Gibbs Phase Rule

@wikipedia

(1) $F = C - P + 2$

where

F	number of degrees of freedom
C	number of mixture components
P	number of phases

Pure substance

For Pure substance: $C = 1$ and $F = 3 - P$.

It means that 3-Phase Equilibrium (solid, liquid an gas) has zero degrees of freedom : $F = 0$ thus making a single point on Phase Equilibrium Diagram, called Triple Point and characterized by a certain Temperature and Pressure.

The 2-Phase Equilibrium has one degree of freedom: $F = 1$ and form a smooth line on Phase Equilibrium Diagram.

Binary Mixture

For Binary Mixture: $C = 2$ and $F = 4 - P$.

It particularly means that 2-Phase Equilibrium of Binary Mixture has two degrees of freedom : $F = 2$ and covers a 2-dimensional area on Phase Equilibrium Diagram.

See also

Natural Science / Physics / Thermodynamics / Thermodynamic system / Phase / Phase Equilibrium

[State of matter][Pure substance] [Mixture][Fluid Mixture]

[Thermodynamic equilibrium][Vapour Liquid Equilibrium (VLE)]

[Phase Equilibrium Diagram]

References

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