

Guide to Writing Formulas from the Name

Guide to Writing Formulas from the
Name of an Ionic Compound

STEP 1
Identify the cation and anion.

STEP 2
Balance the charges.

STEP 3
Write the formula, cation first, using
subscripts from charge balance.

*use parentheses if
multiple polyatomic
ions

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Writing Formulas

Write a formula for potassium sulfide.

1. Identify the cation and anion.

potassium = K^+

sulfide = S^{2-}

2. Balance the charges.

K^+ S^{2-}

K^+

$$2(1+) + 2(1-) = 0$$

3. 2 K^+ and 1 S^{2-} = K_2S

Writing Formulas

Write a formula for aluminum chlorate.

1. Identify the cation and anion.

aluminum = Al^{3+}

chlorate = ClO_3^-

2. Balance the charges.

Al^{3+}

ClO_3^-

$\text{ClO}_3^- = (3+) + 3(1-) = 0$

ClO_3^-

3. 1Al^{3+} and $3 \text{ClO}_3^- = \text{Al}(\text{ClO}_3)_3$