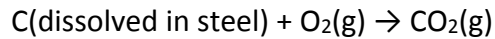


Answer on Question #69858, Chemistry, General Chemistry

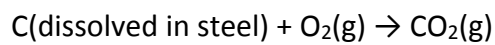
The carbon content of steel can be determined by burning the steel and measuring the CO₂ produced according to:



If a 7.10 g sample of steel possesses 0.56 mass % C, how many grams of CO₂ should be produced? I got 0.03976g for Carbon in steel by using mass percent but how do i find how much grams CO₂ is?

Solution:

In the following chemical reaction:



The mass of pure Carbon is:

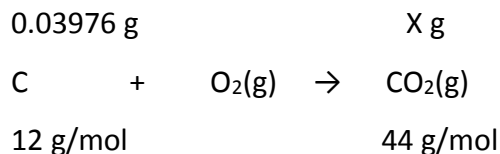
$$7.10 \text{ g} - 100 \%$$

$$X \text{ g} - 0.56\%$$

So:

$$X = \frac{0.56 \cdot 7.10}{100} = 0.03976 \text{ (g)}$$

According to chemical reaction, we can write a proportion:



Where:

$$X = \frac{0.03976 \cdot 44}{12} = 0.1458 \text{ (g)}$$

Thus, mass of Carbon dioxide CO₂, which should be produced, equals 0.1458 grams.

Answer: m(CO₂) = 0.1458 g.

