

PLASTIC SCINTILLATOR PAINT

EJ-296

EJ-296 is a solution of plastic scintillator materials dissolved in a xylene solvent to form a paint for fabricating ultra-thin films or for applying directly to a customer's support surface. Scintillator films as thin as 0.1 μm can be made by forming the films on a water surface. Spin casting techniques have also been used successfully to form films of well controlled thickness. EJ-296 is a moderately viscous solution which may be applied as received. For making thinner films, the paint can be thinned with additional solvent.

The fluor system of EJ-296 has been formulated specifically for the fabrication of thin films with two specific considerations in mind: (1) Vacuum compatibility and (2) maximum shifting of the primary scintillation light in thin films. Because the base solvent is xylene, care should be taken in handling and storing EJ-296 with regard to potential flammability. Always work in a well ventilated area.

PROPERTIES	EJ-296
Light Output (% Anthracene)	60
Scintillation Efficiency (photons/1 MeV e ⁻)	9,000
Wavelength of Maximum Emission (nm)	435
Rise Time (ns)	~ 1.0
Decay Time (ns)	~ 2.5
Pulse Width, FWHM (ns)	~ 3.5
H Atoms per cm ³ ($\times 10^{22}$)	5.17
C Atoms per cm ³ ($\times 10^{22}$)	4.69
Electrons per cm ³ ($\times 10^{23}$)	3.33
Density (g/cm ³)	1.02

Polymer Base	Polyvinyltoluene
Refractive Index	1.58
Softening Point	75°C
Vapor Pressure	Vacuum-compatible
Coefficient of Linear Expansion	7.8×10^{-5} below 67°C
Temperature Range	-60°C to 60°C
Light Output (L.O.) vs. Temperature	At 60°C, L.O. = 95% of that at 20°C No change from -60°C to 20°C

CHEMICAL COMPATIBILITY

Attacked By: Aromatic solvents, Chlorinated solvents, Ketones, Solvent bonding cements, etc.

Stable In: Water, Dilute acids and alkalis, Lower alcohols, Silicone greases.

It is safe to use most epoxies with this scintillator.



PACKAGE SIZES

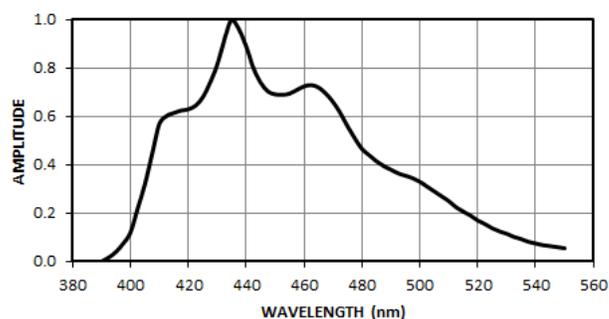
400 mL

800 mL

2.5 L

5 L

EJ-296 EMISSION SPECTRUM



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