

convert all the separated sodium into the compound. After the solid phase has been converted entirely to Na_2K , there is still some liquid left at the meritectic point as there was with the 0.25 mole fraction sample. Following a temperature halt at the meritectic, solidification continues along the curve from the meritectic to the eutectic, with separation of Na_2K until the eutectic is reached. At this point, simultaneous separation of solid potassium and compound begins to occur and the alloy system then completely solidifies at this temperature.

With a composition of about 0.55 mole fraction K, no transition temperature corresponding to the meritectic halt is observed. The very first solid phase to deposit is the compound Na_2K , then eutectic solidification follows as before. When the composition lies to the right of the eutectic (hypereutectic alloy), the solid which separates out will be the potassium-rich solution. Then the temperature will continue to fall after the inflection point until the eutectic point is reached.

Solid Solution Limits

Liquidus and solidus points obtained in the regions of solid solution formation are listed in Table 2. For the most part, the solidus point could be read directly from the time-temperature curve by extrapolating the curves, before and after melting began, to an intersection point. On the steep portion of the diagram, however, the change in slope at the solidus point was too gradual to fix an intersection point with precision. To locate the solidus point under these