

Chemistry AS90934
Describe chemical reactions: Precipitation Reactions

Use this to quickly identify the areas you need to study
Fold along the dotted line so that the answers are hidden.
Try the questions and check your answers.

nitrates, NO_3^-	All soluble
chlorides, Cl^-	All soluble except AgCl , PbCl_2
sulfates, SO_4^{2-}	All soluble except BaSO_4 , PbSO_4 , CaSO_4
hydroxides, OH^-	All insoluble except KOH , NaOH
carbonates, CO_3^{2-}	All insoluble except K_2CO_3 , Na_2CO_3

You should have a copy of the table of ions available to help you.

QUESTION	YOUR ANSWER	CORRECT ANSWER
Is CuCl_2 soluble or insoluble?		soluble
Is lead chloride soluble or insoluble?		insoluble
Is potassium sulfate soluble or insoluble?		soluble
Is zinc carbonate soluble or insoluble?		insoluble
Complete the following: zinc sulfate + sodium carbonate \rightarrow _____ + _____		sodium sulfate + zinc carbonate
Complete the following: copper sulfate + sodium hydroxide \rightarrow _____ + _____		copper hydroxide + sodium sulfate
Complete the following: lead nitrate + sodium sulfate \rightarrow _____ + _____		sodium nitrate + lead sulfate
Which is insoluble, zinc sulfate or magnesium carbonate?		magnesium carbonate
Which is insoluble, zinc hydroxide or magnesium nitrate?		zinc hydroxide
Which is insoluble, potassium sulfate or barium sulfate?		barium sulfate
A precipitation reaction is: $\text{__}(\text{aq}) + \text{__}(\text{aq}) \rightarrow \text{__}(\text{s}) + \text{__}(\text{aq})$ True or false		true

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Identify the precipitate by name: $\text{MgSO}_4 + 2\text{NaOH} \rightarrow \text{Mg(OH)}_2 + \text{Na}_2\text{SO}_4$	magnesium hydroxide
Identify the precipitate by name: $\text{Na}_2\text{SO}_4 + \text{Pb(NO}_3)_2 \rightarrow 2\text{NaNO}_3 + \text{PbSO}_4$	lead sulfate
Identify the precipitate by name: $\text{CuSO}_4 + \text{Ba(NO}_3)_2 \rightarrow \text{Cu(NO}_3)_2 + \text{BaSO}_4$	barium sulfate
Is there a precipitate formed when sodium sulfate and potassium carbonate are mixed? If yes, name it.	no
$\text{Cu}^{2+}(\text{aq}) + 2\text{OH}^-(\text{aq}) \rightarrow \text{Cu(OH)}_2(\text{s})$. This is an i _ _ _ _ equation	ionic
Is this a precipitation reaction? $\text{Zn}(\text{s}) + \text{CuSO}_4(\text{aq}) \rightarrow \text{ZnSO}_4(\text{aq}) + \text{Cu}(\text{s})$	No (oxidation-reduction)
Balance this: $___ \text{Pb(NO}_3)_2 + ___ \text{KOH} \rightarrow ___ \text{Pb(OH)}_2 + ___ \text{KNO}_3$	(1) 2 (1) 2
Balance this: $___ \text{FeCl}_3 + ___ \text{NaOH} \rightarrow ___ \text{Fe(OH)}_3 + ___ \text{NaCl}$	(1) 3 (1) 3
Balance this: $___ \text{Al}_2(\text{SO}_4)_3 + ___ \text{NaOH} \rightarrow ___ \text{Al(OH)}_3 + ___ \text{Na}_2\text{SO}_4$	(1) 6 2 3
Complete and balance this ionic equation: $\text{Mg}^{2+}(\text{aq}) + ______(\text{aq}) \rightarrow \text{Mg(OH)}_2(\text{s})$	2 OH^-
Balance this ionic equation: $\text{Al}^{3+}(\text{aq}) + ___ \text{OH}^-(\text{aq}) \rightarrow \text{Al(OH)}_3(\text{s})$	3
Balance this ionic equation: $\text{Zn}^{2+}(\text{aq}) + ___ \text{OH}^-(\text{aq}) \rightarrow \text{Zn(OH)}_2(\text{s})$	2
Is there a precipitate formed when sodium sulfate and iron(III) chloride are mixed? If yes, name it.	no
Complete this ionic equation: $\text{Ca}^{2+}(\text{aq}) + \text{SO}_4^{2-}(\text{aq}) \rightarrow ______(\text{s})$	CaSO_4
Complete and balance this ionic equation: $______(\text{aq}) + ______(\text{aq}) \rightarrow \text{Cu(OH)}_2(\text{s})$	Cu^{2+} 2 OH^-
What are the names of the ions not shown in an ionic equation?	spectator ions