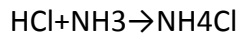


Answer on Question #65815 - Chemistry - Physical Chemistry

Question:

Question 11 : Calculate the ΔH value of the reaction:



ΔH_o values for HCl, NH₃ and NH₄Cl are -92.30, -80.29 and -314.4 respectively

-486.99

252.88

141.8

-141.8

Question 12 : Which of these is true of an isochoric system?

Volume remains constant

Heat is allowed into the system but not allowed out of the system

Takes place at constant temperature

Pressure is not constant

Solution:

Question 11: $\text{HCl} + \text{NH}_3 \rightarrow \text{NH}_4\text{Cl}$

The standard enthalpy change is calculated by the following formula:

$$\Delta H_r = \sum \Delta H_{0,products} - \sum \Delta H_{0,initial}$$

$$\Delta H_r = (-314.4) - (-92.30) - (-80.29) = -141.8 \text{ J}$$

So the correct answer: ΔH value is -141.8.

Question 12: Isochoric process – a thermodynamic process that occurs at constant volume. The pressure and temperature – variables. So the correct answer: volume remains constant and pressure is not constant.

Answer: Question 11: -141.8;

Question 12: volume remains constant and pressure is not constant.