

Astatine Encyclopedia Article

Astatine

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Astatine

Astatine is a member of the halogen family, the elements that make up Group 17 of the **periodic table**. Its **atomic number** is 85, its atomic **mass** is 209.9871, and its chemical symbol is At.

Properties

All isotopes of astatine are radioactive. They have such short half lives that it has been difficult to determine the element's properties. No melting point, **boiling point**, or **density** data are available for the element. Experiments that have been conducted on the element show that its chemical properties are similar to those of the other **halogens** in Group 17.

Occurrence and Extraction

Astatine is a very rare element. Scientists estimate that no more than about 25 grams of the element exist on the Earth's surface. Astatine can also be prepared artificially in particle accelerators, although no more than about a millionth of a gram has been produced by that method so far.

Discovery and Naming

Astatine was one of the last of the naturally occurring elements to be discovered. It was found in 1940 by three chemists working at the University of California, Dale R. Corson, Kenneth R. Mackenzie, and Emilio Segrè (1905-89). The element was named after the Greek word for "unstable," which is *astatos*.

Uses

Astatine is too rare to have any practical uses. Even its use in research is very limited because of its scarcity.

Health Issues

There is evidence that astatine behaves like **iodine** in the body. That is, it tends to concentrate in the thyroid gland. If that fact is true, one possible future use for astatine is the treatment of thyroid disorders.