5 points

Experiment #9 – Grade Sheet

Student Number:

B 0 0 ☐☐☐☐☐☐

0 = ○○○○○○
1 = ○○○○○○
2 = ○○○○○○
3 = ○○○○○○
4 = ○○○○○○
5 = ○○○○○○
6 = ○○○○○○
7 = ○○○○○○
8 = ○○○○○○
9 = ○○○○○○

First Name:	Last Name:
Lab Section:	**Locker #:**
Marker Initials	**TA USE ONLY** Ⓛ ● Ⓜ ●

See bubbling instructions on the back of this page.

Unknown Set O P Q R S T U V W X Y Z

Unknown	1	2	3	4	5	6	7	8
1		○○	○○	○○	○○	○○	○○	○○
2		Y N	○○	○○	○○	○○	○○	○○
3			Y N	○○	○○	○○	○○	○○
4				Y N	○○	○○	○○	○○
5					Y N	○○	○○	○○
6						Y N	○○	○○
7							Y N	○○
8								Y N

Compound	Unknown #								Identifying Precipitate										
$CuSO_4$	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
$Cu(NO_3)_2$	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
$BaCl_2$	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
NaCl	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Na_2CO_3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
$(NH_4)_2SO_4$	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
$ZnSO_4$	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
$Zn(NO_3)_2$	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	1	2	3	4	5	6	7	8	A	B	C	D	E	F	G	H	I	J	K

Identifying Precipitates

A. $CuCO_3$
B. Na_2SO_4
C. $CuCl_2$
D. $NaNO_3$
E. $BaSO_4$
F. $ZnCl_2$
G. $ZnCO_3$
H. NH_4Cl
I. $BaCO_3$
J. NaCl
K. No precipitate was formed

Bubbling information for data tables on Exp. 9 Grade Sheet

Raw Data Set:

Indicate which unknown combinations created a precipitate by filling in the appropriate bubble in the table provided. Fill in Ⓨ if a precipitate formed or Ⓝ if a precipitate did not form.

Unknown Identification and Identifying Precipitates

Identify unknown by bubbling in the correct unknown #.

Identify which precipitate was formed by bubbling in the correct letter from the "Identifying Precipitates" list. There may be more than one correct answer. Please choose **ONLY ONE** correct answer.

Example: Unknown Identification and Identifying Precipitates

A student determines from their raw data that Unknown # 2 is $CuSO_4$ and bubbled in "2" for the $CuSO_4$ unknown # entry in the data table.

A student determined that there are two possible precipitates that could form by combining a $CuSO_4$ solution with the remaining 7 solutions (their equations are written below).

$$CuSO_4(aq) + Na_2CO_3(aq) \rightarrow CuCO_3(s) + Na_2SO_4(aq)$$
$$CuSO_4(aq) + BaCl_2(aq) \rightarrow BaSO_4(s) + CuCl_2(aq)$$

In this case, there is more than one correct answer. The instructions state to choose ONLY ONE correct answer. In this example, the student has chosen $BaSO_4$ as their identifying precipitate and bubbled in "E" for the $CuSO_4$ identifying precipitate entry in the data table. (NOTE: If the student had chosen $CuCO_3$ as the identifying precipitate and bubbled in "A", this would also be a correct solution.)

Compound	**Unknown #**	**Identifying Precipitate**
$CuSO_4$	① ● ③ ④ ⑤ ⑥ ⑦ ⑧	Ⓐ Ⓑ Ⓒ Ⓓ ● Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ

Identifying Precipitates

A. $CuCO_3$ **D.** $NaNO_3$ **G.** $ZnCO_3$ **J.** NaCl
B. Na_2SO_4 **E.** $BaSO_4$ **H.** NH_4Cl **K.** No precipitate was formed
C. $CuCl_2$ **F.** $ZnCl_2$ **I.** $BaCO_3$
