**Name**
**Date** **Period**

**Grade:**

# EXPERIMENT 39
# HYDROLYSIS OF A SALT

**PRELAB QUESTIONS**:

1. Define the following terms:

hydrolysis
spectator ions
anions
salt
dissociate
cations
ionization

2. Fill in the preliminary data chart on the conclusions and questions page and predict pH calculations. For your predictions, use pH = 7 for neutral, pH > 7 (pH greater than 7) for basic, pH < 7 (pH less than 7) for acidic.

strong acids: HI, HBr, HCl, $HNO_3$, $H_2SO_4$
strong bases: Hydroxides composed of a hydroxide ion bonded to a group 1 or 2 element.

Name Period

Date Lab Partners

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**PRELIMINARY DATA CHART**

| # of Well | salt | parent acid | Strength of acid | parent base | strength of base | pH |
|---|---|---|---|---|---|---|
| 1 | $NaHCO_3$ | | | | | |
| 2 | KBr | | | | | |
| 3 | $Na_2S$ | | | | | |
| 4 | $Na_2CO_3$ | | | | | |
| 5 | $NH_4Cl$ | | | | | |
| 6 | $NH_4C_2H_3O_2$ | | | | | |
| 7 | $ZnSO_4$ | | | | | |
| 8 | $SrCl_2$ | | | | | |

**EQUATIONS**:
Complete the equations for the dissociaton of each salt:

(a) $NaHCO_3 \rightarrow$

(b) $KBr \rightarrow$

(c) $Na_2S \rightarrow$

(d) $Na_2CO_3 \rightarrow$

(e) $NH_4Cl \rightarrow$
(f) $NH_4C_2H_3O_2 \rightarrow$

(g) $ZnSO_4$ $\rightarrow$

(h) $SrCl_2$ $\rightarrow$

**DATA TABLE AND OBSERVATIONS**:

| # of well | salt | effect on indicator | pH |
|---|---|---|---|
| **1** | **$NaHCO_3$** | | |
| **2** | **KBr** | | |
| **3** | **$Na_2S$** | | |
| **4** | **$Na_2CO_3$** | | |
| **5** | **$NH_4Cl$** | | |
| **6** | **$NH_4C_2H_3O_2$** | | |
| **7** | **$ZnSO_4$** | | |
| **8** | **$SrCl_2$** | | |

**CONCLUSION QUESTIONS**:

1. How do your observations and pH readings compare with your predictions in the Preliminary Data Chart?

2. A salt formed from a strong acid and a strong base produces a neutral solution. A salt of a weak acid and a weak base may or may not produce a neutral solution. Explain.

# Discussion

# Conclusion