

Reaction Practice

Write balanced reactions (net-ionic where appropriate) for the processes below which are expected to happen. Reactions that do not occur in aqueous solution are marked with *.

1. copper(II) chloride + sodium nitrate → no reaction (both "products" are soluble)

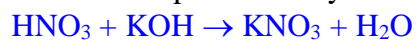
2. solid calcium carbonate + hydrochloric acid → calcium chloride + water + carbon dioxide



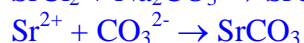
3. zinc metal + sulfuric acid → hydrogen + zinc sulfate



4. nitric acid + potassium hydroxide → potassium nitrate + water



5. strontium chloride + sodium carbonate → strontium carbonate + sodium chloride



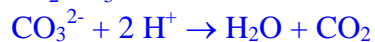
6. lithium metal + water → hydrogen + lithium hydroxide



*7. bromine + potassium metal → potassium bromide



8. sodium carbonate + hydrochloric acid → sodium chloride + water + carbon dioxide



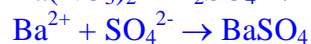
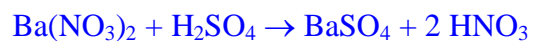
9. sodium acetate + potassium sulfate → no reaction (both "products" are soluble)

*10. butane gas (C₄H₁₀) + oxygen → carbon dioxide + water

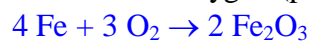


11. nickel metal + zinc chloride → no reaction (nickel is below zinc in the activity series)

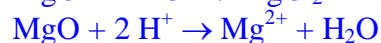
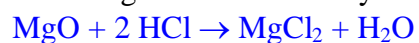
12. barium nitrate + sulfuric acid → barium sulfate + nitric acid



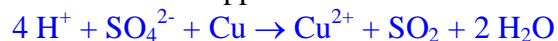
*13. iron metal + oxygen (product contains iron(III)) → iron(III) oxide



14. **solid** magnesium oxide + hydrochloric acid → magnesium chloride + water



15. sulfate ions + copper metal in acidic solution; products include Cu²⁺ and sulfur dioxide gas



16. dihydrogen sulfide gas + iodine in acidic solution; products include sulfur and iodide ions



17. CrO_2^- + ClO^- in basic solution; products include chloride ion and chromate ion

