*** Name Origin:**

From Ytterby, Sweden.

*** Sources:**

Found with other rare earths.

*** Uses:**

Used in alloys, fuel cell stablizer and in lasers. Also used in the production of electronic devices.

*** Additional Notes:**

Discovered by Mosander in 1843. Terbium is a member of the lanthanide or “rare earth” group of elements. It is found in cerite, gadolinite, and other minerals along with other rare earths. It is recovered commercially from monazite in which it is present to the extent of 0.03%, from xenotime, and from euxenite, a complex oxide containing 1% of more of terbia. Terbium has been isolated only in recent years with the development of ion-exchange techniques for separating the rare-earth elements. As with other rare earths, it can be produced by reducing the anhydrous chloride or fluoride with calcium metal in a tantalum crucible. Calcium and tantalum impurities can be removed by vacuum remelting. Other methods of isolation are possible. Terbium is reasonably stable in air. It is a silver-gray metal, and is malleable, ductile, and soft enough to be cut with a knife. Two crystal modifications exist, with a transformation temperature of 1289°C. Forty one isotopes and isomers are recognized. The oxide is a chocolate or dark maroon color. Sodium terbium borate is used as a laser material and emits coherent light at 0.546 mm. Terbium is used to dope calcium fluoride, calcium tungstate, and strontium molybdate, used in solid-state devices. The oxide has potential application as an activator for green phosphors used in color TV tubes. It can be used with ZrO_2 as a crystal stabilizer of fuel cells which operate at elevated temperature. Few other uses have been found. Little is known of the toxicity of terbium. It should be handled with care as with other lanthanide elements.