Radium

MELTING POINT: **700°C**

BOILING POINT: **1,140°C**

DENSITY: **5.00 g/cm ^{3}**

MOST COMMON IONS: **Ra $^{2+}$**

Radium is the last of the alkaline earth **metals** comprising the second column of the Periodic Table. While there are twenty-five known **isotopes** of radium (only four of which are found naturally), all of them are radioactive. Of these isotopes, radium-226 is the most common, with a half-life of about 1,600 years.

Radium was first isolated in 1898 by Marie Sklodowska Curie and her husband, Pierre Curie. They were studying the radioactivity of pitchblende, a uranium-rich ore, and noticed that the ore was still radioactive with all the uranium removed. After years of painstaking work, the Curies eventually isolated radium and named it for the Latin word *radius*, meaning "ray." For this work, Madame Curie was awarded the Nobel Prize in Chemistry in 1911, her second such honor (the first one, in physics, shared with her husband and Henri Becquerel in 1903 for their initial studies of radioactivity).

Radium is rare in nature, being only the eighty-fifth most abundant element in Earth's crust. When the Curies and their assistant, Gustave Bemont, first isolated radium, they had to reduce many tons of pitchblende ore to obtain only a few grams of the element. As a metal, radium has a silvery white color and is luminous due to its inherent radioactivity. In the past, radium salts were mixed with phosphorescent zinc sulfide into a paint that was placed on the faces of some clocks and watches so that they could be seen at night. However, the workers who painted the clocks suffered and often died of radiation poisoning and cancer, and so the practice was ended. These days, the uses for radium are as rare as the element itself, with annual world production totaling less than 1 kilogram (2.2 pounds).

SEE ALSO C URIE , M ARIE S KLODOWSKA .

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