

Ketones Quiz PDF

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Which of the following is a common example of a ketone?

- Methanol
- Acetone
- Ethanol
- Propanal

Which condition is characterized by high levels of ketones in the blood?

- Hyperglycemia
- Ketoacidosis
- Hypoglycemia
- Anemia

What is the primary use of acetone in industry?

- As a food additive
- As a solvent
- As a fuel
- As a pesticide

Which of the following are characteristics of ketones? (Select all that apply)

- Non-terminal carbonyl group
- Flammable
- High boiling point
- Polar solvent

What is the general formula for ketones?

- RCHO
- $RC(=O)R'$

- RCOOH
- RNH₂

What are the methods of synthesizing ketones in the laboratory? (Select all that apply)

- Oxidation of secondary alcohols
- Friedel-Crafts acylation
- Hydrogenation of alkenes
- Reduction of carboxylic acids

Discuss the role of ketones in a ketogenic diet and their effect on metabolism.

How can ketone levels be measured in the body, and why is this important for individuals with diabetes?

What safety precautions should be taken when handling ketones in a laboratory setting?

What is the primary functional group in ketones?

- Hydroxyl group
- Amino group
- Carbonyl group
- Carboxyl group

What type of diet promotes the production of ketones?

- High-protein diet
- Low-fat diet
- Ketogenic diet
- High-carbohydrate diet

In which organ does ketogenesis primarily occur?

- Kidneys
- Liver
- Pancreas
- Heart

What are potential health implications of high ketone levels? (Select all that apply)

- Ketoacidosis
- Improved brain function
- Weight gain
- Dehydration

Which of the following are ketone bodies? (Select all that apply)

- Acetoacetate
- Beta-hydroxybutyrate
- Acetone
- Glucose

Which ketone body is volatile and can be detected in breath?

- Acetoacetate
- Beta-hydroxybutyrate
- Acetone

Propanone

Explain the process of ketogenesis and its biological significance.

Describe the industrial applications of ketones and why they are suitable for these uses.

What are the differences between ketones and aldehydes in terms of structure and reactivity?

In which scenarios are ketones used as an energy source? (Select all that apply)

- During fasting
- On a high-carbohydrate diet
- During prolonged exercise
- On a ketogenic diet

Which spectroscopic techniques can identify ketones? (Select all that apply)

- IR spectroscopy
- NMR spectroscopy
- Mass spectrometry
- UV-Vis spectroscopy