

Non-Electrolytes Quiz Answer Key PDF

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Which of the following substances is a non-electrolyte?

- A. Sodium chloride
- B. Ethanol ✓**
- C. Hydrochloric acid
- D. Potassium nitrate

Which of the following are properties of non-electrolytes? (Select all that apply)

- A. High volatility ✓**
- B. High solubility in water
- C. Lack of ionization ✓**
- D. High electrical conductivity

Which of the following statements about non-electrolytes are true? (Select all that apply)

- A. They are always solid at room temperature.
- B. They do not conduct electricity in aqueous solutions. ✓**
- C. They are important in biological systems. ✓**
- D. They can form ions in solution.

What are the characteristics of non-electrolytes? (Select all that apply)

- A. Do not dissociate into ions ✓**
- B. Conduct electricity in solution
- C. Dissolve as whole molecules ✓**
- D. Are typically covalent compounds ✓**

Which test is commonly used to identify non-electrolytes?

- A. Flame test
- B. Conductivity test ✓**
- C. Litmust test
- D. Precipitation test

Non-electrolytes are used in industrial applications because they: (Select all that apply)

- A. Are good conductors of electricity
- B. Do not interfere with electrical processes ✓**
- C. Can act as solvents ✓**
- D. Dissociate into ions

In biological systems, non-electrolytes are important because they:

- A. Always increase conductivity.
- B. Participate in ion exchange.
- C. Do not interfere with electrical signals. ✓**
- D. Are the main source of ions.

Non-electrolytes do not conduct electricity because they:

- A. Dissolve as ions.
- B. Have high melting points.
- C. Do not form ions in solution. ✓**
- D. Are always solids.

Non-electrolytes are generally:

- A. Ionic compounds
- B. Metals
- C. Covalent compounds ✓**
- D. Salts

What type of bond is typically found in non-electrolytes?

- A. Ionic
- B. Metallic

C. Covalent ✓

D. Hydrogen

Which of the following is a characteristic of non-electrolytes?

A. They dissociate into ions in solution.

B. They conduct electricity in aqueous solutions.

C. They dissolve as whole molecules. ✓

D. They are always ionic compounds.

Explain why non-electrolytes do not conduct electricity in aqueous solutions.

Non-electrolytes do not conduct electricity in aqueous solutions because they do not dissociate into ions.

Which of the following is NOT a non-electrolyte?

A. Sugar

B. Urea

C. Acetic acid ✓

D. Glucose

Why is it important to distinguish between electrolytes and non-electrolytes in chemical reactions?

It is important to distinguish between electrolytes and non-electrolytes because electrolytes can conduct electricity and participate in chemical reactions, while non-electrolytes cannot.

Discuss how the molecular structure of non-electrolytes affects their solubility and volatility.

The solubility of non-electrolytes is affected by their polarity; polar non-electrolytes are more soluble in polar solvents, while non-polar non-electrolytes are less soluble. Volatility is generally higher for non-polar non-electrolytes due to weaker intermolecular forces.

Provide an example of a non-electrolyte and explain its industrial application.

Glucose is a non-electrolyte used in the food industry as a sweetener and in pharmaceuticals as an energy source in IV solutions.

In a conductivity test, non-electrolytes will: (Select all that apply)

- A. Conduct electricity
- B. Show no conductivity ✓**
- C. Dissociate into ions
- D. Remain as whole molecules ✓**

Which of the following are examples of non-electrolytes? (Select all that apply)

- A. Glucose ✓**
- B. Sodium chloride
- C. Ethanol ✓**
- D. Potassium sulfate

Describe the role of non-electrolytes in biological systems.

Non-electrolytes, such as glucose and urea, are important in biological systems as they help maintain osmotic pressure, provide energy, and facilitate various metabolic processes without conducting electricity.

Compare and contrast the properties of electrolytes and non-electrolytes.

Electrolytes are ionic compounds that dissolve in water to produce ions, allowing them to conduct electricity, whereas non-electrolytes are molecular compounds that do not dissociate into ions in solution and therefore do not conduct electricity.