

# Redox Reactions Overview

ChatGPT said:



Here are 30 key terms and definitions related to Redox Reactions:

1. **Redox Reaction:** A reaction involving simultaneous oxidation and reduction processes .
2. **Oxidation:** The loss of electrons or an increase in oxidation number .
3. **Reduction:** The gain of electrons or a decrease in oxidation number .
4. **Oxidizing Agent:** A substance that gains electrons and gets reduced .
5. **Reducing Agent:** A substance that loses electrons and gets oxidized .
6. **Oxidation Number:** A number assigned to an element in a compound representing the number of electrons lost or gained .
7. **Disproportionation Reaction:** A type of redox reaction where the same element is simultaneously oxidized and reduced .
8. **Combination Reaction:** A redox reaction where two substances combine to form one product .
9. **Decomposition Reaction:** A redox reaction where a compound breaks down into two or more simpler products .
10. **Displacement Reaction:** A redox reaction in which an element replaces another in a compound .
11. **Half-Reaction:** A part of a redox reaction that involves either oxidation or reduction .
12. **Electrode Potential:** The ability of an electrode in a redox reaction to gain or lose electrons .
13. **Galvanic Cell:** A device that converts chemical energy from redox reactions into electrical energy .
14. **Electrolysis:** A process that uses electrical energy to drive a redox reaction .
15. **Faraday's Laws of Electrolysis:** Laws that relate the amount of substance produced during electrolysis to the quantity of electric charge .
16. **Oxidation Number Method:** A technique used to balance redox reactions based on changes in oxidation states .
17. **Ion-Electron Method:** A technique used to balance redox reactions by separating them into oxidation and reduction half-reactions .
18. **Redox Titration:** A titration method used to determine the concentration of an oxidizing or reducing agent .
19. **Standard Electrode Potential:** The potential of a half-cell under standard conditions .
20. **Electron Transfer:** The movement of electrons from one element to another during a redox reaction .
21. **Oxidation State:** Another term for oxidation number, indicating the degree of oxidation of an atom in a compound .
22. **Reduction Potential:** The tendency of a species to gain electrons and be reduced .
23. **Electrochemical Series:** A list of elements ordered by their standard electrode potentials .
24. **Anode:** The electrode where oxidation occurs in an electrochemical cell .
25. **Cathode:** The electrode where reduction occurs in an electrochemical cell .
26. **Redox Couple:** The oxidized and reduced forms of a substance involved in a redox reaction .
27. **Auto-Oxidation:** A reaction in which a substance both oxidizes and reduces itself .
28. **Electron Donor:** A substance that donates electrons during a redox reaction .
29. **Electron Acceptor:** A substance that accepts electrons during a redox reaction .

30. **Hydrogen Economy:** A future concept of using hydrogen as a clean fuel produced by redox reactions .

These terms form a fundamental glossary for understanding redox reactions.