

Acids & Bases Ws #8: Neutralization Reactions

Directions: Use the words below to complete the paragraphs.

Spectator	cation	hydroxide	hydrogen	double-replacement	titration
Water	ionic	equivalence	antacids	Neutralization	indicator
Neutral	acid	pH meter	salt	equal	

In aqueous solutions, neutralization is the reaction of **hydrogen** ions and _____ ions to form _____ molecules. In this reaction, a _____ is also produced. A salt is an _____ compound composed of a **cation** from a base and an anion from an _____. Because these ions appear on both sides of the overall ionic equation, they are called **spectator** ions. All neutralization reactions are _____ reactions.

Antacids are bases which are safe to ingest and are used when the stomach contains too much _____. These bases react with stomach acid in a **neutralization** reaction. In this reaction, _____ amounts of acid and base produce a solution which is **neutral**.

A _____ is a controlled neutralization reaction that enables the determination of the amount of acid (or base) in a solution. An appropriate acid-base _____ or a _____ is used to determine when neutralization has occurred. The point at which a neutralization reaction is complete is known as the _____ point.

Directions: Write the **balanced** neutralization reaction for each of the following. Assume you have added equal amounts and equal concentrations of a strong acid and a strong base. Name the acid, the base and the salt that is formed.

	Acid	+	Base	→	Salt	+	Water
1.	H ₂ SO ₄ (aq)	+	2NaOH (aq)	→	Na ₂ SO ₄	+	2H ₂ O
Name	Sulfuric Acid	+	Sodium Hydroxide	→	Sodium Sulfate	+	Water
2.	HCl (aq)	+	NaOH (aq)	→		+	
Name		+		→		+	
3	H ₂ SO ₄ (aq)	+	Ba(OH) ₂ (aq)	→	BaSO ₄	+	2 H ₂ O
Name	Sulfuric acid	+	Barium hydroxide	→	Barium sulfate	+	Water
4.	HBr (aq)	+	LiOH (aq)	→		+	
Name		+		→		+	
5	H ₂ ClO ₄ (aq)	+	Sr(OH) ₂ (aq)	→	Sr(ClO ₄) ₂	+	2H ₂ O
Name	Perchloric acid	+	Strontium hydroxide	→	Strontium perchlorate	+	Water
6.	HNO ₃	+	Ca(OH) ₂ (aq)	→		+	
Name		+		→		+	