RADIONUCLIDE DATA SHEET
Cerium

Ce-141 58 protons 83 neutrons

Radiation: **Decay mode:** Beta

Major Betas:

Max E (MeV)	Avg E (MeV)	# per 100 dis
0.582	0.181	29.8
0.437	0.13	70.2

Major Gammas:

E (MeV)	# per 100 dis
0.145	48.2

Max. Beta Range in air 104.6 cm or 3.43 ft

Max. Beta Range in water 0.13 cm

Avg. gamma E = 0.145 MeV

Half – life: 32.501 days

Gamma constant: 0.39 mR/hr per mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 2000μCi equals 5rem TEDE (Whole Body)
2000μCi equals 50rem CEDE (LLI wall)

Min. Inhalation ALI: 600μCi equals 5rem TEDE (Whole Body)

Doses:

Skin Dose: Reported for 1 μCi over 10 cm^2 of skin
3.75 mrad/hr (gamma dose)

Point Source: 599 mrad/hr (beta dose)

Disk Source: 599 mrad/hr (beta dose)

Shielding data:

Max. range for beta:

Plastic	=	0.11 cm
Aluminum	=	0.05 cm

Tenth Value Thickness for average gamma:

Concrete	=	cm
Lead	=	cm

Detection Information: Usable Detectors listed with estimated efficiencies
(Use efficiencies listed on instrument when available)

Ludlum 3 with pancake probe at 1 cm: %

Ludlum 3 with NaI probe near surface: %

Liq. Scint. Counter: %

Gamma Counter: %

Action Quantities:

Bench top quantity must be less than	6000 μCi
Containers require labeling when greater than	100 μCi
Rooms require posting when there is greater than	1000 μCi
Contamination lasting more than 24 hrs require NRC notification when greater than	3000 μCi