I have been asked whether they're oxidised or reduced when reached with hydrochloric acid, using oxidation states for;

- -Calcium
- -Beryllium
- -Barium

Solution.

Oxidation is the process by which the reducing agents give up electrons. As a result, the degree of oxidation of the ion rises.

Recovery is the process by which oxidants take on electrons. As a result, the oxidation state of the ion decreases.

Calcium (Ca), Beryllium (Be), Barium (Ba) – metals(typical reducing agents).

$$Ca^{\circ} + 2H^{+}Cl^{-} = Ca^{2+}Cl^{-}_{2} + H^{\circ}_{2}$$

$$Be^{\circ} + 2H^{+}CI^{-} = Be^{2+}CI^{-}_{2} + H^{\circ}_{2}$$

$$Ba^{\circ} + 2H^{+}Cl^{-} = Ba^{2+}Cl^{-}_{2} + H^{\circ}_{2}$$

Answer:

All of the above substances are reducing agents or oxidize.

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