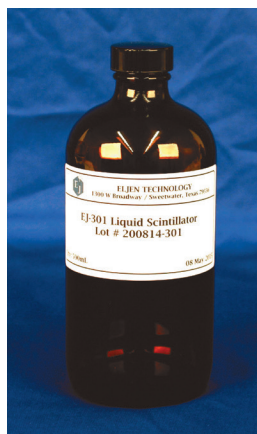


NEUTRON/GAMMA PSD LIQUID SCINTILLATOR

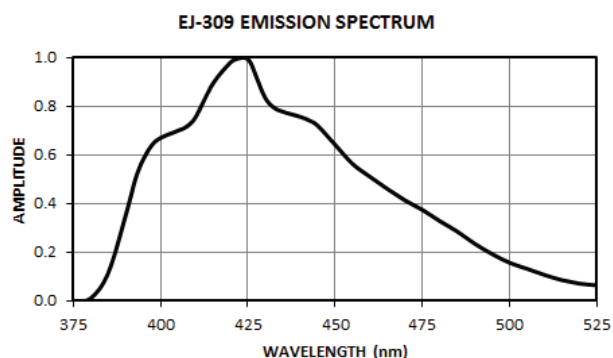
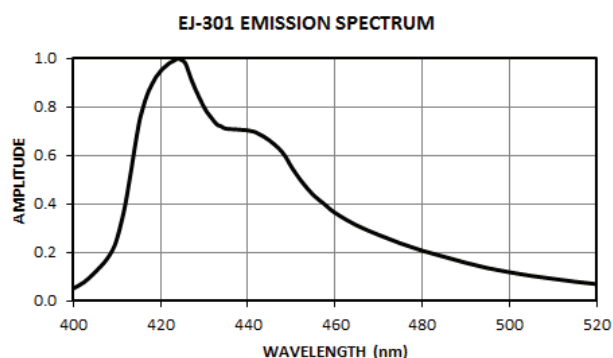
EJ-301, EJ-309

EJ-301 exhibits excellent pulse shape discrimination (PSD) properties, particularly for fast neutron counting and spectrometry in the presence of gamma radiation. It is identical to the widely reported NE-213 and exhibits all of the properties of that scintillator.

EJ-309 has been developed as an alternate to the more commonly used low-flash point PSD liquid scintillators based on the solvent xylene. With a flash point of 144°C, it eliminates the fire hazard associated with low-flash point liquid scintillators. While EJ-309 provides slightly poorer PSD characteristics than that of EJ-301, EJ-309 possesses a number of chemical properties recommending it for use in environmentally difficult conditions. These properties include: high flash point, low vapor pressure, low chemical toxicity, and compatibility with cast acrylic plastics. EJ-309 is also available loaded with natural boron as EJ-309B.



PROPERTIES	EJ-301	EJ-309
Light Output (% Anthracene)	78	80
Scintillation Efficiency (photons/1 MeV e ⁻)	12,000	12,300
Wavelength of Maximum Emission (nm)	425	424
Decay Time, Short Component (ns)	3.2	~ 3.5
Mean Decay Times of First 3 Components (ns)	3.16 32.3 270	-
Bulk Light Attenuation Length (m)	2.5 - 3	> 1
Specific Gravity	0.874	0.959
Refractive Index	1.505	1.57
Flash Point (°C)	26	144
Boiling Point (°C at 1 atm)	141	290 - 300
Vapor Pressure (mm Hg, at 20°C)	6	0.002
H Atoms per cm³ (×10 ²²)	4.82	5.43
C Atoms per cm³ (×10 ²²)	3.98	4.35
Electrons per cm³ (×10 ²³)	2.27	3.16



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