

## Short test questions 4, 2019

1. Define the ideal mixture!
2. Raoult's law
3. Plot the vapor pressure diagram of an ideal solution!
4. Plot the boiling point diagram of an ideal solution!
5. The enthalpy of mixing in ideal solutions
6. The chemical potential of a component in an ideal solutions (liquid phase)
7. Plot the chemical potential of a component in an ideal solution (liquid phase) as a function of the mole fraction!
8. What is activity?
9. Define the positive deviation of solutions!
10. What are the properties of the solutions with negative deviation?
11. Plot the vapor pressure diagram of a solution (two-component system) with positive deviation!
12. Plot the boiling point diagram of a solution (two-component system) with negative deviation!
13. What is the level rule?
14. The entropy of mixing in ideal solutions
15. The Gibbs free energy of mixing in ideal solutions
16. The mole fraction of which component is higher in the vapor phase than in the liquid phase if the components do not form an azeotrop in a two component system?
17. The mole fraction of which component is higher in the vapor phase than in the liquid phase if the components form an azeotrop in a two component system?
18. In which case is the mole fraction in the vapor phase is equal to the mole fraction in the liquid phase?

19. How much is the pressure above two immiscible liquids?
20. Plot the boiling point diagram of a two-component system for the case of complete immiscibility in the liquid phase!
21. Plot the boiling point diagram of a two-component system with partial miscibility in the liquid phase!
22. What is the eutectic point?