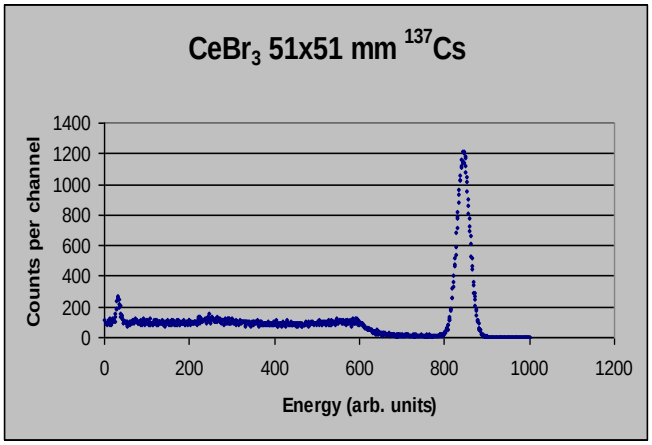
SCIONIX

Data Sheet

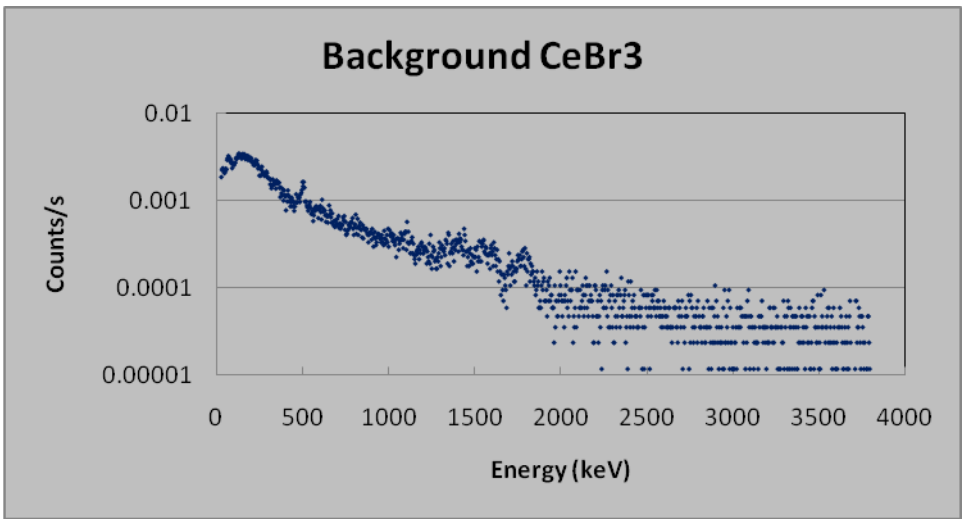
High resolution low background $CeBr_3$ scintillators

$CeBr_3$ scintillation crystals offer an alternative to NaI(Tl) crystals for high resolution gamma spectrometry. Above an energy of 200 keV, the resolution is superior to NaI(Tl). $CeBr_3$ scintillation detectors do not suffer from the intrinsic La-138 background typical for La-halide scintillators.

Density	:	5.2 g / cc
Maximum emission	:	380 nm
Decay time (typical)	:	18-20 ns
Size	:	up to 102 mm diameter, 127 mm length



Background spectrum
Inside 100 mm Lead shield



Typical energy resolution (FWHM) in % : :

Energy (keV)	NaI(Tl)	$CeBr_3$
30	18	20
60	11	13
81	10	11
122	8.5	8
356	8	5
662	7	4
1332	5	3
2600	4	2

76 x 76 mm CeBr3 crystals under ambient and UV light

Intrinsic background in the Ac-227 complex

$CeBr_3$ crystals are characterized by a very small intrinsic background due to the presence of Ac-227. This results in a number of peaks between 1500 and 2200 keV. Standard $CeBr_3$ has a count rate of 0.025 c/s/cc; ultra low background $CeBr_3$ < 0.001 c/s/cc.

References : Quarati et al. NIM A 729 (2013) pp 596-604
L.M. Fraile et al. NIM A 701 (2013) pp 235 - 242
U. Ackermann et al . NIM A 786 (2015) pp 5-11

Scionix Holland B.V.
P.O. Box 143
3980 CC Bunnik
The Netherlands

Tel: + 31 30 657 03 12
Fax: +31 30 656 75 63
Website: www.scionix.nl
E-mail: sales@scionix.nl