

- A solute is added to water and a portion of the solute remains undissolved. When equilibrium between the dissolved and undissolved solute is reached, the solution must be
 - dilute
 - saturated
 - unsaturated
 - supersaturated
- When an equilibrium exists between the dissolved and the undissolved solute in a solution, the solution must be
 - diluted
 - saturated
 - supersaturated
 - unsaturated
- A student adds solid KCl to water in a flask. The flask is sealed with a stopper and thoroughly shaken until no more solid KCl dissolves. Some solid KCl is still visible in the flask. The solution in the flask is
 - saturated and is at equilibrium with the solid KCl
 - saturated and is not at equilibrium with the solid KCl
 - unsaturated and is at equilibrium with the solid KCl
 - unsaturated and is not at equilibrium with the solid KCl
- As additional $\text{KNO}_3(\text{s})$ is added to a saturated solution of KNO_3 at constant temperature, the concentration of the solution
 - decreases
 - increases
 - remains the same
- An unsaturated solution is formed when 80. grams of a salt is dissolved in 100. grams of water at $40.^\circ\text{C}$. This salt could be
 - KCl
 - KNO_3
 - NaCl
 - NaNO_3
- A solution contains 35 grams of KNO_3 dissolved in 100 grams of water at 40°C . How much *more* KNO_3 would have to be added to make it a saturated solution?
 - 29 g
 - 24 g
 - 12 g
 - 4g
- According to Reference Table G, which solution is saturated at 30°C ?
 - 12 grams of KClO_3 in 100 grams of water
 - 12 grams of KClO_3 in 200 grams of water
 - 30 grams of NaCl in 100 grams of water
 - 30 grams of NaCl in 200 grams of water
- According to Reference Table G, which solution at equilibrium contains 50 grams of solute per 100 grams of H_2O at 75°C ?
 - an unsaturated solution of KCl
 - an unsaturated solution of KClO_3
 - a saturated solution of KCl
 - a saturated solution of KClO_3
- A solution is formed by dissolving 45 grams of NH_4Cl in 100 grams of H_2O at 70°C . Which statement correctly describes this solution?
 - NH_4Cl is the solute, and the solution is saturated.
 - NH_4Cl is the solute, and the solution is unsaturated.
 - NH_4Cl is the solvent, and the solution is saturated.
 - NH_4Cl is the solvent, and the solution is unsaturated.
- What is the mass of NH_4Cl that must dissolve in 200. grams of water at $50.^\circ\text{C}$ to make a saturated solution?
 - 26 g
 - 42 g
 - 84 g
 - 104 g
- What is the total mass of KNO_3 that must be dissolved in 50. grams of H_2O at $60.^\circ\text{C}$ to make a saturated solution?
 - 32 g
 - 53 g
 - 64 g
 - 106 g
- When 5 grams of KCl are dissolved in 50. grams of water at 25°C , the resulting mixture can be described as
 - heterogeneous and unsaturated
 - heterogeneous and supersaturated
 - homogeneous and unsaturated
 - homogeneous and supersaturated

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13. How many grams of KCl must be dissolved in 200 grams of water to make a saturated solution at 60°C?
A) 30 g B) 45 g C) 56 g D) 90 g
14. What is the maximum number of grams of NH₄Cl that will dissolve in 200 grams of water at 70°C?
A) 60 B) 70 C) 100 D) 120
15. A saturated solution of NaNO₃ is prepared at 60.°C using 100. grams of water. As this solution is cooled to 10.°C, NaNO₃ precipitates (settles) out of the solution. The resulting solution is saturated. Approximately how many grams of NaNO₃ settled out of the original solution?
A) 46 g B) 61 g
C) 85 g D) 126 g
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