

Answer on Question #48860 - Chemistry – Inorganic Chemistry

Question

what are the properties of metallic element

Answer:

Generally, metallic elements tend to lose electrons to form cations. Metals combine with other metals and some non-metallic elements to form a vast number of alloys that enhance the properties of metals in specific applications, e.g., the combination of iron, nickel and chromium provides a series of stainless steel alloys that are in common use.

The properties of strength and ductility enable the extensive use of metallic elements and metals in structures and machinery. Metals and alloys exhibit ductility, malleability and the ability to be deformed plastically, making them easy to shape into beams, coins, metal cans and a variety of fasteners (nails and paper-clips). Also metallic elements have the strength under pressure (compression), stretching (tensile) and shear forces.

Metals are excellent conductors of both heat and electricity. Metals are hard and durable. Metals are uniformly lustrous and, except for copper and gold, are silvery or greyish. This is because all metals absorb light at all frequencies and immediately radiate it. Metals impart mirrors with their reflective surface. The lustre of metals gives them the attractive appearance that is so important in jewellery and coins.

Some metallic elements have magnetic properties. Ferromagnetism is exhibited by iron and several other metals. In addition, other metals and alloys can be magnetized in an electrical field to exhibit paramagnetism. Also metals emit electrons when exposed to radiation (e.g. light) of a short wavelength or when heated to sufficiently high temperatures. These phenomena are exploited in television screens, using rare earth oxides and in a variety of electronic devices and instruments.