



Phosphor Information Leaflet

GENERAL

Name	Lutetium borate gadolinium praseodymium
Chemical formula	$\text{LuBO}_3:\text{Gd}^{3+},\text{Pr}^{3+}$
Application areas	UV-B radiation sources, medical therapy
Optical transition	$\text{Gd}^{3+}: [\text{Xe}]4f^7 ({}^6\text{P}_{7/2}) - [\text{Xe}]4f^7 ({}^8\text{S}_{7/2})$

OPTICAL PROPERTIES

Excitation maxima @ 630 nm	150 nm (8.27 eV), 234 nm (5.30 eV), 313 nm (3.96 eV)
Emission maximum @ 470 nm exc.	313 nm (3.96 eV)
Centroid wavelength	306 nm (4.05 eV)
Full width @ half emission maximum	lines
Lumen equivalent	-
CIE1931 chromaticity coordinates (x, y)	-
Band edge of host lattice	194 nm (6.4 eV)
Reflection @ 254 nm	-
Decay time $\tau_{1/e}$	~ 1 ms

PHYSICAL PROPERTIES

Body colour	white
Density	6.86 g/cm ³
Refractive index (at λ)	1.626 (543 nm)
Mineral type	Calcite
Crystal system	Trigonal
Space group (#)	R-3c h (#167)



