*** Name Origin:**

From Niobe; daughter of the mythical Greek king Tantalus.

*** Sources:**

Occurs in a mineral columbite. Formerly known as colombium (Cb).

*** Uses:**

It is used in stainless steel alloys for nuclear reactors, jets, missiles, cutting tools, pipelines, super magnets and welding rods.

*** Additional Notes:**

Discovered in 1801 by Hatchett in an ore sent to England more that a century before by John Winthrop the Younger, first governor of Connecticut. The metal was first prepared in 1864 by Blomstrand, who reduced the chloride by heating it in a hydrogen atmosphere. The name niobium was adopted by the International Union of Pure and Applied Chemistry in 1950 after 100 years of controversy. Many leading chemical societies and government organizations refer to it by this name. Most metallurgists, leading metal societies, and all but one of the leading U.S. commercial producers, however, still refer to the metal as “columbium”. The element is found in niobite(or columbite), niobite-tantalite, pyrochlore, and euxenite. Large deposits of niobium have been found associated with carbonatites (carbon-silicate rocks), as a constituent of pyrochlore. Extensive ore reserves are found in Canada, Brazil, Nigeria, Zaire, and in Russia. The metal can be isolated from tantalum, and prepared in several ways. It is a shiny, white, soft, and ductile metal, and takes on a bluish cast when exposed to air at room temperatures for a long time. The metal starts to oxidize in air at 200°C, and when processed at even moderate temperatures must be placed in a protective atmosphere. It is used in arc-welding rods for stabilized grades of stainless steel. Thousands of pounds of niobium have been used in advance air frame systems such as were used in the Gemini space program. The element has superconductive properties; superconductive magnets have been made with Nb-Zr wire, which retains its superconductivity in strong magnetic fields. This type of application offers hope of direct large-scale generation of electric =power. Natural niobium is composed of only one isotope, ^{93}Nb. Forty one other isotopes and isomers of niobium are now recognized.