multi-component-system

MKQ

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Contents

1 Perface

In this chapter we discuss homogeneous-system

- mixture
- solution
- dilute solution

1.1 solution

- solvent
- solute

2 partial molar quantity

not all capacity natures are addtive, water and EtOH for example

$$V_{mix} \neq V_{H_2O} + V_{EtOH}$$

except the mess

2.1 capacity nature Z

$$Z = Z(T, p, n_1, n_2, ...))$$

$$dZ = (\frac{\partial Z}{\partial T})_{p,n_1,n_2...} dT + ...$$

$$Z_b^{'} = (\frac{\partial Z}{\partial n_B})_{T,p,n_C(C \neq B)}$$

$$dZ = \sum_{B=1}^{k} Z_B^{'} dn_B$$

the addition of Z when add 1 mol B i the solution

- Z can be G H U V ...
- while Z=G it is chemical potetial
- partial molar quantity is strength propities

if you add components proportionally Z' won't changed