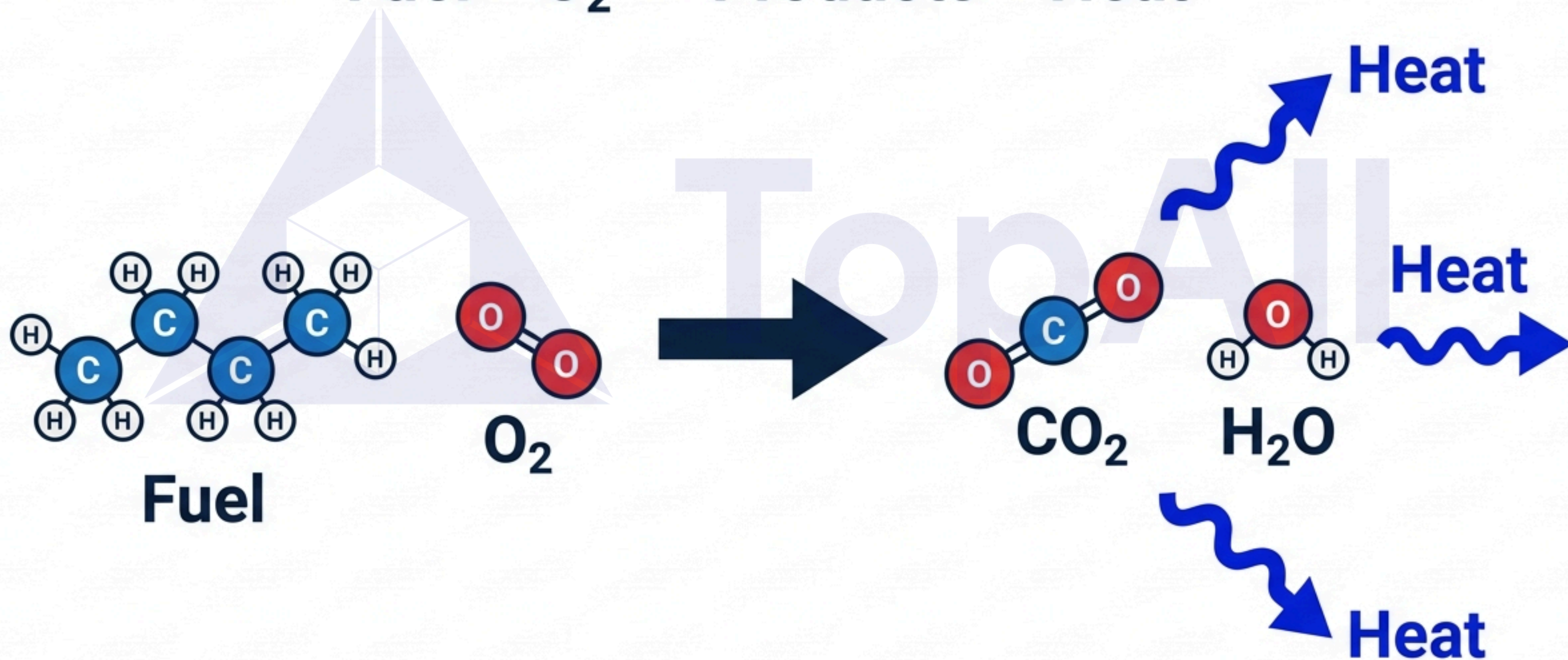


# Standard Enthalpy of Combustion | $\Delta_c H^\circ$



# Defining the Standard State

**Enthalpy Change:**  
Heat transferred at  
constant pressure  
( $q_p$ ).



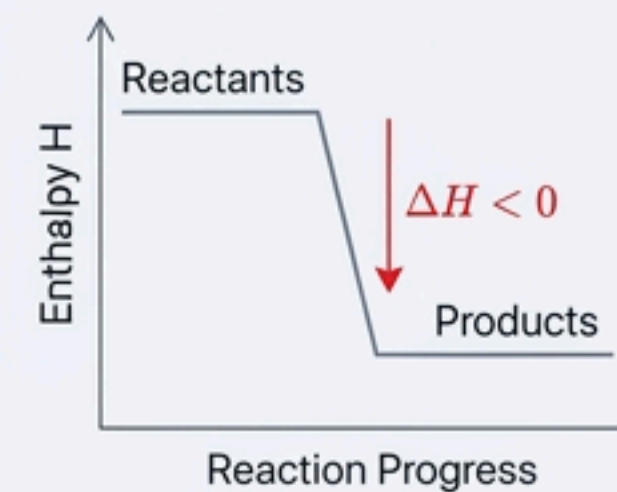
2. **Combustion:**  
Complete oxidation of  
exactly **1 mole** of the  
substance.

