

Answer on Question 86133 in General Chemistry

$$m(\text{Fe}(\text{NO}_3)_3) = 3.33 \text{ g}$$

$$V(\text{solution}) = 492 \text{ mL} = 0.492 \text{ L}$$

$$C_M(\text{NO}_3^-) = ?$$

$$C_M(\text{Fe}(\text{NO}_3)_3) = \frac{m}{M_r \times V} = \frac{3.33}{242 \times 0.492} = 0.028 \text{ M}$$

$$M_r(\text{Fe}(\text{NO}_3)_3) = A_r(\text{Fe}) + 3 \times (A_r(\text{N}) + 3A_r(\text{O})) = 56 + 3 \times (14 + 3 \times 16) = 242$$

$$C_M(\text{NO}_3^-) = 3 C_M(\text{Fe}(\text{NO}_3)_3) = 3 \times 0.028 = 0.084 \text{ M}$$

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