Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

Canada

Canadian Nuclear Safety Commission

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Radiation Safety Data Sheet

This data sheet presents information on radioisotopes only.
For information on chemical compounds incorporating this radionuclide, see the relevant Material Safety Data Sheet.

Part 1 - RADIOACTIVE MATERIAL IDENTIFICATION

Chemical Symbol:	Am	Common Names:	Americium
Atomic Weight:	241	Atomic Number:	95

Part 2 - RADIATION CHARACTERISTICS

Physical Half-Life: 432.2 years
CNSC Exemption Quantity (in Bq): 1×10^3 (1 kBq)
A CNSC license is not required if the amount of radioactive nuclides possessed is less than one Exemption Quantity.

Principal Emissions	Average Energy (MeV)**	Maximum Energy (MeV)***	Dose Rate at 1m Distance (mSv/h·GBq)	Recommended Shielding
Neutrons	-	n/a	n/a	n/a
Gamma & X-rays	0.05954	n/a	0.085	
Beta*		n/a	n/a	n/a
Alpha	5.49	n/a	n/a	n/a

* Where beta radiation is present, bremmstrahlung radiation will be produced. Shielding may therefore be required.
** Average energy of most abundant emission.
*** Maximum of most abundant emission.

Progeny	Np-237(2.14E6 y), Pa-233(27.0 d), U-233(1.585E5 y), Th-229(7340 y), Ra-225(14.8 d), Ac-225(10.0 d), Fr-221(4.8 m), At-217(0.0323 s), Bi-213(45.65 m), Po-213(4.2 µs), Pb-209(3.253 h)

Part 3 - DETECTION AND MEASUREMENT

Method of Detection: ZnS scintillation counter
Dosimetry:
External: TLD (whole body & skin) ✓ Extremity ✓ Neutron
Internal: Whole body ✓ Thorax ✓ Urine analysis ✓ Other (specify) faeces

Part 4 - PREVENTATIVE MEASURES

Low energy gamma radiation from sealed sources. No protective clothing is necessary for work with sealed sources.

Optimize time, distance, shielding. Manipulate sealed sources remotely to minimize extremity doses. Consult CNSC license for requirements concerning engineering controls, protective equipment, and special storage requirements.

Part 5 - ANNUAL LIMIT ON INTAKE

	Ingestion	**Inhalation**
Compound Type	All compounds	All compounds
Annual Limit on Intake (Bq)	1×10^5	7×10^2

EMERGENCY PROCEDURES

The following is a guide for first responders. The following actions, including remediation, should be carried out by qualified individuals. In cases where life threatening injury has resulted, **first** treat the injury, **second** deal with personal decontamination.

Personal Decontamination Techniques

- Wash well with soap and water and monitor skin
- Do Not abrade skin, only blot dry
- Decontamination of clothing and surfaces are covered under operating and emergency procedures

Spill and Leak Control

- Alert everyone in the area
- Confine the problem or emergency (includes the use of absorbent material)
- Clear area
- Summon Aid

Emergency Protective Equipment, Minimum Requirements

- Gloves
- Footwear Covers
- Safety Glasses
- Outer layer or easily removed protective clothing
- Suitable respirator selected