



RADIONUCLIDE DATA SHEET

Cesium



Cs-134 55 protons 82 neutrons

Radiation: Decay mode: Beta

Major Betas:

Max E (MeV)	Avg E (MeV)	# per 100 dis
0.658	0.210	70.23
0.415	0.123	2.506
0.089	0.023	27.28

Major Gammas:

E (MeV)	# per 100 dis
0.569	15.38
0.796	85.53
0.802	8.69

Max. Beta Range in air	184.17 cm	or	6.04 ft	Avg. gamma E =	0.764 MeV
Max. Beta Range in water	0.24 cm				

Half – life: 2.0648 years

Gamma constant: 9.67 mR/hr per mCi at 30 cm

Radiological data: **Min. Ingestion ALI:** 70 μ Ci equals 5rem TEDE (Whole Body)

Min. Inhalation ALI: 100 μ Ci equals 5rem TEDE (Whole Body)

Doses:

Skin Dose:	Reported for 1 μ Ci over 10 cm ² of skin 28.2 mrad/hr (gamma dose)
Point Source:	396 mrad/hr (beta dose)
Disk Source:	396 mrad/hr (beta dose)

Shielding data:

Max. range for beta:	Plastic	=	0.2 cm
	Aluminum	=	0.09 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:	%	Liq. Scint. Counter:	%
Ludlum 3 with NaI probe near surface:	%	Gamma Counter:	%

Action Quantities:

Bench top quantity must be less than	1000 μ Ci
Containers require labeling when greater than	10 μ Ci
Rooms require posting when there is greater than	100 μ Ci
Contamination lasting more than 24 hrs require NRC notification when greater than	500 μ Ci