

# CRY-018 Scintillation Material

**CRY-018** is Mixed Rare-Earth Silicate single crystal scintillation material featuring medium density, high light yield and short decay time. Wavelength of scintillation emission is about 425 nm, which is preferably useful for PMT readout.

CRY-018 scintillation detectors are preferably useful for electron microscopy, beta and X-ray counting, as

## Table of physical parameters

	NaI:TI	BGO	YAG:Ce	YAP:Ce	CRY-019	CSI:TI	CRY-018
Density [g/cm <sup>3</sup> ]	3.67	7.13	4.55	5.37	7.4	4.51	4.50
Hardness [Mho]	2	5	8.5	8.6	5.8	2	5.8
Index of refraction	1.85	2.15	1.82	1.95	1.82	1.78	1.79
Crystal structure	cubic	cubic	cubic	rhombic	monoclinic	cubic	monoclinic
Hygroscopic	yes	no	no	no	no	no	no
Cleavage	yes	no	no	no	yes	Slightly	yes
Light output [% NaI:TI]	100	15 - 20	40	60	40 - 75	45	80
Emmision [nm]	415	480	550	370	415 - 420	550	425
Decay Time [ns]	230	300	70	25	46	900	45
Energy Resolution [% at 661 keV]	7.2	12	7.2	6.7	8.5	8.5	7
Radiation length x <sub>0</sub> [cm]	2.9	1.1	3.5	2.7	1.2	1.86	2.74
Photon yield @300K [10 <sup>3</sup> Ph/MeV]	38	8 - 10	35	25	28	52	32

## Advantage

- ☞ Medium density
- ☞ Fast decay time
- ☞ High light yield

## Main usage

- ☞ β and X-ray counting
- ☞ Electron microscopy
- ☞ β, X-ray and UV imaging



The material can be delivered in the form standard detectors for electron microscopy, i.e. plates or BSE detectors.