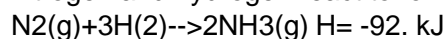
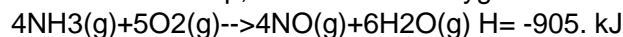


Question #85305, Chemistry / General Chemistry | for completion

Nitric oxide (NO) can be formed from nitrogen, hydrogen and oxygen in two steps. In the first step, nitrogen and hydrogen react to form ammonia:



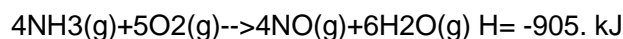
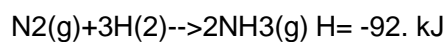
In the second step, ammonia and oxygen react to form nitric oxide and water:



Calculate the net change in enthalpy for the formation of one mole of nitric oxide from nitrogen, hydrogen and oxygen from these reactions.

Round your answer to the nearest

Answer:



The law of Hess is the basic law of thermochemistry, which is formulated as follows: The thermal effect of a chemical reaction carried out in isobaric-isothermal or isochoric-isothermal conditions depends only on the type and state of the starting materials and reaction products and does not depend on the way it proceeds.

Therefore,

$$\Delta H_{\text{total}} = \Delta H_1 + \Delta H_2$$

$$\Delta H_{\text{total}} = -92 + (-905) = -997 \text{ kJ.}$$

Answer provided by www.AssignmentExpert.com