

RADIONUCLIDE DATA SHEET

[ARSENIC]

As-76

33 protons

43 neutrons

Half Life: 26.32 hours

Radiation: Decay Mode: Beta

Gamma Constant: 3.04 mR/hr per 1 mCi at 30 cm

Major Betas:

Max E(MeV)	Avg E (MeV)	# per 100 dis
1.753	0.692	8
2.410	0.996	35
2.969	1.267	51

Max. Beta Range in Air : 1300 cm

Max. Beta Range in Water : 1.5 cm

Major Gammas:

E(MeV)	# per 100 Dis
0.559	44
0.657	6
1.216	4

Average gamma E = 0.69 MeV

Intake Data (annual):

Minimum Ingestion: 1000 μ Ci equals 5 rem TEDE (WHOLE BODY)

Minimum Inhalation: 1000 μ Ci equals 5 rem TEDE (WHOLE BODY)

Doses:

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

Point Source: 695 mrad/hr (beta dose)

Disk Source: 695 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	1.5 cm
	Aluminum	0.69 cm
Tenth Value Thickness For Average Gamma:	Concrete	13 cm
	Lead	1.8 cm

Detection information: Usable Detectors listed with estimate efficiencies

Ludlum 3 w/ pancake probe at 1 cm	13%	Liq. Scint. Counter	90%
Ludlum 3 w/ NaI probe near surface	1%	Gamma Counter	40%

Action Quantities:

Bench Top Quantity Must Be Less Than	10000 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	5000 μ Ci