

Extra Chapter 5 Problems

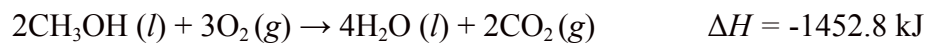
A gas absorbs 62 kJ of heat and does 48 kJ of work on the system. Calculate ΔE .

Calculate the change in internal energy of the system if it releases 415 kJ of heat and does 562 kJ of work on the surroundings.

How much heat does it take to increase the temperature of a 540.6g sample of Fe from 20.0 °C to 84.3 °C? The specific heat of iron = 0.450 J/g °C.

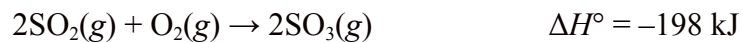
Calculate the specific heat capacity of a metal if a 17.0 g sample requires 481 J to change the temperature of the metal from 25.0 °C to 67.0 °C?

The enthalpy change for the reaction is given below:

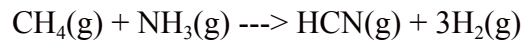


What quantity of heat is released (in Joules) for each mole of water formed? Go to 2 sig figs.

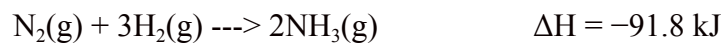
How much heat will be released (in J) if 44.8 g of SO_2 is reacted with an excess of oxygen according to the following chemical equation? (MW SO_2 =64.064g). Go to 2 sign figs in your answer.



Calculate ΔH for this reaction:



given:



Determine if it's endothermic or exothermic:

Photosynthesis

Cooking an egg

Hand warmers

Campfire with logs burning