

Radioisotopes of significance to environmental radioactivity

²⁴¹Am

²⁴³Am

Americium (Am)

Element classification: Actinide

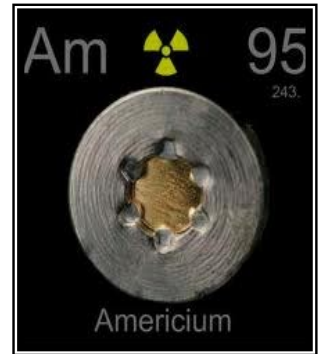
No. of isotopes: 19

Typical elemental concentrations:

Soil (dry): 0.37 Bq/kg

Sea water: 1.3— 4.9 Bq/l

Fresh water: 0.0009 Bq/l



Behaviour in the Environment

- ◆ The most known isotopes of Am are Am-241 and Am-243
- ◆ Most stable in oxidation state +3
- ◆ More mobile in the environment compared to other transuranium elements
- ◆ Accumulates in mammal bones

Americium

radioecology

Key sources

- ◆ **Nuclear cycle:** Nuclear power plants, reprocessing, waste
- ◆ **Nuclear accidents:** e.g. Chernobyl, Fukushima
- ◆ **Smoke detectors:** waste
- ◆ **Natural sources:** No

For more information ...

[IRSN ²⁴¹Am factsheet](#)

[IRSN ²⁴¹Am health factsheet](#)

[Americium factsheet](#)



Why is it of interest?

- ◆ Man made element
- ◆ Acts both as toxic and radiotoxic element
- ◆ For humans, tends to concentrate in bone, liver and muscle, Retained for decades increasing the likelihood of contracting cancer