



