

RADIONUCLIDE DATA SHEET

[SODIUM]

Na-22

11 protons

11 neutrons

Half Life: 2.605 years

Radiation: Decay Mode: Beta

Gamma Constant: 14.9 mR/hr per 1 mCi at 30 cm

Major Betas:

Max E(MeV)	Avg E (MeV)	# per 100 dis
0.546	0.216	90

Major Gammas:

E(MeV)	# per 100 Dis
1.275	100

Max. Beta Range in Air : 176 cm

Max. Beta Range in Water : 0.2 cm

Average gamma E = 0.784 MeV

Intake Data (annual):

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

Minimum Inhalation: 600 μ Ci equals 5 rem TEDE (WHOLE BODY)

Doses:

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

Point Source: 566 mrad/hr (beta dose)

Disk Source: 568 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	0.2 cm
	Aluminum	0.09 cm
Tenth Value Thickness For Average Gamma:	Concrete	14.1 cm
	Lead	2.3 cm

Detection information: Usable Detectors listed with estimate efficiencies

Ludlum 3 w/ pancake probe at 1 cm	11%	Liq. Scint. Counter	85%
Ludlum 3 w/ NaI probe near surface	14%	Gamma Counter	40%

Action Quantities:

Bench Top Quantity Must Be Less Than	4000 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	2000 μ Ci