

BC-498

Scintillator Paint for Beta Detection

BC-498 consists of a specially formulated plastic scintillator dissolved in an organic solvent. It is intended for the experimenter who wishes to apply thin coatings of plastic scintillator to various substrates. The material can be applied by brush or by spraying. BC-498 can also be used to make thin films up to 100 microns thick. The most frequently used methods are evaporation or spinning¹. The standard formula contains 24.7% polymer. An extra thick formula designated BC-498X contains 34.4% polymer and is recommended for spinning. BC-498 is most often used to develop sensors for alphas, betas, and heavy ions.

Properties –

Light Output, Anthracene	65%
Decay Constant, main component, ns	2.4
Wavelength of Maximum Emission, nm	423

Atomic Composition –

No. of H atoms per cc ($\times 10^{22}$)	5.24
No. of C atoms per cc ($\times 10^{22}$)	4.73
Ratio H:C Atoms	1.11
No. of N atoms per cc ($\times 10^{19}$)	3.50
No. of O atoms per cc ($\times 10^9$)	3.50
No. of Electrons per cc ($\times 10^{23}$)	3.36

¹ "Spin Coating Thin Films of Plastic Scintillator" E. Norbeck et al., *Nucl. Inst. & Meth.*, A262 (1987) 564-547.

General Technical Data –

Base	Polyvinyltoluene
Refractive Index	1.58
Flash Point	26.7°C
Softening Point	70°C

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Organic Scintillators



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