

Strontium Iodide Gamma Ray Detector

SrI₂(Eu) scintillator has very high light yield of >80,000 ph/Mev which is 2.2 times high compared to a NaI(Tl) scintillator. Owing to such high light yield, energy resolution of less than 4% for 662keV ¹³⁷Cs gamma rays can be available with 1 inch-size of cylinder.

SrI₂(Eu) scintillator was discovered and patented by Dr. R. Hofstadter in 1968 with poor light yield. But it was rediscovered by the team of Lawrence Livermore National Laboratory in US with high quality crystals in 2008.

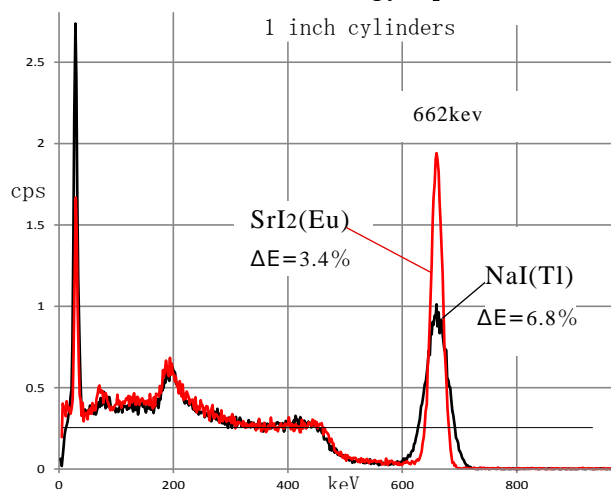
Union Materials Inc. holds innovative crystal preparation technology "Liquinert" [※] and developed successfully high quality SrI₂(Eu) crystals by using this.

Gamma-ray detectors are used in many fields such as environmental, medical, nuclear power plants and mining applications. The improved performances of SrI₂(Eu) scintillator will answer to these various demands.

※"Liquinert" means non-wetting relation between crucible and molten materials. This technology enable us to grow various kinds of high quality crystals.

Physical and Chemical Property	Scintillation Property
Material : SrI ₂ (Eu)	Emission peak : 435nm
Eu concentration : <1.6mol%	Decay time : 1,100ns
Density : 4.59g/cm ³	Light yield : 80,000ph/Mev
Melting point : 538°C	Energy resolution : <4% (at 662keV)
Refractive index : 1.9	Radiation length : 1.95cm
Water solubility : 178g/100cc H ₂ O	Radioactivity : 1/100 for LaBr ₃ (Ce)
Hygroscopicity : very heavy	

Cs-137 Energy Spectra



SrI₂(Eu) detector



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