



PIPPA DE SALIS

MEITNERIUM

Element Symbol: **Mt**

Atomic Number: **109**

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This element is named after Lise Meitner, considered to be the most significant woman scientist of the 20th Century. Meitnerium is only one of two elements named after women; the other being Curium (element 96). This excludes women of mythology, such as Niobium (element 41) named after Niobe, the daughter of Tantalus, who was the son of Zeus. When its density is confirmed it will be the heaviest known element in the universe.

Meitnerium was originally called Unnilennium (the systematic name meaning element one hundred and nine) at the time of discovery, and was officially named Meitnerium in August 1997 by International Union of Pure and Applied Chemistry (IUPAC).

Meitnerium has isotopes with mass numbers ranging from 265 to 279. The mass of the most stable isotope, with the longest half-life of 0.72 seconds, is 278. The mass of the most stable atomic mass, with a half-life of 3.8 milliseconds, is 266. Most of the half-lives of Meitnerium are very, very short: in the second to millisecond range. All the isotopes decay by producing alpha particles. Other isotopes have been produced in 1994, 2003, 2004, 2006, and 2009 at various laboratories around the world.

Isotopes of Meitnerium have also been detected in the decay of heavier elements, specifically Roentgenium (element 111), Ununtrium (element 113), Ununpentium (element 115) and Ununseptium (element 117).

Meitnerium was first artificially produced in 1982 by the bombardment of ^{209}Bi atoms with ^{58}Fe ions at the Gesellschaft für Schwerionenforschung (Institute for Heavy Ion Research) at Darmstadt, Germany, by a research team led by P. Armbruster and G. Münzenberg. This group also produced Hassium (element 108) in 1984, Darmstadtium (element 110) and Röntgenium (element 111) both in 1994, and Copernicium (element 112) in 1996.

Meitnerium does not occur in nature. In fact only one, or a few, atoms can be produced at any one time.

Provided by the element sponsor Keith Martin

ARTISTS DESCRIPTION

One of only two elements named after a woman scientist, and the most readily available photo of her is a portrait in a broad hat characteristic of her era. The spirals and lines in the background are patterns made by subatomic particles in a bubble chamber. The linocut creates bold marks to draw the gaze and to clarify a relatively small image.

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