

## Химия. Ответы. 10 класс

	$\text{Al}(\text{NO}_3)_3$	$\text{NH}_4\text{OH}$	$\text{MgSO}_4$	$\text{Na}_2\text{CO}_3$	$\text{CrCl}_3$	$\text{HCl}$	$\text{Pb}(\text{NO}_3)_2$	$\text{CaCl}_2$
$\text{Al}(\text{NO}_3)_3$		-	-	$\text{Al}(\text{OH})_3 \downarrow 6 \text{ CO}_2$	-	-	-	-
$\text{NH}_4\text{OH}$	$\text{Al}(\text{OH})_3 \downarrow 6$		$\text{Mg}(\text{OH})_2 \downarrow 6$	-	$\text{Cr}(\text{OH})_3 \downarrow 3$	-	$\text{Pb}(\text{OH})_2 \downarrow 6$	$\text{Ca}(\text{OH})_2 \downarrow 6$
$\text{MgSO}_4$	-	$\text{Mg}(\text{OH})_2 \downarrow 6$		$\text{MgCO}_3 \downarrow 6$	-	-	$\text{PbSO}_4 \downarrow 6$	$\text{CaSO}_4 \downarrow 6$
$\text{Na}_2\text{CO}_3$	$\text{Al}(\text{OH})_3 \downarrow 6 \text{ CO}_2$	-	$\text{MgCO}_3 \downarrow 6$		$\text{Cr}(\text{OH})_3 \downarrow 3 \text{ CO}_2$	$\text{CO}_2 \uparrow$	$(\text{PbOH})_2\text{CO}_3 \downarrow 6 \text{ CO}_2$	$\text{CaCO}_3 \downarrow 6$
$\text{CrCl}_3$	-	$\text{Cr}(\text{OH})_3 \downarrow 3$	-	$\text{Cr}(\text{OH})_3 \downarrow 3 \text{ CO}_2$		-	$\text{PbCl}_2 \downarrow 6$	-
$\text{HCl}$	-	-	-	$\text{CO}_2 \uparrow$	-		$\text{PbCl}_2 \downarrow 6$	-
$\text{Pb}(\text{NO}_3)_2$	-	$\text{Pb}(\text{OH})_2 \downarrow 6$	$\text{PbSO}_4 \downarrow 6$	$(\text{PbOH})_2\text{CO}_3 \downarrow 6 \text{ CO}_2$	$\text{PbCl}_2 \downarrow 6$	$\text{PbCl}_2 \downarrow 6$		$\text{PbCl}_2 \downarrow 6$
$\text{CaCl}_2$	-	$\text{Ca}(\text{OH})_2 \downarrow 6$	$\text{CaSO}_4 \downarrow 6$	$\text{CaCO}_3 \downarrow 6$	-	-	$\text{PbCl}_2 \downarrow 6$	
$\Sigma$	$2 \downarrow 6, 1 \uparrow$	$3 \downarrow 6, 1 \downarrow 3$	$4 \downarrow$	$5 \downarrow 6, 4 \uparrow$	$3 \downarrow 6, 1 \downarrow 3, 1 \uparrow$	$1 \downarrow 6, 1 \uparrow$	$6 \downarrow 6, 1 \uparrow$	$4 \downarrow$

- $\text{Al}(\text{NO}_3)_3 + 3\text{NH}_4\text{OH} \rightarrow \text{Al}(\text{OH})_3 \downarrow + 3\text{NH}_4\text{NO}_3$   
 $\text{Al}^{3+} + 3\text{OH}^- = \text{Al}(\text{OH})_3 \downarrow$
- $2\text{Al}(\text{NO}_3)_3 + 3\text{Na}_2\text{CO}_3 + 3\text{H}_2\text{O} \rightarrow 2\text{Al}(\text{OH})_3 \downarrow + 6\text{NaNO}_3 + 3\text{CO}_2 \uparrow$   
 $2\text{Al}^{3+} + \text{CO}_3^{2-} + 3\text{H}_2\text{O} = 2\text{Al}(\text{OH})_3 \downarrow + 3\text{CO}_2 \uparrow$
- $\text{MgSO}_4 + \text{NH}_4\text{OH} = \text{Mg}(\text{OH})_2 \downarrow + (\text{NH}_4)_2\text{SO}_4$   
 $\text{Mg}^{2+} + 2\text{OH}^- = \text{Mg}(\text{OH})_2 \downarrow$

