Answer on Question #55676 – Chemistry - General chemistry

Question:

The energy diagram shown represents the chemical reaction between solid ammonium chloride and solid barium hydroxide octahydrate:

 $2NH_4Cl(s)+Ba(OH)_2\cdot 8H_2O(s)\rightarrow 2NH_3(aq)+BaCl_2(aq)+10H_2O(l)$

The ΔH for this reaction is 54.8 kJ. How much energy would be absorbed if 23.1 g of NH₄Cl reacts?

Express your answer with the appropriate units.

energy absorbed= ???

Answer:

 $\Delta H = 23.1g \cdot \frac{1mol}{53.5g} \cdot \frac{54.8\,kJ}{2mol} = 13.3\,kJ$

Energy absorbed= 13.3 kJ

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