

(1) A solution is prepared by dissolving 50 g of KCl (74.6 g/mol) to a volume of 1 L. What is the molarity of this solution?

50 M

0.67 M

1.5 M

670 M

1.49 M

(2) You prepare a solution by dissolving 20 g of NaCl to a volume of 350 mL in water. What is the mass/volume % concentration of this solution?

1.6 % NaCl

5.7% NaCl

0. NaCl **YES**

25% NaCl

(3) When the following reaction goes in the forward direction, what is the base?
$$\text{NH}_4^+ (\text{aq}) + \text{H}_2\text{O}(\text{l}) \rightleftharpoons \text{NH}_3 (\text{aq}) + \text{H}_3\text{O}^+(\text{aq})$$

NH_4^+

H_2O

NH_3 **YES**

H_3O^+

(4) You are preparing a buffered solution. So far, your solution contains H_2PO_4^- ions, what would you add to this solution to prepare your buffer system?

H_3PO_4

NaHPO_4^- **YES**

HCl

Cl⁻