



# Phosphor Information Leaflet

## GENERAL

Name	Magnesium Aluminium Spinel Chromium
Chemical formula	$MgAl_2O_4:Cr^{3+}$
Application areas	NIR emitter, security marking
Optical transition	$[Ar]3d^3 - [Ar]3d^3$

## OPTICAL PROPERTIES

Excitation maxima @	400 nm (3.10 eV), 550 nm (2.25 eV)
Emission maximum @ 440 nm exc.	734 nm (1.69 eV)
Centroid wavelength	736 nm (1.68 eV)
Full width @ half emission maximum	lines
Lumen equivalent	7 lm/W <sub>opt.</sub>
CIE1931 chromaticity coordinates (x, y)	0.726, 0.274
Band edge of host lattice	5.36 eV
Reflection @ 440 nm	86 %
Decay time t1/e	~ 10 ms

## PHYSICAL PROPERTIES

Body colour	White
Density	4.02 g/cm <sup>3</sup>
Refractive index (at λ)	1.74 (589.3 nm)
Mineral type	Spinel
Crystal system	Cubic
Space group (#)	Fd3m (227)

