

## Answer on Question #73618 - Chemistry - Physical Chemistry

Question:

Discuss the phase diagram of KI-H<sub>2</sub>O system giving the suitable diagram.

**Solution:**

1. L (0 C) is the freezing point of water and is lowered by the addition of KI;
2. Hence after addition of salt, LM is the freezing point of water in the presence of KI;
3. Along LM ice separated out from the solution and system is monovariant;
4. NM is the solubility curve of salt KI;
5. From slope of the curve it reveals that the solubility of KI increases with the rise in temperature;
6. At M where LM & NM meet, three phases are in equilibrium, the system is invariant; M is the eutectic point;

In case of system involving salt & water, the eutectic point is generally known as cryohydric point.

