

Isotopes of Meitnerium

Isotope	Atomic Mass	Half-life	Mode of Decay
Mt-265	266.1366	No data available	No data available
Mt-266	266.13764	0.0034 seconds	α to Bh-262; SF
Mt-267	267.1375	No data available	No data available
Mt-268	268.1388	0.070 seconds	α to Bh-264
Mt-269	269.1391	No data available	No data available
Mt-270	270.1407	No data available	No data available
Mt-271	271.1412	No data available	No data available
Mt-275	275	0.0097 seconds	α to Bh-271
Mt-276	276	0.72 seconds	α to Bh-272



Meitnerium is a synthetic element (an element not found in nature but that can be created in a laboratory). It was discovered in 1982 by Peter Armbruster, Gottfried Münzenber and their co-workers at Gesellschaft für Schwerionenforschung (GSI — Institute for Heavy Ion Research) in Darmstadt, Germany. Its name originates with Lise Meitner, the Austrian physicist.

Meitnerium is the seventh member of the 6d series of transition metals. Since element 112 (copernicium) has been shown to be a transition metal, it is expected that all the elements from 104 to 112 would form a fourth transition metal series, with meitnerium as part of the platinum group metals. Calculations on its ionization potentials and atomic and ionic radii are similar to those of its lighter homologue iridium, thus implying that meitnerium's basic properties will resemble those of the other group 9 elements: cobalt, rhodium and iridium.

Meitnerium is expected to be a solid under normal conditions and assume a face-centered cubic crystal structure, similarly to its lighter congener, iridium. It should be a very heavy metal with a density of around 37.4 g/cm^3 , which would be the second-highest of any of the 118 known elements, second only to that predicted for its neighbor hassium (41 g/cm^3).

Properties of Meitnerium

Name	Meitnerium
Symbol	Mt
Atomic number	109
Atomic weight	276
Standard state	Presumably a solid at 298 °K

Properties of Meitnerium (continued)

CAS Registry ID	54038-01-6
Group in periodic table	9
Group name	None
Period in periodic table	7
Block in periodic table	d-block
Color	Unknown, but probably metallic and silvery white or grey in appearance
Classification	Metallic
Melting point	No data available
Boiling point	No data available
Density of solid	28.2 g/cm ⁻³ (predicted)
Electron configuration	[Rn]5f ¹⁴ 6d ⁷ 7s ² (calculated)
Most stable oxidation states	+1, +3, +6 (predicted)