How do I prepare 0.5M hcl in 1l from conc hcl

Solution

The 1l conc HCl (36.5% of HCl) is 11.8M. (d=1.18 g/cm^3; M$_r$=36.5 g/mol)

$C_1V_1= C_2V_2$

We want to prepare 1l 0.5M HCl => 0.5*1; and we have to take **x** l of 11.8M HCl.

$x = \frac{0.5*1}{11.8}$ =0.0424 l.

So you have to take 0.0424l of conc HCl and 0.9576l of water.