

RADIONUCLIDE DATA SHEET

[SILICON]



Si-32

14 protons

18 neutrons

Half Life: 172 years

Radiation: Decay Mode: Beta

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

Major Betas:

Max E(MeV)	Avg E (MeV)	# per 100 dis
0.225	69	100

Max. Beta Range in Air : 38.78 cm

Max. Beta Range in Water : 0.05 cm

Average gamma E = N/A MeV

Intake Data (annual):

Minimum Ingestion: 3000 µCi equals 5 rem TEDE (WHOLE BODY)

2000 µCi equals 50 rem CEDE (LLI wall)

Minimum Inhalation: 100 µCi equals 5 rem TEDE (WHOLE BODY)

Doses:

Skin Dose: Reported for 1 µCi over 10 cm² of skin

0 mrad/hr (gamma dose)

Point Source: 239 mrad/hr (beta dose)

Disk Source: 238 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	0.04 cm
	Aluminum	0.02 cm
Tenth Value Thickness For Average Gamma:	Concrete	0 cm
	Lead	0 cm

Detection information: Usable Detectors listed with estimate efficiencies

Ludlum 3 w/ pancake probe at 1 cm	%	Liq. Scint. Counter	%
Ludlum 3 w/ NaI probe near surface	%	Gamma Counter	%

Action Quantities:

Bench Top Quantity Must Be Less Than	1000 µCi
Containers Require Labeling When Greater Than	1 µCi
Rooms Require Posting When There Is Greater Than	10 µCi
Contamination Lasting More than 24 hrs Require NRC Notification At	500 µCi