

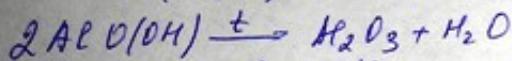
① 3 кг на 1 т (по условию)
 $\Rightarrow 375 \text{ кг}$ на 125 т

② $7002 \text{ CO} \cdot 25 \cdot 4 = 700002 = 70 \text{ кг} (\text{CO})$
 $702 \text{ NO} \cdot 25 \cdot 4 = 70002 = 7 \text{ кг} (\text{NO})$

③ $10 \text{ м}^3 (\text{CH}_4) - 0,01 \text{ м}^3 \text{ PH}_3 \uparrow$
 $n = \frac{901}{22,4} = 0,224 \text{ моль} \Rightarrow N = n \cdot N_A = 0,224 \cdot 6,02 \cdot 10^{23} = 1,35 \cdot 10^{23}$

④ $N(\text{Cl}_2) = 1 \cdot 10^{25}$, $n(\text{Cl}_2) = \frac{N}{N_A} = \frac{1 \cdot 10^{25}}{6 \cdot 10^{23}} = 0,167 \cdot 10^2 = 16,7 \text{ моль}$
 $V(\text{Cl}_2) = 16,7 \cdot 22,4 = 373 (\text{л}); m(\text{Cl}_2) = 16,7 \cdot 71 = 1185,7 (\text{г})$

⑤ пусть $m(\text{As}(\text{OH})_3) = 100 \text{ г}$, тогда $n(\text{As}(\text{OH})_3) = \frac{100}{78} = 1,2821 \text{ моль}$
 $n(\text{As}_2\text{O}_3) = \frac{1}{2} n(\text{As}(\text{OH})_3) = 0,641 \text{ моль}$
 $n(\text{H}_2\text{O}) = 1,5 \cdot n(\text{As}(\text{OH})_3) = 1,9231 \text{ моль}$
 $m(\text{As}_2\text{O}_3) = n \cdot M = 65,382 (\text{г}) \approx 65,38\%$
 $m(\text{H}_2\text{O}) = n \cdot M = 34,62 (\text{г}) \approx 34,62\%$



$n(\text{As}(\text{OH})_3) = \frac{100}{78} = 1,667 \text{ моль}$

$n(\text{As}_2\text{O}_3) = n(\text{H}_2\text{O}) = \frac{1}{2} \cdot n(\text{As}(\text{OH})_3) = 0,8333 \text{ моль}$
 $m(\text{As}_2\text{O}_3) = n \cdot M = 0,8333 \cdot 102 = 84,99 (\text{г}) \approx 85\%$
 $m(\text{H}_2\text{O}) = n \cdot M = 0,8333 \cdot 18 = 14,99 (\text{г}) \approx 15\%$

⑥ а) пусть $m(\text{CaO})_x (\text{P}_2\text{O}_5)_y (\text{H}_2\text{O})_z = 100 \text{ г}$
 тогда $m(\text{CaO}) = 54,2 (\text{г}); m(\text{P}_2\text{O}_5) = 45,8 \text{ г}$
 $x:y = \frac{54,2}{56} : \frac{45,8}{142}$

$x:y = 0,9679 : 0,3225$

$x:y = 3 : 1 \Rightarrow (\text{CaO})_3 (\text{P}_2\text{O}_5) = \underline{\underline{\text{Ca}_3(\text{PO}_4)_2}}$

б) $x:y:z = \frac{32,5}{56} : \frac{41,3}{142} : \frac{26,2}{18}$

$x:y:z = 2 : 1 : 5 \Rightarrow (\text{CaO})_2 (\text{P}_2\text{O}_5) (\text{H}_2\text{O})_5 = 2 \text{ Ca}(\text{H}_2\text{PO}_4)_2 \cdot 5 \text{ H}_2\text{O}$

$2 \text{ CaHPO}_4 \cdot 4 \text{ H}_2\text{O}$
 гидратной сульфат

в) $x:y:z = \frac{23,9}{56} : \frac{60,7}{142} : \frac{15,4}{18}$

$x:y:z = 1 : 1 : 2 \Rightarrow \text{CaO} \cdot \text{P}_2\text{O}_5 \cdot 2 \text{ H}_2\text{O} \quad \text{Ca}(\text{H}_2\text{PO}_4)_2 \text{ гидрофосфат}$

⑦ $M_{\text{logg}}(\text{P}_{\text{logg}}) = 4,28$

$M(\text{P}_{\text{logg}}) = 4,28 \cdot 29 = 124,12$

$\frac{124,12}{31} = 4$

