



# Standard Enthalpy Change

## Multiple Choice Questions

Choose the correct answer.



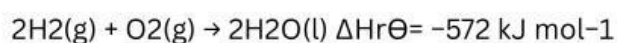
**1. Which statement does not fit with the standard condition?**

- A. a pressure of 101 kPa
- B. normal physical state (solid, liquid or gas) at 101 kPa and 373 K
- C. a temperature of 298 K (25 °C)
- D. normal physical state (solid, liquid or gas) at 101 kPa and 298 K

**2. The term for enthalpy change when the amounts of reactants shown in the stoichiometric equation react to give products under standard conditions is ...**

- A. enthalpy change of formation
- B. enthalpy change of combustion
- C. standard enthalpy change of reaction
- D. enthalpy change of neutralisation

**3. Look at the chemical equation below.**



The right statement relate with the chemical equation is ... .

- A. It is endothermic reaction.
- B. It absorbs energy from the environment.
- C. enthalpy of the product is higher than the reactant.

D. It releases energy to the environment.

**4. Look at the chemical equation below.**



**The right statement relate with the chemical equation is ... .**

A. The formation of 1 moles of Fe<sub>2</sub>O<sub>3</sub> is exothermic reaction that releases -824.2kJ mol<sup>-1</sup> energy to the surrounding.

B. The formation of 1 moles of Fe<sub>2</sub>O<sub>3</sub> is exothermic reaction that releases -1648.4 kJ mol<sup>-1</sup> energy to the surrounding.

C. The formation of 1 moles of Fe<sub>2</sub>O<sub>3</sub> is exothermic reaction that absorb -1648.4 kJ mol<sup>-1</sup> energy from the surrounding.

D. The formation of 1 moles of Fe<sub>2</sub>O<sub>3</sub> is endothermic reaction that absorb -1648.4 kJ mol<sup>-1</sup> energy from the surrounding.

**5. Enthalpy changes of combustion are always \_\_\_\_\_. The substances combusted can be either elements or compounds.**

A. endothermic

B. exothermic

C. positive

D. zero

**6. The term of enthalpy change when one mole of water is formed by the reaction of an acid with an alkali under standard conditions is...**

A. standard enthalpy change of reaction

B. standard enthalpy change of formation

C. standard enthalpy change of neutralisation

D. standard enthalpy change of combustion

**7. The ionic equation for acid- alkali reaction is ... .**

A.  $\text{HCl(aq)} + \text{NaOH(aq)} \rightarrow \text{NaCl(aq)} + \text{H}_2\text{O(l)}$

B.  $\text{Na}^+ + \text{Cl}^- \rightarrow \text{NaCl}$

C.  $\text{Na}^+ + \text{OH}^- \rightarrow \text{NaOH}$

D.  $\text{H}^+\text{(aq)} + \text{OH}^-\text{(aq)} \rightarrow \text{H}_2\text{O(l)}$



8. Look at the chemical equations below.



Use the information above to calculate the enthalpy change of the chemical reaction below with the same unit.



- A. +550
- B. -278
- C. -1094
- D. -1372

9. Look at the chemical equations below.



Use the information above to calculate the enthalpy change of the chemical reaction below with the same unit.



- A. -947
- B. -361
- C. +361
- D. +947

10. Which equation represents the reaction that has a standard enthalpy change equal to the standard enthalpy of formation for barium chloride?

- A.  $\text{Ba(g)} + \text{Cl}_2\text{(g)} \rightarrow \text{BaCl}_2\text{(s)}$
- B.  $\text{Ba}^{2+}\text{(g)} + 2\text{Cl}^- \text{(g)} \rightarrow \text{BaCl}_2\text{(s)}$
- C.  $\text{Ba(s)} + \text{Cl}_2\text{(g)} \rightarrow \text{BaCl}_2\text{(s)}$
- D.  $\text{Ba}^{2+}\text{(s)} + 2\text{Cl}^- \text{(g)} \rightarrow \text{BaCl}_2\text{(s)}$

