Molybdenum is a key alloying agent that increases the strength and resistance to corrosion of many quenched and tempered steels, especially at elevated temperatures. Additionally, the material is added to improve the performance of some heat and corrosion resistant nickel alloys. Moly has a wide variety of applications, including but certainly not limited to boiler plates, industrial tools, gun barrels, armor plate, vacuum furnaces, light bulbs, nuclear energy, missile, aircraft parts, and many more. In fact, most high strength steels consist of between 0.25% and 8% molybdenum. While the pure material is prized for its attributes, moly alloys such as lanthanated molybdenum (MoLa), molybdenum disulfide (MoS2), and titanium zirconium molybdenum (TZM) are also useful since they expand upon the core properties while widening the range of consumer and industrial applications. Below is a compilation of pure molybdenum's chemical properties. If you’d like to know more regarding your specialized application, feel free to give us a call, 1-800-626-0226 or email us at sales@molybdenum.com!

Element Classification: Transition Metal
Density (g/cc): 10.22
Melting Point (K): 2890
Boiling Point (K): 4885
Appearance: silvery white, hard metal
Atomic Radius (pm): 139
Atomic Volume (cc/mol): 9.4
Covalent Radius (pm): 130
Ionic Radius: 62 (+6e) 70 (+4e)
Specific Heat (@20°C J/g mol): 0.251
Fusion Heat (kJ/mol): 28
Evaporation Heat (kJ/mol): ~590
Debye Temperature (K): 380.00
Pauling Negativity Number: 2.16
First Ionizing Energy (kJ/mol): 684.8
Electron Configuration: [Kr] 5s1 4d5
Oxidation States: 6, 5, 4, 3, 2, 0
Lattice Structure: Body-Centered Cubic
Lattice Constant (Å): 3.150