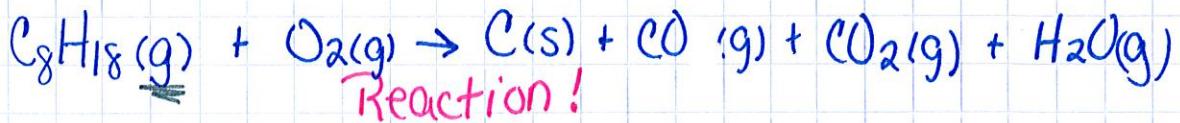


- Factors that Affect the Rate of a Reaction

(1) Nature of the Reactants (states of matter & types of bonds).



(2) Concentration of the Reactants / Pressure of a Gas.

The ↑ the concentration of a solution/pressure of the gas, the more particles there are, that collide more often, makes the reaction FASTER !

(3) Temperature of Reactants

The ↑ the temperature, the more energy the particles have, the faster they move & collide more often which speeds up the reaction

(4) Surface Area



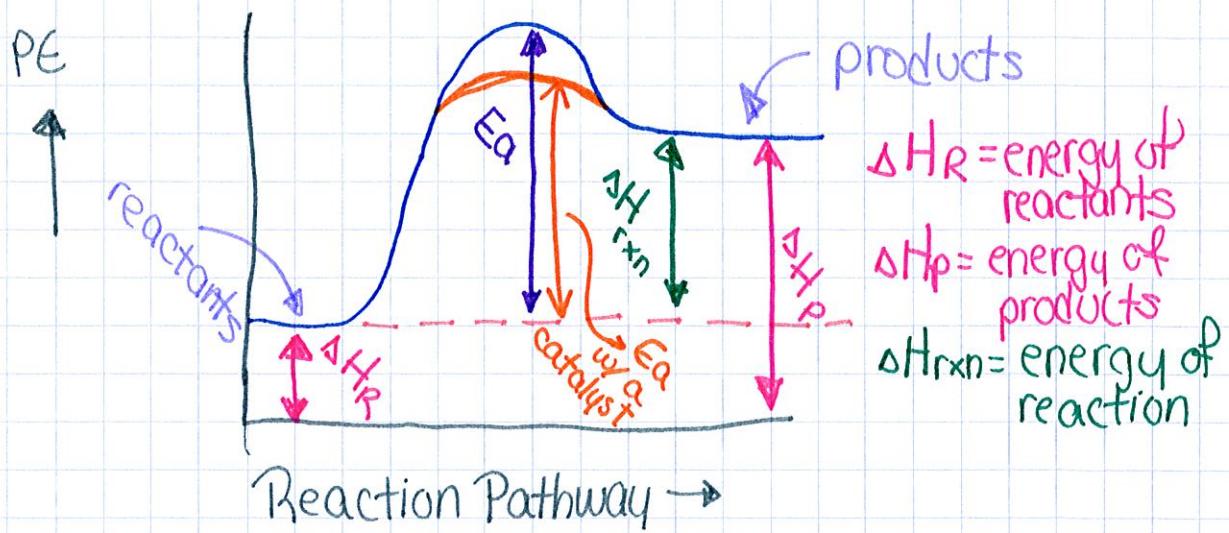
↑ surface area means more surface for reactants to collide with, speeding up the reaction.

(5) Catalyst

are substances that speed up a reaction by lowering the amount of activation energy needed for the reaction.

Potential Energy Diagrams

- Endothermic reaction - products have more energy than the reactants



$$\Delta H_R = \text{energy of reactants}$$

$$\Delta H_p = \text{energy of products}$$

$$\Delta H_{rxn} = \text{energy of reaction}$$

- Exothermic reaction - reactants have more energy than the products

