

Thermoluminescence Dosimetry Materials

Lithium Fluoride

Lithium fluoride finds use in medical physics dosimetry due to its effective atomic number of 8.2, negligible fading, and usable range from a few mR to 500 R. Standard response is $\pm 30\%$ per batch.

Lithium Fluoride	TLD-100 LiF:Mg,Ti	TLD-600 Li ₂ F:Mg,Ti	TLD-700 Li ₇ F:Mg, Ti
Ribbon, 3.2 x 3.2 x 0.9 mm*	x	x	x
Ribbon, 3.2 x 3.2 x 0.4 mm	x	x	x
Disk, 4.5 mm x 0.9 mm	x	x	x
Disk, 4.5 mm x 0.6 mm	x	x	x
Rod, 1 mm x 6 mm	x	x	x
Rod, 1 mm x 3 mm	x	x	x
Rod, 1 mm x 2 mm	x	x	x
Rod, 1 x 1 x 6 mm	x	x	x
Microcube, 1 x 1 x 1 mm	x	x	x

* Available in $\pm 5\%$ of the mean selection

Lithium Fluoride, High Sensitivity

High sensitivity manganese, copper and phosphorous doped LiF dosimeters exhibit the same desirable properties as TLD-100, but feature sensitivity 15 times greater. Standard response is $\pm 15\%$ per batch.

Lithium Fluoride High Sensitivity	TLD-100H LiF:Mg,Cu,P	TLD-600H Li ₂ F:Mg,Cu,P	TLD-700H Li ₇ F:Mg,Cu,P
Disk, 3.6 mm x 0.25 mm	x	x	x
Disk, 3.6 mm x 0.25 mm	x	x	x
Microcube, 1 x 1 x 1 mm	x	x	x

Calcium Fluoride

Dysprosium-activated calcium fluoride dosimeters exhibit sensitivity 30 times greater than lithium fluoride (TLD-100) and three times that of manganese activated CaF. They are considered the best material for short-term environmental applications. The effective atomic number for photoelectric absorption is 16.3. Standard response is $\pm 30\%$ per batch.

Calcium Fluoride	TLD-200 CaF ₂ :Dy	TLD-300 CaF ₂ :Tm	TLD-400 CaF ₂ :Mn
Disk, 3.6 mm x 0.25 mm	x	x	x



Aluminum Oxide

Aluminum oxide dosimeters have sensitivity 50 times greater than TLD-100 and an effective atomic number for photoelectric absorption of 10.2. These properties make them well suited for personnel dosimetry applications that require detectability of low radiation levels, low long-term fading, and more nearly tissue-equivalent performance than calcium-based materials. Standard response is $\pm 30\%$ per batch.

Aluminum Oxide, Al ₂ O ₃ :C	TLD-500
Disk, 5 mm x 1 mm	x

LD Dosimeters in Non-standard Dimensions

(mm)	6.35 x 6.35 x 0.9	3.2 x 3.2 x 0.38	3.2 x 3.2 x 0.15
TLD-100	x	x	x
TLD-200	x		
TLD-400	x		
TLD-600	x	x	
TLD-700	x	x	x

Thermoluminescent Dosimetry Powders

For your convenience, TLD powder is also available in the following materials, priced per gram:

Lithium Fluoride	TLD-100, TLD-600, TLD-700
Lithium Fluoride (High Sensitivity)	TLD-100H, TLD-600H TLD-700H
Calcium Fluoride	TLD-200, TLD-400
Lithium Borate	TLD-800