

Pre-Lab Questions

Percent H₂O in a Hydrate

Answering the following questions will prepare you for the concepts covered in this lab.

1. Why is the formula of the water in a hydrate separated by a dot (CoCl₂•6H₂O) rather than being included in the formula (CoCl₂H₁₂O₆)?

2. Name the following hydrates and give their molar masses:

(a) BaCl₂•2H₂O

(b) ZnSO₄•7H₂O

(c) Na₂CO₃•10H₂O

(d) Cu(NO₃)₂•3H₂O

(e) FeCl₂•4H₂O

3. A 3.178 g sample of tin(II) chloride hydrated salt was heated to 150 °C. All of the water of hydration was driven off, leaving 2.670 g of the anhydrous salt. Calculate the percentage of water in the hydrated salt and use the mole ratios to determine the formula of the hydrated salt.