

Solubility and the Solubility Table

Solubility refers to a substance's ability to dissolve in something at a given temperature.

- single and double replacement reactions usually occur in aqueous solutions (aq)
- in order to predict the products a little more accurately for these two types of reactions, we must use the solubility table

solutions

solute

solvent

- *the substance dissolved*

- *liquid doing the dissolving*

ex: sugar in water

solute

solvent

A substance's solubility can be seen on the Solubility Table.

If the element/ion is soluble the state is aqueous (aq).

If the element/ion is insoluble the state is solid (s).

***Remember** You only need to use this table if you have a Single Replacement or Double Replacement reaction.*

Lets use the table.

Is NaNO_3 soluble?

Is CaSO_4 soluble?

Is Mg_3PO_4 soluble?

Is NaCH_3COO soluble?

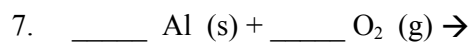
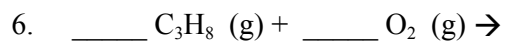
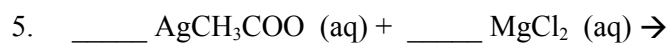
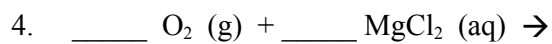
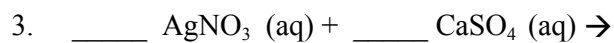
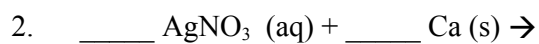
Check for the solubility on these four.

1. NaBr ?
2. Na_2SO_4
3. Ag_2SO_4
4. Na_3PO_4

Practice...

Predict:

- The type of reaction
- The products of the reaction
- The states of all elements/compounds in the reaction
- Balance the equation.



Word equations.

1. Nitrogen gas is reacted with magnesium strips.
2. Magnesium sulfide is allowed to decompose to its elements.
3. Heptane (C_7H_{16}) is burned under the presence of oxygen.
4. Solutions of ammonium chloride and lead II nitrate are mixed.