



# Phosphor Information Leaflet

## GENERAL

Name	Calcium hexaaluminate chromium
Chemical formula	$\text{CaAl}_{12}\text{O}_{19}:\text{Cr}^{3+}$
Application areas	NIR phosphor, medical imaging and therapy
Optical Transition	$3d^3(^4A_2)-3d^3(^4T_2, ^2E)$

## OPTICAL PROPERTIES

Excitation maxima @ 688 nm em.	265 nm (4.68 eV), 415 nm (2.99 eV), 575 nm (2.16 eV)
Emission maximum @ 415 nm exc.	688 nm (1.80 eV)
Centroid wavelength	742 nm (1.67 eV)
Full width @ half emission maximum	Lines
Lumen equivalent	14 lm/W <sub>opt.</sub>
CIE1931 chromaticity coordinates (x, y)	0.689, 0.311
Band edge of host lattice	185 nm (6.70 eV)
Reflectance @ 415 nm	50 %

## PHYSICAL PROPERTIES

Body colour	Pale pink
Density	3.36 g/cm <sup>3</sup>
Refractive index (at $\lambda$ )	1.807
Mineral type	Hibonite
Crystal system	Hexagonal
Space group (#)	P6 <sub>3</sub> /mmc (194)



