

Question

What is the height of a column of water that will result from addition of enough NaCl to make a 0.1 M solution.

A. 25 m

B. 2.5 m

C 0.25 m

D 0.025 m

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$$\Pi = cRT = \rho gh$$

$$h = cRT/\rho g = \frac{(100 \text{ mol/m}^3)(8.31 \text{ J/mol-K})(298 \text{ K})}{(1000 \text{ kg/m}^3)(9.8 \text{ m/s}^2)}$$
$$= 25 \text{ m}$$