Checking Oxygen in a Sulfite Conversion Model

Scoring guide · one credit per question · review written work against each rubric

Checking Oxygen in a Sulfite Conversion Model

Question 1

In sulfite, sulfur plus 3(−2) equals −2, so sulfur is +4. In sulfate, sulfur plus 4(−2) equals −2, so sulfur is +6.

Question 2

Choice (1)

Sulfur goes from +4 to +6. An increase in oxidation number is oxidation.

Question 3

Oxygen atoms from O_2 go from oxidation number 0 to −2 when included in sulfate. Their oxidation number decreases, so they are reduced. Matching ion charges does not keep each atom’s oxidation number fixed.

Question 4

Each sulfur increases by two, accounting for four electrons lost across two sulfur atoms. Each O atom from O_2 decreases by two, accounting for four electrons gained across two O atoms.