



## Phosphor Information Leaflet

### GENERAL

Name	Lutetium phosphate praseodymium
Chemical formula	$\text{LuPO}_4:\text{Pr}^{3+}$
Application areas	UV-C Radiation sources, scintillators
Optical transition	$[\text{Xe}]4f^2(^3\text{H}_J)-[\text{Xe}]4f^15d^1$

### OPTICAL PROPERTIES

Excitation maxima @	145 nm (8.57 eV), 190 nm (6.54 eV), 230 nm (5.40 eV)
Emission maximum @ 160 nm exc.	233 nm (5.32 eV)
Centroid wavelength	250 nm (4.98 eV)
Full width @ half emission maximum	10 nm
GAC overlap	78%
Decay time $\tau_{1/10}$	20 ns
Band edge of host lattice	150 nm (8.2 eV)
Reflectance @ 254 nm	98%

### PHYSICAL PROPERTIES

Body colour	Pale green
Density	6.52 g/cm <sup>3</sup>
Refractive index (at $\lambda$ )	1.68 (@ 520.8 nm)
Mineral type	Xenotime
Crystal system	Tetragonal
Space group (#)	I4 <sub>1</sub> /amd (141)

