

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

Minimum Inhalation: 1000  $\mu$ Ci equals 5 rem TEDE (WHOLE BODY)

## **Doses:**

**Skin Dose:** Reported for 1  $\mu$ Ci over 10 cm<sup>2</sup> 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 $\mu$ Ci
Containers Require Labeling When Greater Than	100 $\mu$ Ci
Rooms Require Posting When There Is Greater Than	1000 $\mu$ Ci
Contamination Lasting More than 24 hrs Require NRC Notification At	5000 $\mu$ Ci