

1) Define oxidation...

1) Oxidation is the loss of electrons during a reaction by a substance.

2) Define reduction...

2) Reduction is the gain of electrons by a substance.

3) Define an oxidation agent...

3) An oxidation agent: is a substance which oxidizes something else (they give oxygen to other substances) which means an oxidation agent must gain electrons in a reaction.

4) What are the rules for calculation oxidation state?

- 4)
- Workout the oxidation state of the known elements
 - Workout the oxidation state of the unknowns

5) Define oxidation state...

5) A number given to an element in compound which represents the number of electrons lost (positive number) or gained (negative number) by an atom of that element in the compound.

6) What is the oxidation state of the elements in this compound CH₄

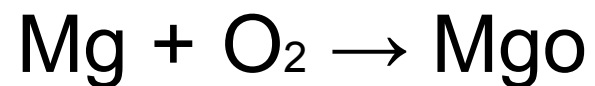
$$6) C = -4, H = +1$$

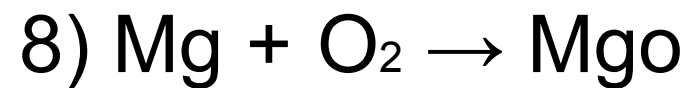
7) Which of the elements have been oxidised and reduced in this reaction



7) Fe has been oxidised, Cl has been reduced.

8) What's the reduction agent and what's the oxidation agent in this reaction?





Mg is the reducing agent and O_2 is the oxidizing agent.

9) Workout the oxidation state of chlorine in this compound.

- HClO_2

9) HClO_2

Hydrogen is in group 1 and therefore its oxidation state is -1

Oxygen is in group 6 and therefore its oxidation state is +2 and because its O_2 the oxidation state is +4 overall.

Therefore the oxidation state of chlorine is $+4 + -1 = +3$