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LAMPIRAN A
PERHITUNGAN PEMBUATAN LARUTAN

1. Perhitungan Larutan Aktivasi Zeolit NaOH

$$2\% = \frac{2}{100} = 2\ gram$$
$$4\% = \frac{4}{100} = 4\ gram$$
$$6\% = \frac{6}{100} = 6\ gram$$
$$8\% = \frac{8}{100} = 8\ gram$$
$$10\% = \frac{10}{100} = 10\ gram$$

2. Perhitungan Larutan Aktivasi Zeolit NaCl

$$2{,}9\% = \frac{2{,}9}{100} = 2{,}9\ gram$$
$$5{,}8\% = \frac{5{,}8}{100} = 5{,}8\ gram$$
$$8{,}7\% = \frac{8{,}7}{100} = 8{,}7\ gram$$
$$11{,}6\% = \frac{11{,}6}{100} = 11{,}6\ gram$$
$$14{,}5\% = \frac{14{,}5}{100} = 14{,}5\ gram$$

3. Perhitungan Larutan Aktivasi Zeolit HCl

$$1{,}8\% = \frac{1{,}8}{100} = 1{,}8\ ml$$
$$3{,}6\% = \frac{3{,}6}{100} = 3{,}6\ ml$$
$$5{,}4\% = \frac{5{,}4}{100} = 5{,}4\ ml$$
$$7{,}2\% = \frac{7{,}2}{100} = 7{,}2\ ml$$
$$9\% = \frac{9}{100} = 9\ ml$$

4. Standarisasi HCl

V_{Awal} (ml)	V_{Akhir} (ml)	V_{Total} (ml)	$V_{Rata\text{-}rata}$ (ml)
0	10,25	10,25	10,25
0	10,25	10,25	
0	10,25	10,25	

$N_1.V_1 = N_2.V_2$
$0{,}1N \cdot 10\ ml = N_2 \cdot 10{,}25\ ml$
$N_2 = 0{,}97\ N$

5. Standarisasi NaOH

V_{Awal} (ml)	V_{Akhir} (ml)	V_{Total} (ml)	$V_{Rata-rata}$ (ml)
0	10,2	10,2	10,2
12	22,2	10,2	

$N_1.V_1 = N_2.V_2$
$0,1N . 10 ml = N_2 . 10,2 ml$
$N_2 = 0,098 N$

6. Pengujian KTK
   - Zeolit Sebelum Aktivasi

V_{Awal} (ml)	V_{Akhir} (ml)	V_{Total} (ml)	$V_{Rata-rata}$ (ml)
0	10,65	10,65	10,67
11	21,67	10,67	

$N_1.V_1 = N_2.V_2$
$0,097 N . 10 ml = N_2 . 10,66 ml$
$N_2 = 0,0901 N$
$Meq_{Awal} = 0,098 \times 100$
$= 9,8$
$Meq_{Akhir} = 0,0901 \times 100$
$= 9,1$
$KTK = \Delta Meq \times 100 / 1$
$= 0,70 \times 100/1$
$= 70$ meq/100 g

   - Zeolit Aktivasi NaOH
     - $NaOH^-$ 2%

V_{Awal} (ml)	V_{Akhir} (ml)	V_{Total} (ml)	$V_{Rata-rata}$ (ml)
0	11,16	11,6	11,5
11	22,14	11,4	

$N_1.V_1 = N_2.V_2$
$0,097 N . 10 ml = N_2 . 11,5 ml$
$N_2 = 0,084 N$
$Meq_{Awal} = 0,098 \times 100$
$= 9,8$
$Meq_{Akhir} = 0,084 \times 100$
$= 8,4$
$KTK = \Delta Meq \times 100 / 1$
$= 1,37 \times 100/1$
$= 137$ meq/100 g

   - Zeolit aktivasi NaCl
     - NaCl 2,9%