

# BC-444

## Long Timing Constant Plastic Scintillator

BC-444 is a plastic scintillator developed to have long timing properties. Applications include heavy ion research, particle identification, low background counting, active shielding and dosimetry. BC-444 can be used either by itself or in conjunction with a fast scintillator such as BC-400.

BC-444 is available in a variety of shapes and sizes. The material has the same kind of mechanical handling properties as Saint-Gobain Crystals other premium plastic scintillators.

### Scintillation Properties

Light Output, %Anthracene	41
Rise Time	19.5 ns
Decay Time	285 ns
Pulse Width, FWHM, ns	171.9
Wavelength of Maximum Emission, nm	428
Bulk Light Attenuation Length, cm	180

### Atomic Composition

No. of H Atoms per cc	$5.25 \times 10^{22}$
No. of C Atoms per cc	$4.73 \times 10^{22}$
Ratio H:C Atoms	1.109
No. of Electrons per cc	$3.37 \times 10^{22}$

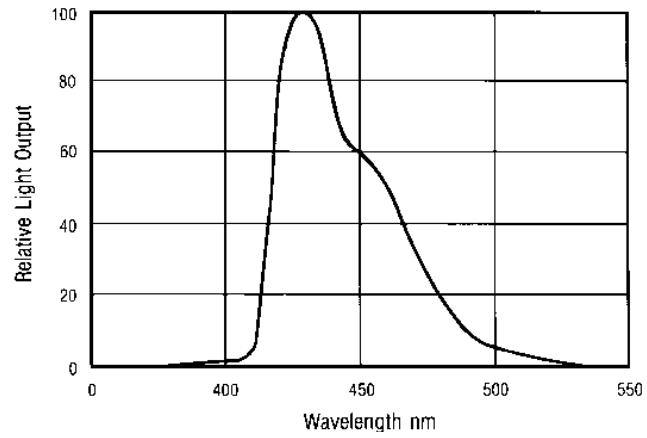
### General Technical Data

Base	Polyvinyltoluene
Density	1.032 g/cc
Refractive Index	1.58 (n <sub>D</sub> ), 1.607 at wavelength of maximum emission
Coefficient of Linear Expansion	$\sim 7.8 \times 10^{-5}$ below 65°C
Vapor Pressure	May be used in a vacuum
Solubility	Soluble in aromatic solvents, chlorinated solvents, acetone, etc. It is unaffected by water, dilute acids, lower alcohols, alkalis, and pure silicone fluids or grease.
Softening Point	70°C



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Emission Spectrum –



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