

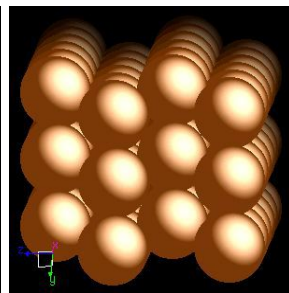
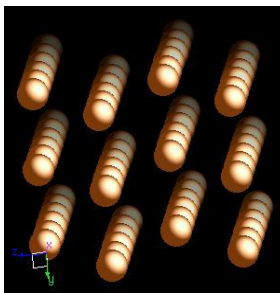
12 24.30 Mg

Magnesium

Density = 1.738 g/cm^3
Melting point = $648.8 \text{ }^\circ\text{C}$
Boiling point = $1107 \text{ }^\circ\text{C}$
Electronegativity = 1.2
Ionization energy = 737.7 kJ/mol
Electron shell: $[\text{Ne}] 3s^2$
Oxidation states: +2
Abundance on Earth: 1.94%
Isotopes: ^{24}Mg , ^{25}Mg , ^{26}Mg + 9 others (unstable)
Cost: \$1.10 - \$1.13 per lb



Crystal structure: hexagonal close-packed; space group: P63/mmc



- Magnesium was discovered in 1755 by Sir Humphrey Davy.
- Named from the Greek word "Magnesia", a district of Thessaly.
- Properties: A grayish-white, fairly tough metal; tarnishes slightly in air, and finely divided magnesium readily ignites upon heating in air and burns with a dazzling white flame; it is normally coated with a layer of oxide, MgO , that protects it from air and water.
- Availability: As the free element (chips, granules, powder, rod, foil, sheet, turnings, and ribbon).
- Uses: In flares and pyrotechnics, including incendiary bombs. It was used in flash photography. It is lighter than aluminum, and is used in alloys used for aircraft, car engine casings, and missile construction. Also used in computers for radio-frequency shielding.
- Common compounds:
 - MgH_2 (magnesium (II) hydride)
 - MgF_2 (magnesium (II) fluoride)
 - MgO_2 (magnesium (II) peroxide)
- Health effects: Low toxicity. A vital catalyst in enzyme activity, especially the activity of those enzymes involved in energy production.