



Phosphor Information Leaflet

GENERAL

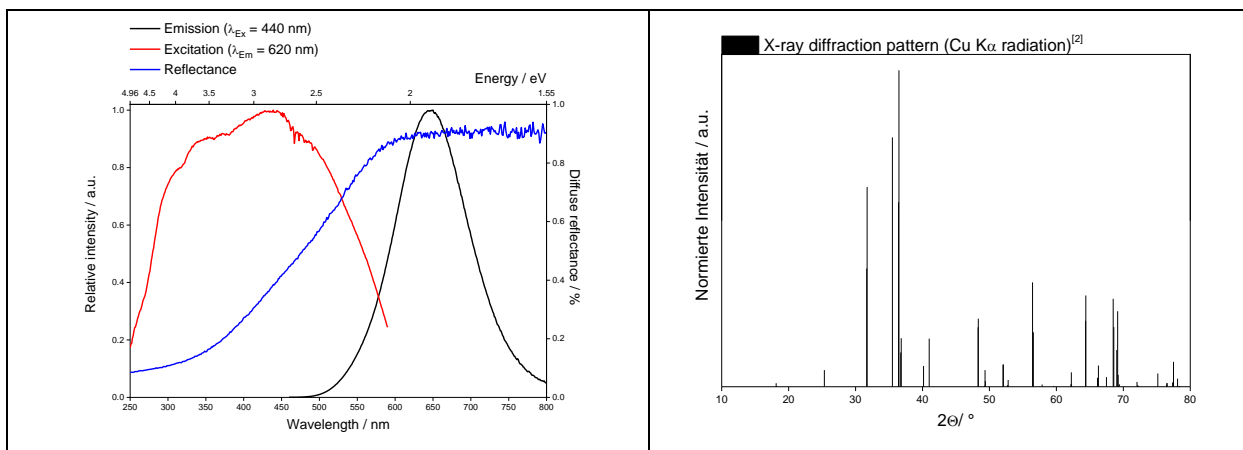
Name	Calcium aluminium silicon oxynitride europium
Chemical formula	$\text{CaAl}_{(1+x)}\text{Si}_{(1-x)}\text{N}_{(3-x)}\text{O}_x:\text{Eu}^{2+}$
Application areas	Light emitting diodes (warm-white)
Optical transition	$[\text{Xe}]4f^7 ({}^8\text{S}_{7/2}) - [\text{Xe}]4f^65d^1$

OPTICAL PROPERTIES

Excitation maxima ($\lambda_{\text{Em}} = 620 \text{ nm}$)	439 nm (2.82 eV)
Emission maximum ($\lambda_{\text{Ex}} = 440 \text{ nm}$)	650 nm (1.91 eV)
Centroid wavelength	651 nm (1.90 eV)
FWHM	114 nm
Lumen equivalent	189 lm/W _{VIS}
CIE1931 chromaticity coordinates (x, y)	0.600, 0.397
Band edge of host lattice	3.4 eV ^[1]
Decay time $\tau_{1/e}$	0.8 μs
$T_{1/2}$	690 K

PHYSICAL PROPERTIES

Body colour	Orange
Density	3.2 g/cm ³
Refractive index	-
Mineral type	-
Crystal system	Orthorhombic
Space group (#)	Cmc2 ₁ (36)





[1] Z. Wang, B. Shen, F. Dong, S. Wang, W.-S. Su. Phys. Chem. Chem. Phys. 17 (2015) 15065

[2] PDF-4+ (ICDD) 04-016-0457