



RADIONUCLIDE DATA SHEET

Selenium – 75



Se – 75 34 protons 41 neutrons

Radiation: **Decay mode:** Electron Capture

Major Betas:

Max E (MeV)	Avg E (MeV)	# per 100 dis
None		

Max. Beta Range in air 0 cm or 0 ft

Max. Beta Range in water 0 cm

Major Gammas:

E (MeV)	# per 100 dis
0.136	59
0.265	60
0.280	25

Avg. gamma E = 0.165 MeV

Half – life: 119.78 days

Gamma constant: 9.55 mR/hr per 1 mCi at 30 cm

Radiological data:

Min. Ingestion ALI: 500 μ Ci equals 5 rem TEDE (Whole Body)

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

Doses:

Skin Dose: Reported for 1 μ Ci over 10 cm² of skin
38.6 mrad/hr (gamma dose)

Point Source: 0 mrad/hr (beta dose)

Disk Source: 0 mrad/hr (beta dose)

Shielding data:

Max. range for beta: Plastic = 0 cm

Aluminum = 0 cm

Tenth Value Thickness for Concrete = 7 cm

average gamma: Lead = 0.1 cm

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

Ludlum 3 with pancake probe at 1 cm: 1 % **Liq. Scint. Counter:** 98 %

Ludlum 3 with NaI probe near surface: 17 % **Gamma Counter:** 6 %

Action Quantities:

Bench top quantity must be less than 5000 μ Ci

Containers require labeling when greater than 100 μ Ci

Rooms require posting when there is greater than 1000 μ Ci

Contamination lasting more than 24 hrs require NRC notification when greater than 2500 μ Ci