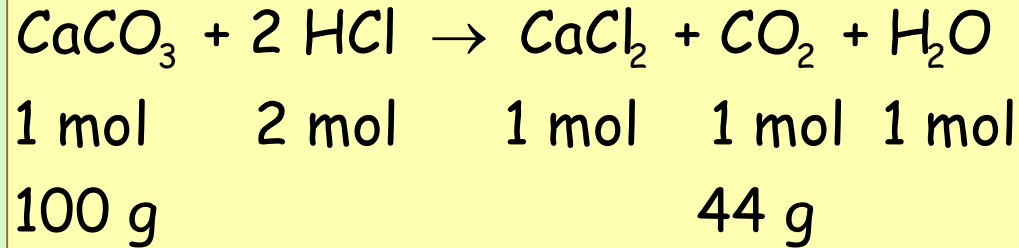


Kalkulu kimikoak: ariketak

Ariketa #1



Hasieran

HCl:
2 M - 25 cm³
CaCO₃

Azidoaren mol-kopurua:

$$n(\text{HCl}) = 0,025 \text{ L} * 2 \frac{\text{mol HCl}}{\text{L}} = 0,05 \text{ mol HCl}$$

Bukaeran

CO₂

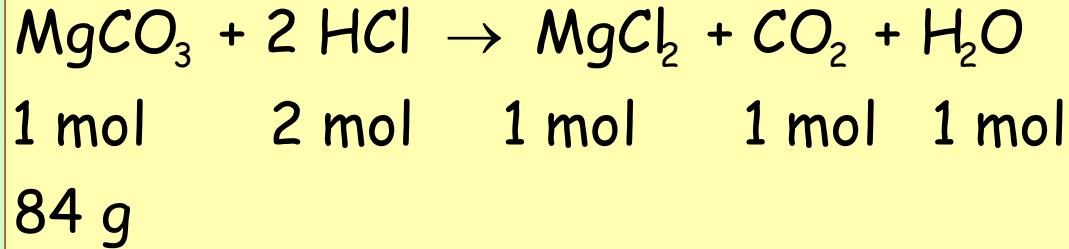
CO₂ren mol-kopurua: $n(\text{CO}_2) = 0,05 \text{ mol HCl} * \frac{1 \text{ mol CO}_2}{2 \text{ mol HCl}} = 0,025 \text{ mol CO}_2$

CO₂ren bolumena: $V(\text{CO}_2) = \frac{nRT}{p} = \frac{0,025 \text{ mol} * 0,082 \frac{\text{atm} * \text{L}}{\text{K} * \text{mol}} * 298 \text{ K}}{1 \text{ atm}} = 0,61 \text{ L}$

CaCO₃ren masa: $n(\text{CaCO}_3) = 0,05 \text{ mol HCl} * \frac{100 \text{ g CaCO}_3}{2 \text{ mol HCl}} = 2,5 \text{ g CaCO}_3$

Kalkulu kimikoak: ariketak

Ariketa #2



Hasieran

HCl: 2 M
MgCO₃: 1,25 g

Bukaeran

Behar den azido
mol-kopurua:

$$n(\text{HCl}) = 1,25 \text{ g MgCO}_3 \frac{2 \text{ mol HCl}}{84 \text{ g MgCO}_3} = 0,03 \text{ mol HCl}$$

Azidoaren bolumena:

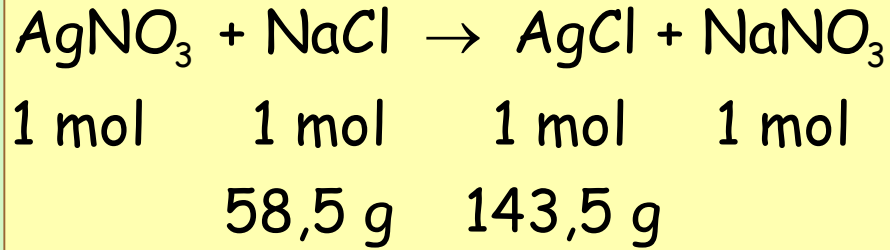
$$V = 0,03 \text{ mol HCl} * \frac{1 \text{ L dis}}{2 \text{ mol HCl}} = 0,015 \text{ L dis} = 15 \text{ mL dis}$$

