

## BaF2 Scintillators

Barium fluoride (BaF<sub>2</sub>) is a scintillator showing two wavelengths of emission (310 nm and 295 nm). The emission at 220nm has an emission with sub nanosecond decay time interesting for timing applications. It is used as the fast timing for: Positron Lifetime Studies, Time of Flight measurements, Positron Emission Tomography (PET) and Certain High-energy Physics Applications.



### Features:

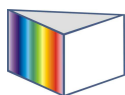
- Sub-nanosecond decay time
- Low absorption at emission wavelength

### Ability:

- Growth method: Bridgman
- Maximum dimension:  $\varnothing$  60 mm x 120 mm
- Available items: single crystals

### Basic Properties:

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Density(g/cm <sup>3</sup> )	4.88
Melting Point (K)	1627
Cleavage Plane	<111>
Hardness(Mohs)	3
Hygroscopic	Slightly
Refractive Index(@220nm)	1.54
Emission Peak (nm)	310/220
Lower wavelength cutoff (nm)	135



Decay time (ns)	630(slow)/0.6-0.8(fast)
Light yield (photons/Kev)	10(slow)/1.8(fast)
Photoelectron yield(% of NaI(Tl))	16(slow)/3(fast)

**Note:** The crystal boules, blanks and polished elements are available.

Application Notes:

- Positron Lifetime Studies
- Time of Flight measurements
- Positron Emission Tomography (PET)
- Certain High energy Physics