

**\* Name Origin:**

German: kupfernickel (false copper); nickel (satan).

**\* Sources:**

Chiefly found in pentlandite  $[(\text{Ni},\text{Fe})_9\text{S}_8]$  ore.

**\* Uses:**

Used in electroplating and metal alloys because of its resistance to corrosion. Also in nickel-cadmium batteries; as a catalyst and for coins.

**\* Additional Notes:**

Discovered by Cronstedt in 1751 in kupfernickel (niccolite). Nickel is found as a constituent in most meteorites and often serves as one of the criteria for distinguishing a meteorite from other minerals. Iron meteorites, or siderites, may contain iron alloyed with from 5 to nearly 20% nickel. Nickel is obtained commercially from pentlandite and pyrrhotite of the Sudbury region of Ontario, a district that produces much of the world's nickel. It is now thought that the Sudbury deposit is the result of an ancient meteorite impact. Other deposits of nickel are found in Russia, New Caledonia, Australia, Cuba, Indonesia, and elsewhere. Nickel is silvery white and takes on a high polish. It is hard, malleable, ductile, somewhat ferromagnetic, and a fair conductor of heat and electricity. It belongs to the iron-cobalt group of metals and is chiefly valuable for the alloys it forms. It is extensively used for making stainless steel and other corrosion-resistant alloys such as Invar®, Monel®, Inconel®, and the Hastelloys®. Tubing made of a copper-nickel alloy is extensively used in making desalination plants for converting sea water into fresh water. Nickel is also now used extensively in coinage and in making nickel steel for armor plate and burglar-proof vaults, and is a component in Nichrome®, Permalloy®, and constantan. Nickel added to glass gives a green color. Nickel plating is often used to provide a protective coating for other metals, and finely divided nickel is a catalyst for hydrogenating vegetable oils. It is also used in ceramics, in the manufacture of Alnico magnets, and in the Edison® storage battery. The sulfate and the oxides are important compounds. Natural nickel is a mixture of five stable isotopes; nineteen other unstable isotopes are known. Nickel sulfide fume and dust is recognized as having carcinogenic potential.