Radium (Ra)
Element classification: alkaline earth metal
No. of isotopes: 25
Typical elemental concentrations:
- Soil (dry): $1 \times 10^{-4} \mu g/kg$
- Sea water: $1 \times 10^{-8} \mu g/l$

Behavior in the Environment
- Radium is found in tiny quantities in the uranium ore uraninite and various other uranium minerals.
- Radium enters the environment during mining processes and refining processes of uranium, coal, oil and metals.
- It occurs combined with other chemicals, such as sulfur, carbon or oxygen.
- Radium chloride, radium bromide, radium hydroxide, and radium nitrate are soluble in water.

Key sources of radioisotopes
- Nuclear cycle: Mining and milling, waste rock,
- Natural Occurring Radionuclide: Progenies of U and Th decay series

Why is it of interest?
- Highly radiotoxic
- High physical and biological mobility
- Since radium is chemically similar to calcium, it has the potential to cause great harm by replacing calcium in bones

For more information ...
IRSN $^{226}$Ra factsheet

Curie experimenting w/radium, a drawing by André Castaigne

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