

Chapter 8. Stoichiometry Review



Write balancing reactions with coefficients...

First write the decomposition reaction leading to oxygen.

1. Write the decomposition reaction for  $\text{KClO}_3$  (pp. 2)
2. Write the reaction for  $\text{KClO}_4$  (pp. 2)
3. Write the reaction for  $\text{KClO}_3$  (pp. 2)
4. Write the reaction for  $\text{KClO}_4$  (pp. 2)

Then write the oxidation reaction and show which order the steps follow when you get a specific number of moles of  $\text{O}_2$ .

Write your stoichiometry knowledge for the following/through these compounds:

- |   |   |
|---|---|
| 1. $\text{KClO}_3$ $\rightarrow$ $\text{KCl}$ + $3\text{O}_2$ | 11. $\text{O}_2$ $\rightarrow$ $2\text{H}_2\text{O}$                |
| 2. $\text{KClO}_4$ $\rightarrow$ $\text{KCl}$ + $2\text{O}_2$ | 12. $\text{H}_2\text{O}$ $\rightarrow$ $2\text{H}_2$ + $\text{O}_2$ |
| 3. $\text{KClO}_3$ $\rightarrow$ $\text{KCl}$ + $3\text{O}_2$ | 13. $\text{H}_2\text{O}$ $\rightarrow$ $2\text{H}_2$ + $\text{O}_2$ |

Write the formula for these:

- |                             |                             |
|-----------------------------|-----------------------------|
| 14. $\text{K}_2\text{O}$    | 15. $\text{K}_2\text{S}$    |
| 16. $\text{K}_2\text{SO}_4$ | 17. $\text{K}_2\text{CO}_3$ |
| 18. $\text{K}_2\text{SO}_4$ | 19. $\text{K}_2\text{CO}_3$ |

Name: \_\_\_\_\_

Write down the patterns you:

10. How many moles of oxygen are produced from 1 mole of  $\text{KClO}_3$ ?
11. How many moles of oxygen are produced from 1 mole of  $\text{KClO}_4$ ?

Write down reactions:

- |  |  |
|--|--|
| 12. $\text{KClO}_3$ $\rightarrow$ $\text{KCl}$ + $3\text{O}_2$ | 13. $\text{KClO}_4$ $\rightarrow$ $\text{KCl}$ + $2\text{O}_2$ |
| 14. $\text{KClO}_3$ $\rightarrow$ $\text{KCl}$ + $3\text{O}_2$ | 15. $\text{KClO}_4$ $\rightarrow$ $\text{KCl}$ + $2\text{O}_2$ |
| 16. $\text{KClO}_3$ $\rightarrow$ $\text{KCl}$ + $3\text{O}_2$ | 17. $\text{KClO}_4$ $\rightarrow$ $\text{KCl}$ + $2\text{O}_2$ |

Write the formula for these:

- |                             |                             |
|-----------------------------|-----------------------------|
| 18. $\text{K}_2\text{O}$    | 19. $\text{K}_2\text{S}$    |
| 20. $\text{K}_2\text{SO}_4$ | 21. $\text{K}_2\text{CO}_3$ |
| 22. $\text{K}_2\text{SO}_4$ | 23. $\text{K}_2\text{CO}_3$ |
| 24. $\text{K}_2\text{SO}_4$ | 25. $\text{K}_2\text{CO}_3$ |

Name: \_\_\_\_\_

Write down the decomposition of water:

16. Write down the reaction for  $\text{H}_2\text{O}$   $\rightarrow$   $2\text{H}_2$  +  $\text{O}_2$
17. Write down the reaction for  $\text{H}_2\text{O}$   $\rightarrow$   $2\text{H}_2$  +  $\text{O}_2$
18. Write down the reaction for  $\text{H}_2\text{O}$   $\rightarrow$   $2\text{H}_2$  +  $\text{O}_2$
19. Write down the reaction for  $\text{H}_2\text{O}$   $\rightarrow$   $2\text{H}_2$  +  $\text{O}_2$