Francium Encyclopedia Article

Francium

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Francium

Francium is the last member of the alkali metal family, the elements that make up Group 1 of the **periodic table**. Its **atomic number** is 87, its atomic **mass** is 223.0197, and its chemical symbol is Fr.

Properties

All isotopes of francium are radioactive, with francium-223 being the most stable with a half life of 22 minutes. The element is so rare and its isotopes so short-lived that there is little information available about its chemical and physical properties. In 1991, scientists were able to confirm that the element is chemically similar to other **alkali metals** above it in the periodic table.

Occurrence and Extraction

Francium is probably the rarest element found in the Earth's crust. Some experts believe that no more than 15 grams (less than an ounce) of the element exists there. Francium is now prepared for research purposes in a particle accelerator. The most extensive research on the element is being done by a special team of researchers at the State University of New York at Stony Brook who have found a way to trap a collection of francium atoms in the middle of a magnetic field. This process allows a more careful study of the element's properties.

Discovery and Naming

Francium was discovered in 1939 by the French physicist **Marguerite Perey** while she was analyzing the products formed during the radioactive decay of **actinium** (atomic number 89). Perey suggested the name francium in honor of her homeland, France.

Uses

There are no commercial uses for francium or any of its compounds.