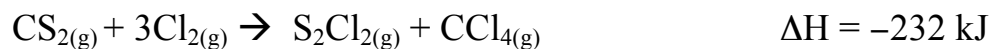


Chapter 6 problems: 45,66,68,71,78a,80

1. What quantity of heat is released or consumed when 25.0 g of chlorine gas reacts with 15.0 g of carbon disulfide gas?



2. Consider the combustion of methane gas: $\text{CH}_{4(g)} + 2 \text{O}_{2(g)} \rightarrow \text{CO}_{2(g)} + 2 \text{H}_2\text{O}_{(g)}$

If you wish to raise the temperature of 250.0 g of liquid water from 20.0°C to 100.0°C, what mass of methane must be burned to accomplish this? Assume that only 58.0% of the heat produced by the combustion is transferred to the water.