

RADIONUCLIDE DATA SHEET

[AMERICIUM]

AM-241

95 protons

146 neutrons

Half Life: 432.2 years

Radiation: Decay Mode: Alpha

Gamma Constant: 0.374 mR/hr per 1 mCi at 30 cm

Major Alpha:

E(MeV)	# per 100 dis
5.486	84.5
5.443	13
5.388	16

Max. Beta Range in Air : N/A cm

Max. Beta Range in Water : N/A cm

Major Gammas:

E(MeV)	# per 100 Dis
0.026	2.4
0.32	0.017
0.033	0.126

Average gamma E = 0.028 MeV

Intake Data (annual):

Minimum Ingestion: 1 μ Ci equals 5 rem TEDE (WHOLE BODY)

0.8 μ Ci equals 50 rem CEDE (Bone surface)

Minimum Inhalation: 0.01 μ Ci equals 5 rem TEDE (WHOLE BODY)

0.006 μ Ci equals 50 rem CEDE (Bone surface)

Doses:

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

8.87 mrad/hr (gamma dose)

Point Source: 0 mrad/hr (beta dose)

Disk Source: 0 mrad/hr (beta dose)

Shielding Information:

Maximum Range For Beta	Plastic	N/A cm
	Aluminum	N/A cm
Tenth Value Thickness For Average Gamma:	Concrete	cm
	Lead	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	0.06 μ Ci
Containers Require Labeling When Greater Than	0.001 μ Ci
Rooms Require Posting When There Is Greater Than	0.01 μ Ci
Contamination Lasting More than 24 hrs Require NRC Notification At	0.03 μ Ci