4.  $\text{CrCl}_3 + 3\text{NH}_4\text{OH} = \text{Cr}(\text{OH})_3\downarrow + 3\text{NH}_4\text{Cl}$   
 $\text{Cr}^{3+} + 3\text{OH}^- = \text{Cr}(\text{OH})_3\downarrow$
5.  $\text{Pb}(\text{NO}_3)_2 + 2\text{NH}_4\text{OH} = 2\text{NH}_4\text{NO}_3 + \text{Pb}(\text{OH})_2\downarrow$   
 $\text{Pb}^{2+} + 2\text{OH}^- = \text{Pb}(\text{OH})_2\downarrow$
6.  $\text{CaCl}_2 + 2\text{NH}_4\text{OH} = \text{Ca}(\text{OH})_2 + \text{NH}_4\text{Cl}$   
 $\text{Ca}^{2+} + 2\text{OH}^- = \text{Ca}(\text{OH})_2\downarrow$   
 Или  $\text{Ca}^{2+} + \text{NH}_4^+ + 2\text{OH}^- = \text{Ca}(\text{OH})_2\downarrow + \text{NH}_3\uparrow + \text{H}^+$
7.  $\text{Na}_2\text{CO}_3 + \text{MgSO}_4 = \text{Na}_2\text{SO}_4 + \text{MgCO}_3\downarrow$   
 $\text{Mg}^{2+} + \text{CO}_3^{2-} = \text{MgCO}_3\downarrow$
8.  $\text{MgSO}_4 + \text{Pb}(\text{NO}_3)_2 = \text{Mg}(\text{NO}_3)_2 + \text{PbSO}_4\downarrow$   
 $\text{Pb}^{2+} + \text{SO}_4^{2-} = \text{PbSO}_4\downarrow$
9.  $\text{CaCl}_2 + \text{MgSO}_4 = \text{CaSO}_4\downarrow + \text{MgCl}_2$   
 $\text{Ca}^{2+} + \text{SO}_4^{2-} = \text{CaSO}_4\downarrow$
10.  $2\text{CrCl}_3 + 3\text{Na}_2\text{CO}_3 + 3\text{H}_2\text{O} = 2\text{Cr}(\text{OH})_3 + 6\text{NaCl} + 3\text{CO}_2\uparrow$   
 $2\text{Cr}^{3+} + 3\text{CO}_3^{2-} + 3\text{H}_2\text{O} = 2\text{Cr}(\text{OH})_3\downarrow + 3\text{CO}_2\uparrow$
11.  $\text{Na}_2\text{CO}_3 + 2\text{HCl} = 2\text{NaCl} + \text{CO}_2\uparrow + \text{H}_2\text{O}$   
 $\text{CO}_3^{2-} + 2\text{H}^+ = \text{CO}_2\uparrow + \text{H}_2\text{O}$
12.  $2\text{Pb}(\text{NO}_3)_2 + 2\text{Na}_2\text{CO}_3 + \text{H}_2\text{O} = (\text{PbOH})_2\text{CO}_3\downarrow + \text{CO}_2\uparrow + 4\text{NaNO}_3$   
 $2\text{Pb}^{2+} + 2\text{CO}_3^{2-} + \text{H}_2\text{O} = (\text{PbOH})_2\text{CO}_3\downarrow + \text{CO}_2\uparrow$
13.  $2\text{CrCl}_3 + 3\text{Pb}(\text{NO}_3)_2 \rightarrow 2\text{Cr}(\text{NO}_3)_3 + 3\text{PbCl}_2\downarrow$

