Question #49296, Chemistry, Physical Chemistry

The molarity of solution containing 2.8% mass volume solution of KOH is
(1)M/10
(2)M/2
(3)M/5
(4)1M

Answer:

M(KOH)=56 g/ml

$w=\frac{m_{KOH}}{m_{solution}}100\% = 2.8\%$

c-?

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c=n/V

n=m/M

assume that the density of the solution approximately equal to the density of water: ρ=1 g/mL.

Suppose, that $m_{solution}$=100 g then

$m_{KOH}=w \cdot m_{solution}/100\% = 2.8*100/100\% = 2.8$ g

$n_{KOH}=2.8/56 = 0.05$ mol

c=0.05 mol/0.1 L = 0.5 mol/L = M/5

Answer: (3) M/5