3. **Standard State:**  
Pure form at 1 bar  
pressure and  
specified  
temperature  
(usually 298 K).

# The Universal Rule of Combustion

$$\Delta_c H^\circ < 0$$

Always Exothermic. Combustion reactions always release energy to the surroundings.





# You've Learned the Theory. Let's Test Them Now.

$$E=mc^2$$



Turn theory into marks with **unlimited MCQs, smart analysis, and focused revision.**

**Practice Now**



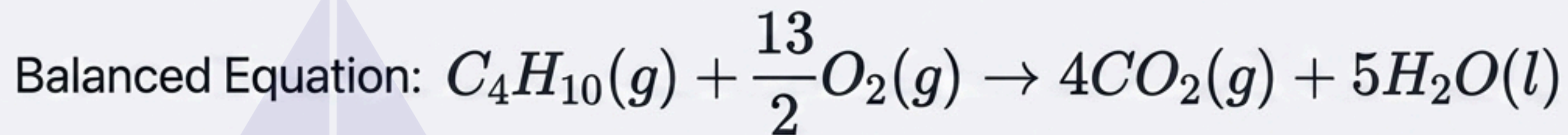
At [prep.topall.app](https://prep.topall.app)

## Key Highlights

- » Free Study Material, Videos & Infographics
- » Push Your Limits with Level-Based Challenges
- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
- » Get Clear Explanations, Not Just Marks
- » Track Your Performance Smarter



# Concept in Action: Butane in Cooking Gas



Thermochemical Data:  $\Delta_c H^\circ = -2658.0 \text{ kJ mol}^{-1}$

Surroundings

Chemical System  
(Reaction)



The negative sign signifies  
2658.0 kJ of heat leaving the  
chemical system.

# Common Exam Pitfalls



## Misinterpreting the Negative

A negative  $\Delta H$  does not mean negative energy. It dictates direction: energy is lost by the system as heat at constant pressure.

Negative Energy



## Dropping Physical States

Never ignore  $(s)$ ,  $(l)$ , or  $(g)$ . The  $\Delta_c H^\circ$  value changes drastically if  $H_2O$  is produced as a liquid vs. a gas, due to the latent heat of vaporization.



# Quick Revision

- ✓  $\Delta_c H^\circ$  measures heat evolved when 1 mole of a substance burns completely.
- ✓ Measured under standard conditions (1 bar, pure substances).
- ✓ Always an exothermic process ( $\Delta_c H^\circ < 0$ ).
- ✓ The negative sign indicates energy transferring from the system to the surroundings.



# You've Learned the Theory.

## Now Let's Test It.

Reading notes gets you knowledge.

**Practicing MCQs gets you marks.**

**That's exactly what TopAll Pro is built for.**

**Try TopAll Pro Now**

### What TopAll Pro Does Differently

-  **Stuck? Snap it. Solve it. — Doubts AI**  
Photo → step-by-step solution in seconds, 24/7
-  **Your AI Coach finds your blind spots**  
Concept-level weakness detection — not just chapter-level
-  **4.5 Lakh+ questions. Never run out.**  
13× more content than any other prep app in India
-  **Build your own test in 60 seconds**  
Pick a chapter, set difficulty — AI does the rest instantly.
-  **AI Recommendation that helps you improve**  
AI Recommendation Analysis your Tests and tell you where you need to improve.



**Practice the moment you finish studying**  
Jump in while the concept is still fresh in your head

**4.5L+**  
MCQs

**1.5L+**  
Students

**AI Powered**  
In-Depth Analysis