

# 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  $\mu$ Ci equals 5 rem TEDE (WHOLE BODY)

0.8  $\mu$ Ci equals 50 rem CEDE (Bone surface)

Minimum Inhalation: 0.01  $\mu$ Ci equals 5 rem TEDE (WHOLE BODY)

0.006  $\mu$ Ci equals 50 rem CEDE (Bone surface)

**Doses:**

**Skin Dose:** Reported for 1  $\mu$ Ci over 10 cm<sup>2</sup> 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 $\mu$ Ci
Containers Require Labeling When Greater Than	0.001 $\mu$ Ci
Rooms Require Posting When There Is Greater Than	0.01 $\mu$ Ci
Contamination Lasting More than 24 hrs Require NRC Notification At	0.03 $\mu$ Ci