

Radionuclide Safety Data Sheet

Am-241	Radionuclide:	Americium-241			Half-life
	Atomic Number	95	Atomic Weight	241	432 years
Annual Limit on Intake (Bq)					
Ingestion	All compounds: 5E+05				
Inhalation	All compounds: 5.1E+02				
Radiation Characteristics					
Principal Emissions	Maximum Energy (MeV)	Dose Rate at 1 m Distance (mSv/h/GBq)		Recommended Shielding	Progeny
Alpha	5.488	n/a		n/a	Np-237
Gamma/X-ray	0.0595	0.085		HVL lead: 0.1mm	n/a
Detection and Measurement					
Method of detection:	<u>G-M detector</u>				
Dosimetry:	Internal: <u>Whole body</u>				
Protective Measures					
<p>Critical organ: Bone surface</p> <p>Exposure routes: Ingestion, inhalation, puncture, wound, skin contamination/absorption</p> <p>Recommended protective clothing: No protective clothing is necessary for work with sealed sources. When working with unsealed sources wear appropriate protective clothing, such as laboratory coats, coveralls, gloves, safety glasses goggles and a suitable mask if necessary</p> <p>Americium-241 poses a significant risk if ingested (swallowed) or inhaled. The alpha activity from Am-241 is about three times that of radium and so must be handled with great care to avoid personal contamination. Exposure to any significant amount of Am-241 is unlikely under normal circumstances except when trying to access or remove the Am-241 source in a device such as a smoke detector. Avoid skin contamination, ingestion, inhalation and injection</p>					
Sources and application of Am-241					
<p>Am-241 is an artificially made radioisotope and has many applications. It is widely used as a component in ionizing smoke detectors. It is also used in medical diagnostic devices, density gauges, thickness gauges, aircraft fuel gauges, distance-sensing devices and scientific research. A mixture of americium-241 and beryllium is a useful source of neutron</p>					