



# Phosphor Information Leaflet

## GENERAL

Name	Potassium tris terbiumfluoride
Chemical formula	$\text{KTb}_3\text{F}_{10}$
Application areas	High power solid-state laser, Faraday rotators
Optical transition	$[\text{Xe}]4f^8(^5D_4) - [\text{Xe}]4f^8(^7F_J)$

## OPTICAL PROPERTIES

Excitation maxima @ 544 nm emis.	252 nm (4.9 eV), 283 nm (4.4 eV), 350 nm (3.5 eV), 485 nm (2.6 eV)
Emission maximum @ 369 nm exc.	491 nm (2.5 eV), 543 nm (2.3 eV), 583 nm (2.1 eV), 617 nm (2.0 eV)
Centroid wavelength	557 nm (2.2 eV)
Full width @ half emission maximum	lines
Lumen equivalent	489 lm/W <sub>VIS</sub>
CIE1931 chromaticity coordinates (x, y)	0.345, 0.576
Band edge of host lattice	> 5 eV
Reflection @ 260 nm	72 %
Decay time 1/e	4 ms

## PHYSICAL PROPERTIES

Body colour	White
Density	6.1 g/cm <sup>3</sup>
Refractive index (at $\lambda$ )	~1.50 (1064 nm)
Thermal conductivity	1.67 Wm <sup>-1</sup> K <sup>-1</sup>
Mineral type	Villiaumit
Crystal system	Cubic
Space group (#)	Fm-3m (225)

