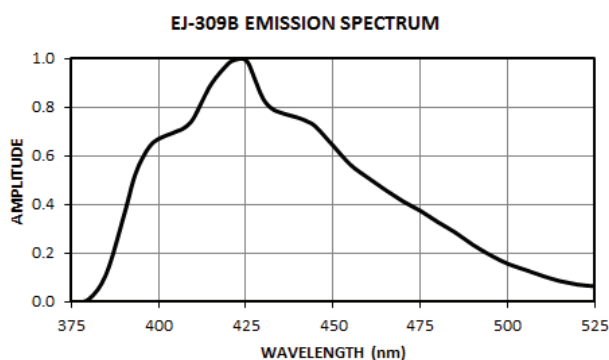


# BORON LOADED LIQUID SCINTILLATOR EJ-309B

EJ-309B is a variant of EJ-309 loaded with natural boron. Loadings up to 5% by weight of natural boron are available. EJ-309B has most of the same general properties as EJ-309. The atomic compositions of three different loading levels are given below.



PROPERTIES	EJ-309B (% boron)		
	-5%	-2.5%	-1%
Natural Boron Content (% w/w)	5	2.5	1
Light Output (% Anthracene)	57	64	69
Scintillation Efficiency (photons/1 MeV e-)	8,800	9,800	10,600
Wavelength of Maximum Emission (nm)	424	424	424
Decay Time, Short Component (ns)	~ 3.5	~ 3.5	~ 3.5
Bulk Light Attenuation Length (m)	> 1	> 1	> 1
Specific Gravity	0.963	0.964	0.965
Refractive Index	1.57	1.57	1.57
Flash Point (°C)	144	144	144
Boiling Point (°C at 1 atm)	290 - 300	290 - 300	290 - 300
Vapor Pressure (mm Hg, at 20°C)	0.002	0.002	0.002
H Atoms per cm <sup>3</sup> (×10 <sup>22</sup> )	5.40	5.43	5.44
C Atoms per cm <sup>3</sup> (×10 <sup>22</sup> )	4.13	4.25	4.33
<sup>10</sup> B Atoms per cm <sup>3</sup> (×10 <sup>20</sup> )	5.34	2.68	1.07
Electrons per cm <sup>3</sup> (×10 <sup>23</sup> )	3.16	3.17	3.17
<sup>10</sup> B/H Ratio of Linear Attenuation Coefficient for Thermal Neutron Capture	125	62.4	25.1

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