

Answer on Question #55565 - Chemistry - General chemistry

Question:

Volume V_1 of solution 1, with concentration c_1 , is mixed with volume V_2 of solution 2, with concentration c_2 .

Assuming that volumes add, write an expression for the volume of the final mixture. Notate as $V(f)$.

Write an expression for the concentration of the final mixture.

Answer:

Solution 1: C_1 and V_1

Solution 2: C_2 and V_2

Final mixture: C_f and V_f

$$C = \frac{n}{V}; n = C * V$$

$$C_f = \frac{n_1 + n_2}{V_1 + V_2} = \frac{C_1 * V_1 + C_2 * V_2}{V_1 + V_2}$$