

# Phosphor Information Leaflet

## GENERAL

Name	Strontium scandate chromium
Chemical formula	$\text{SrSc}_2\text{O}_4:\text{Cr}^{3+}$
Application areas	NIR phosphor, Optical marker

## OPTICAL PROPERTIES

Excitation maxima ( $\lambda_{\text{Em}} = 800 \text{ nm}$ )	490 nm (2.53 eV), 712 nm (1.74 eV)
Emission maximum ( $\lambda_{\text{Ex}} = 470 \text{ nm}$ )	870 nm (1.43 eV)
Centroid emission wavelength	875 nm (1.42 eV)
FWHM	166 nm ( 0.27 eV)
Lumen equivalent	8 lm/W <sub>opt.</sub>
CIE1931 chromaticity coordinates (x   y)	(0.687   0.313)
Luminescence lifetime $\tau_{1/e}$	41 $\mu\text{s}$ (at 2.7 K)
$T_{1/2}$	-
Reflection @ 254 nm	10 %
Band edge of host lattice	3.45 eV

## PHYSICAL PROPERTIES

Body colour	Reddish
Density	4.59 g/cm <sup>3</sup>
Refractive index ( $n_D$ )	
Mineral type	Calcium ferrate (III)
Crystal system	Orthorhombic
Space group	Pnam (62)

