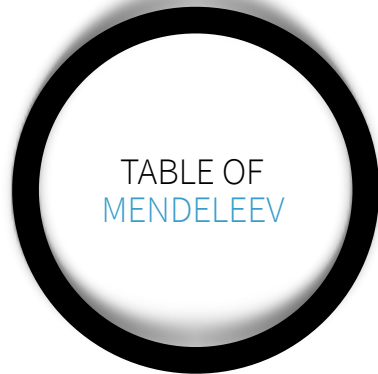




**SUPR**LABS



28 Ni Nickel	29 Cu Copper	30 Zn Zinc
46 Pd Palladium	47 Ag Silver	48 Cd Cadmium
78 Pt Platinum	79 Au Gold	80 Hg Mercury



English

**Silver**

French

**Argent**

German

**Silber**

Italian

**Argento**

Latin

**Argentum**

Spanish

**Plata**

Portuguese

**Prata**



SILVER  
OXIDATION

Electron configuration:

**[Kr] 4d<sup>10</sup> 5s<sup>1</sup>**

Minimum oxidation number:

**0**

Maximum oxidation number:

**3**

Minimum oxidation state:

**0 (silver occurs naturally in ores in its elemental state)**

Maximum oxidation state:

**3 (the unit cell of silver oxide, Ag<sub>4</sub>O<sub>4</sub>, has two atoms of univalent silver and two atoms of trivalent silver)**



SILVER  
REACTIONS

With air:

**Mild, =>Ag<sub>2</sub>O**

With 6M HCl:

**None**

With 6M HCl:

**None**

With 15M HNO<sub>3</sub>:

**Mild, =>AgNO<sub>3</sub>**

# SILVER?



Symbol:	<b>Ag</b>
Atomic number:	<b>47</b>
Group number:	<b>11</b>
Mass	<b>107.868</b>
Density @ 293 K:	<b>10.5 g/cm<sup>3</sup></b>
Atomic volume:	<b>10.3 cm<sup>3</sup>/mol</b>
Melting Point:	<b>961.93 C (1235.1 K)</b>
Boiling Point:	<b>2212 C (2428 K)</b>
Heat of fusion:	<b>11.30 kJ/mol</b>
Heat of vaporization:	<b>250.580 kJ/mol</b>
Number of Protons/Electrons:	<b>47</b>
Number of neutrons:	<b>61</b>
Classification:	<b>Transition Metal</b>
Crystal Structure:	<b>Face-centered Cubic</b>
Color:	<b>Silver</b>
Hardness:	<b>3.25 mohs</b>
Characteristics:	<b>soft, ductile, tarnishes</b>

# SILVER?

## OTHER FORMS

Number of isotopes:	<b>2</b>
Hydride(s):	<b>None</b>
Oxide(s):	<b>Ag<sub>2</sub>O</b>
Chloride(s):	<b>AgCl</b>

## CONDUCTIVITY

Thermal conductivity:	<b>429 J/m-sec-degC</b>
Electrical conductivity:	<b>630.5 1/mohm-cm</b>
Electrical resistivity:	<b>1.467 X 10<sup>-8</sup> ohms-m (0°C)</b>
Polarizability:	<b>7.9 A<sup>3</sup></b>

## ABUNDANCE

Silver occurs in the metallic state, commonly associated with gold, copper, lead, and zinc. It is also found in some 60 minerals including: argentite (a sulfide), cerargyrite (a chloride), many other sulfides and tellurides.



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