Saturation and Crystallization Worksheet

Scoring guide · one credit per question · review written work against each rubric

Saturation and Crystallization

Question 1

Choice (1)

The amount dissolved, 25 g, is below the 35 g limit.

Question 2

The dissolved amount stays at the solubility limit. The added solid remains as excess solid at equilibrium.

Question 3

Choice (2)

A seed crystal can provide a surface on which excess solute starts crystallizing.

Question 4

Solubility can change with temperature. If the new temperature allows more solute to dissolve, the original amount is below the new limit.

Model Crystallization Trays

Question 5

Choice (2)

Q contains 45 g dissolved in 100 g water, exactly the given limit.

Question 6

The solution can retain 45 g dissolved. The remaining 52 g − 45 g = 7 g forms solid crystals.

Question 7

Choice (3)

P can dissolve 45 g − 33 g = 12 g more.

Question 8

The 45 g of dissolved salt is now in 200 g water. At this temperature the larger water mass can dissolve up to 90 g, so the solution is unsaturated.