

*** Name Origin:**

From Ytterby, Sweden.

*** Sources:**

Found with other heavier rare earths.

*** Uses:**

Erbium oxide is used in ceramics to obtain a pink glaze.

*** Additional Notes:**

Erbium, one of the so-called rare-earth elements of the lanthanide series, is found in the minerals mentioned under dysprosium above. In 1842 Mosander separated "yttria," found in the mineral gadolinite, into three fractions which he called yttria, erbia, and terbia. The names erbia and terbia became confused in this early period. After 1860, Mosander's terbia was known as erbia, and after 1877, the earlier known erbia became terbia. The erbia of this period was later shown to consist of five oxides, now known as erbia, scandia, holmia, thulia and ytterbia. By 1905 Urbain and James independently succeeded in isolating fairly pure Er_2O_3 . Klemm and Bommer first produced reasonably pure erbium metal in 1934 by reducing the anhydrous chloride with potassium vapor. The pure metal is soft and malleable and has a bright, silvery, metallic luster. As with other rare-earth metals, its properties depend to a certain extent on the impurities present. The metal is fairly stable in air and does not oxidize as rapidly as some of the other rare-earth metals. Naturally occurring erbium is a mixture of six isotopes, all of which are stable. Twenty four radioactive isotopes of erbium are also recognized. Recent production techniques, using ion-exchange reactions, have resulted in much lower prices of the rare-earth metals and their compounds in recent years. Erbium is finding nuclear and metallurgical uses. Added to vanadium, for example, erbium lowers the hardness and improves workability. Most of the rare-earth oxides have sharp absorption bands in the visible, ultraviolet, and near infrared. This property, associated with the electronic structure, gives beautiful pastel colors to many of the rare-earth salts. Erbium oxide gives a pink color and has been used as a colorant in glasses and porcelain enamel glazes.