

Catalysts Quiz PDF

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Which processes commonly use catalysts? (Select all that apply)

- Ammonia synthesis
- Fermentation
- Cracking in oil refineries
- Water freezing

How do catalysts contribute to economic savings in industrial production?

Which factor does NOT affect catalytic activity?

- Temperature
- Pressure
- Color of the catalyst
- Concentration of reactants

What is a common cause of catalyst deactivation?

- Increasing temperature
- Catalyst poisoning
- Increasing pressure
- Adding more reactants

What is the role of a catalyst in the Haber process?

- To produce more nitrogen
- To increase the yield of ammonia
- To separate hydrogen and nitrogen
- To cool down the reaction

Discuss the environmental benefits of using catalysts in industrial processes.

What are enzymes, and how do they function as biological catalysts? Provide an example.

Describe the difference between homogeneous and heterogeneous catalysts with examples.

Which of the following are types of catalysts? (Select all that apply)

- Homogeneous
- Heterogeneous
- Enzymes

Ionic

Identify and explain a common challenge associated with catalyst deactivation.

What is the primary function of a catalyst in a chemical reaction?

- To increase the temperature
- To decrease the activation energy
- To increase the concentration of reactants
- To change the reaction products

Which type of catalyst operates in the same phase as the reactants?

- Heterogeneous catalyst
- Enzyme
- Homogeneous catalyst
- Biological catalyst

Explain how a catalyst lowers the activation energy of a chemical reaction.

What are the benefits of using catalysts in industrial processes? (Select all that apply)

- Reduced energy consumption
- Increased reaction time
- Lower greenhouse gas emissions

- Higher production costs

What happens to a catalyst at the end of a reaction?

- It is consumed
 It is regenerated
 It becomes a product
 It decomposes

In which industry are catalysts crucial for reducing emissions?

- Textile
 Automotive
 Food processing
 Agriculture

Which of the following is a biological catalyst?

- Metal oxide
 Enzyme
 Acid
 Base

What are characteristics of an effective catalyst? (Select all that apply)

- High selectivity
 Low activation energy
 High reactivity with products
 Stability under reaction conditions

Which factors can affect the activity of a catalyst? (Select all that apply)

- Temperature
 Catalyst concentration
 Presence of inhibitors
 Color of the catalyst

Which of the following can lead to catalyst deactivation? (Select all that apply)

- Sinter

- Coking
- Increasing temperature
- Catalyst poisoning