

RADIONUCLIDE DATA SHEET

[ZINC]

Zn-65

30 protons

35 neutrons

Half Life: 243.8 days

Radiation: Decay Mode: Electron Capture

Gamma Constant: 3.67 mR/hr per 1 mCi at 30 cm

Major Positrons:

Max E(MeV)	Avg E (MeV)	# per 100 dis
0.330	0.143	1

Major Gammas:

E(MeV)	# per 100 Dis
1.116	51

Max. Beta Range in Air : 91 cm

Max. Beta Range in Water : 0.1 cm

Average gamma E = 1.080 MeV

Intake Data (annual):

Minimum Ingestion: 400 μ Ci equals 5 rem TEDE (WHOLE BODY)

Minimum Inhalation: 300 μ Ci equals 5 rem TEDE (WHOLE BODY)

Doses:

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

Point Source: 9.20 mrad/hr (beta dose)

Disk Source: 9.30 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	0.1 cm
	Aluminum	0.05 cm
Tenth Value Thickness For Average Gamma:	Concrete	16 cm
	Lead	3 cm

Detection information: Usable Detectors listed with estimate efficiencies

Ludlum 3 w/ pancake probe at 1 cm	<1%	Liq. Scint. Counter	N/A
Ludlum 3 w/ NaI probe near surface	200%	Gamma Counter	7%

Action Quantities:

Bench Top Quantity Must Be Less Than	3000 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 At	1500 μ Ci