

EJ-232 PLASTIC SCINTILLATOR

This plastic scintillator is intended for very fast timing applications or when very high pulse pair resolution is required. In all such counting situations the scintillator must be used in a small size, typically with the largest scintillator dimension less than 10 cm, to minimize photon scattering effects. The use of light guides is also best avoided.

The short wavelength of EJ-232 couples well with standard alkali phototubes. Also, the unique formula of EJ-232 enables ultra-fast counting using quenched versions of this material, EJ-232Q. The most common quenching being with 0.5% benzophenone, achieving 700 ps pulse width and light output of 19% anthracene. Higher quenching levels are available.

Physical and Scintillation Constants:

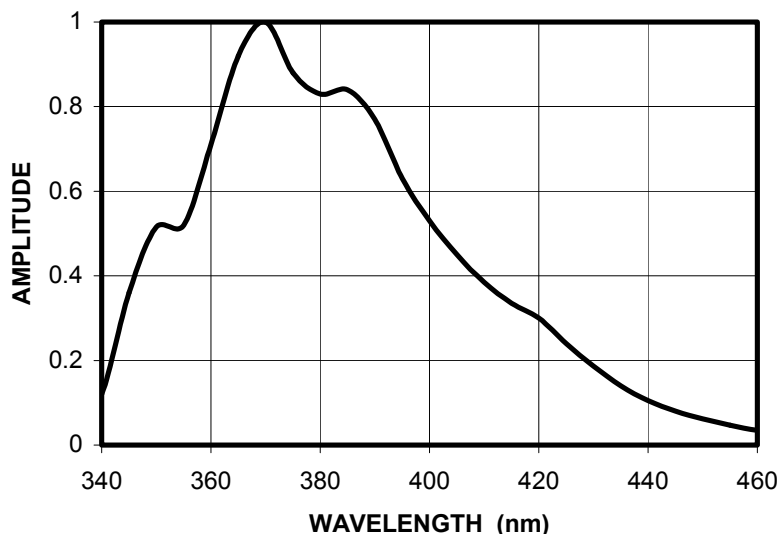
Light Output, % Anthracene	55
Scintillation Efficiency, photons/1 MeV e ⁻	8,400
Wavelength of Max. Emission, nm	370
Rise Time, ns	0.35
Decay Time, ns	1.4
Pulse Width, FWHM, ns	1.3
No. of H Atoms per cm ³ , x 10 ²²	5.13
No. of C Atoms per cm ³ , x 10 ²²	4.66
No. of Electrons per cm ³ , x 10 ²³	3.30
Density, g/cc:	1.02

Polymer Base: Polyvinyltoluene
Refractive Index: 1.58
Vapor Pressure: Is vacuum-compatible
Coefficient of Linear Expansion: 7.8×10^{-5} below +67°C

Light Output vs. Temperature:
At +60°C, L.O. = 95% of that at +20°C
No change from +20°C to -60°C

Chemical Compatibility: Is attacked by aromatic solvents, chlorinated solvents, ketones, solvent bonding cements, etc. It is stable in water, dilute acids and alkalis, lower alcohols and silicone greases. It is safe to use most epoxies and "super glues" with EJ-232.

EJ-232 EMISSION SPECTRUM



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