

At pressures up to 30 kilobars the cubic TmSb structure was stable over the entire temperature range investigated.

Above 50 kilobars the structure required high temperature to become stable. Between 30 and 55 kilobars the unknown product, type I, diffraction pattern observed along with the cubic rare earth monoantimonide familiar from work with the lighter lanthanides was found from 500 to 800 °C. From 800 to 1000 °C the unknown product, type II, observed at higher temperatures with Er + 2 Sb was found.

The typical high pressure orthorhombic structure was observed at pressures above 50 kilobars and temperatures from about 600 or 700 °C up to the lower temperature limit of the TmSb plus Sb region. A high temperature region of no apparent reaction was not found in this system.

Ytterbium

The only compound found in the Yb + 2 Sb system was the YbSb₂ structure already reported by Bodnar and Steinfink (15). The range of investigation covered up to 70 kilobars and 1800 °C.

Lutetium

At all temperatures up to 1800 °C for pressures below 40 kilobars the LuSb plus Sb region was found. Above this pressure the unknown product, type II, like that found at high temperatures in the Er + 2 Sb and Tm + 2 Sb systems was obtained. No other products were found up to 70 kilobars.