Francium Encyclopedia Article

Francium

The following sections of this BookRags Literature Study Guide is offprint from Gale's For Students Series: Presenting Analysis, Context, and Criticism on Commonly Studied Works: Introduction, Author Biography, Plot Summary, Characters, Themes, Style, Historical Context, Critical Overview, Criticism and Critical Essays, Media Adaptations, Topics for Further Study, Compare & Contrast, What Do I Read Next?, For Further Study, and Sources.

(c)1998-2002; (c)2002 by Gale. Gale is an imprint of The Gale Group, Inc., a division of Thomson Learning, Inc. Gale and Design and Thomson Learning are trademarks used herein under license.

The following sections, if they exist, are offprint from Beacham's Encyclopedia of Popular Fiction: "Social Concerns", "Thematic Overview", "Techniques", "Literary Precedents", "Key Questions", "Related Titles", "Adaptations", "Related Web Sites". (c)1994-2005, by Walton Beacham.

The following sections, if they exist, are offprint from Beacham's Guide to Literature for Young Adults: "About the Author", "Overview", "Setting", "Literary Qualities", "Social Sensitivity", "Topics for Discussion", "Ideas for Reports and Papers". (c)1994-2005, by Walton Beacham.

All other sections in this Literature Study Guide are owned and copyrighted by BookRags, Inc.

Contents

Francium Encyclopedia Article.....1

Contents.....2

Francium.....3

Francium

Francium is an alkali metal element given the atomic symbol Fr. The atomic weight of francium's most stable isotope is 223, its melting point is 80.6°F (27°C), and its boiling point, 1,250.6°F (677°C). Francium is highly unstable and extremely rare in nature, being found occasionally in uranium minerals. There is probably no more than 25 grams in the earth's crust at any given time. Since it is so unstable, a weighable amount of the element has not yet been prepared.

Our knowledge of francium is very limited. One reason for this fact is that only one isotope of the element exists in nature, and that one has a half life of only 22 minutes. Another dozen and a half isotopes of the element have been produced synthetically, but none has a half life of more than the naturally occurring isotope. Traditional methods for determining the chemical and physical properties of an element are obviously difficult to apply to the element.

The search for francium became intense after the discovery of radioactivity by Henri Becquerel in 1896. Chemists felt certain that at least two of the elements still missing from the periodic table, numbers 85 and 87, might be found among the decay products of uranium.

It took nearly four decades to reach that goal, however. In 1939, Marguerite Perey discovered element 87 among the decay products of actinium-227. She found that, while 99 out of 100 actinium-227 atoms decay to produce thorium-227, the remaining one atom decays to element 87. Perey named the element francium in honor of her homeland.