

RADIONUCLIDE DATA SHEET

[SODIUM]

Na-24

11 protons

13 neutrons

Half Life: 14.96 hours

Radiation: Decay Mode: Beta

Gamma Constant: 21.5 mR/hr per 1 mCi at 30 cm

Major Betas:

Max E(MeV)	Avg E (MeV)	# per 100 dis
1.390	0.554	100

Major Gammas:

E(MeV)	# per 100 Dis
1.369	100
2.754	100

Max. Beta Range in Air : 600 cm

Max. Beta Range in Water : 0.65 cm

Average gamma E = 2.060 MeV

Intake Data (annual):

Minimum Ingestion: 4000 μ Ci equals 5 rem TEDE (WHOLE BODY)

Minimum Inhalation: 5000 μ Ci equals 5 rem TEDE (WHOLE BODY)

Doses:

Skin Dose: Reported for 1 μ Ci over 10 cm² of skin

58.9 mrad/hr (gamma dose)

Point Source: 651 mrad/hr (beta dose)

Disk Source: 651 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	0.62 cm
	Aluminum	0.3 cm
Tenth Value Thickness For Average Gamma:	Concrete	23 cm
	Lead	4.4 cm

Detection information: Usable Detectors listed with estimate efficiencies

Ludlum 3 w/ pancake probe at 1 cm	13%	Liq. Scint. Counter	85%
Ludlum 3 w/ NaI probe near surface	<1%	Gamma Counter	5%

Action Quantities:

Bench Top Quantity Must Be Less Than	40000 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 At	20000 μ Ci