Question#47284 – Chemistry – Inorganic Chemistry

## Question:

The black compound which on heating with concentrated Hydrochloric acid gives a greenish yellow gas

## Answer:

Greenish yellow gas is probably Cl<sub>2</sub>. It is released as the result of oxidation half-reaction:

$$2Cl^{-} - 2e^{-} \rightarrow Cl_{2}$$

The black compound is a black MnO<sub>2</sub> oxide. The equation of redox reaction:

$$MnO_2 + 4 HCl \rightarrow MnCl_2 + Cl_2 + 2 H_2O$$