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Solution: This solution is very dilute. Therefore, we are in the limit  $x_1 \sim 1$  for the solvent. Therefore,

$$c_2 = x_2(55.56 \text{ M})$$

which yields

$$c_2 = (1.2 \times 10^{-5})(55.56 \text{ M}) = 6.67 \times 10^{-4} \text{ M}$$