Kalkulu kimikoak: ariketak

Ariketa #3

Hasieran

NaCl: 10 mL



Bukaeran

AgCl: 0,78 g

Behar den sodio kloruro masa:

$$m(\text{NaCl}) = 0,78 \text{ g AgCl} \frac{58,5 \text{ g NaCl}}{143,5 \text{ g AgCl}} = 0,32 \text{ g NaCl}$$

Sodio kloruro disoluzioaren kontzentrazioa:

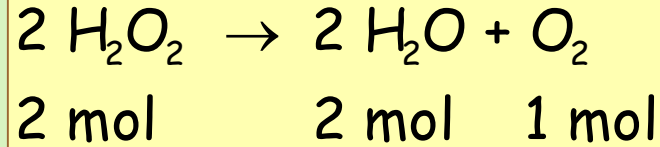
$$c(\text{g/L}) = \frac{0,32 \text{ g NaCl}}{0,01 \text{ L dis}} = 32 \frac{\text{g NaCl}}{\text{L dis}}$$

Kalkulu kimikoak: ariketak

Ariketa #4

Hasieran

H_2O_2 :
50 mL 2 M



Bukaeran

$V(\text{O}_2)$?

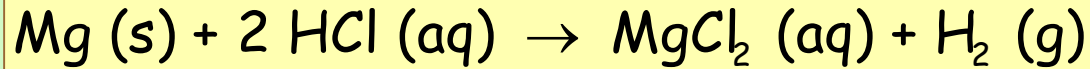
Deskonposatutako H_2O_2 ren mol-kopurua: $n(\text{H}_2\text{O}_2) = 2 \frac{\text{mol H}_2\text{O}_2}{\text{L dis}} * 0,05 \text{ L dis} = 0,1 \text{ mol H}_2\text{O}_2$

Sortutako O_2 ren mol-kopurua: $n(\text{O}_2) = 0,1 \text{ mol H}_2\text{O}_2 \frac{1 \text{ mol O}_2}{2 \text{ mol H}_2\text{O}_2} = 0,05 \text{ mol O}_2$

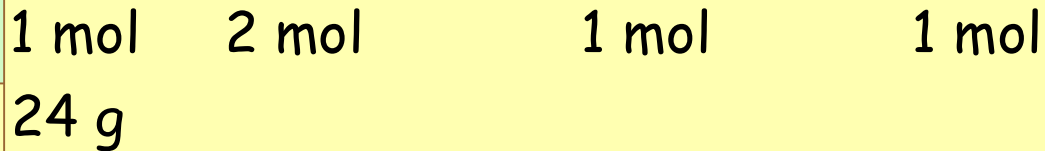
O_2 ren bolumena: $V = \frac{nRT}{p} = \frac{0,05 \text{ mol} * 0,082 \frac{\text{atm.L}}{\text{K.mol}} * 300 \text{ K}}{(800 / 760) \text{ atm}} = 1,17 \text{ L O}_2$

Kalkulu kimikoak: ariketak

Ariketa #5



Hasieran



Mg lagina
(ez purua): 1,32 g

HCl: 0,1 L 0,75 M

Bukaeran

HCl soberan:
0,0125 mol

Gehitutako HCl
mol-kopurua:

$$n(\text{HCl}) = \frac{0,75 \text{ mol HCl}}{\text{L dis}} * 0,1 \text{ L dis} = 0,075 \text{ mol HCl}$$

Erreakzionatu duen
HCl mol-kopurua:

$$n(\text{HCl}) = 0,075 \text{ mol} - 0,0125 \text{ mol} = 0,0625 \text{ mol HCl}$$

Erreakzionatzen duen
magnesioaren masa:

$$m(\text{Mg}) = 0,0625 \text{ mol HCl} \frac{24 \text{ g Mg}}{2 \text{ mol HCl}} = 0,75 \text{ g Mg}$$

Laginaren
aberastasuna:

$$x = \frac{0,75 \text{ g Mg}}{1,32 \text{ g lagin}} * 100 = \% 56,8$$