

- Which substance is an electrolyte?  
A)  $\text{CCl}_4$  B)  $\text{C}_2\text{H}_6$  C)  $\text{HCl}$  D)  $\text{H}_2\text{O}$
- Which substance, when dissolved in water, forms a solution that conducts an electric current?  
A)  $\text{C}_2\text{H}_5\text{OH}$  B)  $\text{C}_6\text{H}_{12}\text{O}_6$   
C)  $\text{C}_{12}\text{H}_{22}\text{O}_{11}$  D)  $\text{CH}_3\text{COOH}$
- A substance is classified as an electrolyte because  
A) it has a high melting point  
B) it contains covalent bonds  
C) its aqueous solution conducts an electric current  
D) its aqueous solution has a pH value of 7
- Which substance is an electrolyte?  
A)  $\text{C}_6\text{H}_{12}\text{O}_6(\text{s})$  B)  $\text{C}_2\text{H}_5\text{OH}(\ell)$   
C)  $\text{NaOH}(\text{s})$  D)  $\text{H}_2(\text{g})$
- Which two compounds are electrolytes?  
A)  $\text{KOH}$  and  $\text{CH}_3\text{COOH}$   
B)  $\text{KOH}$  and  $\text{C}_5\text{H}_{12}$   
C)  $\text{CH}_3\text{OH}$  and  $\text{CH}_3\text{COOH}$   
D)  $\text{CH}_3\text{OH}$  and  $\text{C}_5\text{H}_{12}$
- Which compound is an electrolyte?  
A)  $\text{CH}_3\text{CHO}$  B)  $\text{CH}_3\text{OCH}_3$   
C)  $\text{CH}_3\text{COOH}$  D)  $\text{CH}_3\text{CH}_2\text{CH}_3$
- Which compounds can be classified as electrolytes?  
A) alcohols  
B) alkynes  
C) organic acids  
D) saturated hydrocarbons
- Which compound is an electrolyte?  
A)  $\text{CCl}_4$  B)  $\text{CH}_3\text{OH}$   
C)  $\text{C}_6\text{H}_{12}\text{O}_6$  D)  $\text{Ca}(\text{OH})_2$
- Which compound is an electrolyte?  
A) butene B) propane  
C) dimethyl ether D) methanoic acid
- Which laboratory test result can be used to determine if  $\text{KCl}(\text{s})$  is an electrolyte?  
A) pH of  $\text{KCl}(\text{aq})$   
B) pH of  $\text{KCl}(\text{s})$   
C) electrical conductivity of  $\text{KCl}(\text{aq})$   
D) electrical conductivity of  $\text{KCl}(\text{s})$
- Which two compounds are electrolytes?  
A)  $\text{C}_6\text{H}_{12}\text{O}_6$  and  $\text{CH}_3\text{CH}_2\text{OH}$   
B)  $\text{C}_6\text{H}_{12}\text{O}_6$  and  $\text{HCl}$   
C)  $\text{NaOH}$  and  $\text{HCl}$   
D)  $\text{NaOH}$  and  $\text{CH}_3\text{CH}_2\text{OH}$
- As water is added to a 0.10 M  $\text{NaCl}$  aqueous solution, the conductivity of the resulting solution  
A) decreases because the concentration of ions decreases  
B) decreases, but the concentration of ions remains the same  
C) increases because the concentration of ions decreases  
D) increases, but the concentration of ions remains the same
- Which compound dissolves in water to form an aqueous solution that can conduct an electric current?  
A)  $\text{CCl}_4$  B)  $\text{C}_2\text{H}_5\text{OH}$   
C)  $\text{CH}_3\text{COOH}$  D)  $\text{CH}_4$
- Which of the following aqueous solutions is the best conductor of electricity?  
A) 0.10 M  $\text{CH}_3\text{OH}$  B) 1.0 M  $\text{CH}_3\text{OH}$   
C) 0.10 M  $\text{NaOH}$  D) 1.0 M  $\text{NaOH}$
- Which aqueous solution is the best conductor of an electrical current?  
A) 0.01 M  $\text{CH}_3\text{OH}$  B) 0.01 M  $\text{KOH}$   
C) 0.1 M  $\text{CH}_3\text{OH}$  D) 0.1 M  $\text{KOH}$
- Which formula represents an electrolyte?  
A)  $\text{CH}_3\text{OCH}_3$  B)  $\text{CH}_3\text{OH}$   
C)  $\text{CH}_3\text{COOH}$  D)  $\text{C}_2\text{H}_5\text{CHO}$

17. Which pair of formulas represents two compounds that are electrolytes?

- A) HCl and CH<sub>3</sub>OH
- B) HCl and NaOH
- C) C<sub>5</sub>H<sub>12</sub> and CH<sub>3</sub>OH
- D) C<sub>5</sub>H<sub>12</sub> and NaOH

18. Which compound is an electrolyte?

- A) C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>
- B) CaCl<sub>2</sub>
- C) CH<sub>3</sub>OH
- D) CCl<sub>4</sub>

19. Based on Reference Table *F*, which of these salts is the best electrolyte?

- A) sodium nitrate
- B) magnesium carbonate
- C) silver chloride
- D) barium sulfate

20. Which 0.1 M solution contains an electrolyte?

- A) C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>(aq)
- B) CH<sub>3</sub>COOH(aq)
- C) CH<sub>3</sub>OH(aq)
- D) CH<sub>3</sub>OCH<sub>3</sub>(aq)

21. Which species can conduct an electric current?

- A) NaOH(s)
- B) CH<sub>3</sub>OH(aq)
- C) H<sub>2</sub>O(s)
- D) HCl(aq)

22. A substance that conducts an electrical current when dissolved in water is called

- A) a catalyst
- B) a metalloid
- C) a nonelectrolyte
- D) an electrolyte

23. Which compound is a nonelectrolyte?

- A) HNO<sub>3</sub>
- B) H<sub>2</sub>SO<sub>4</sub>
- C) NaOH
- D) CH<sub>3</sub>OH

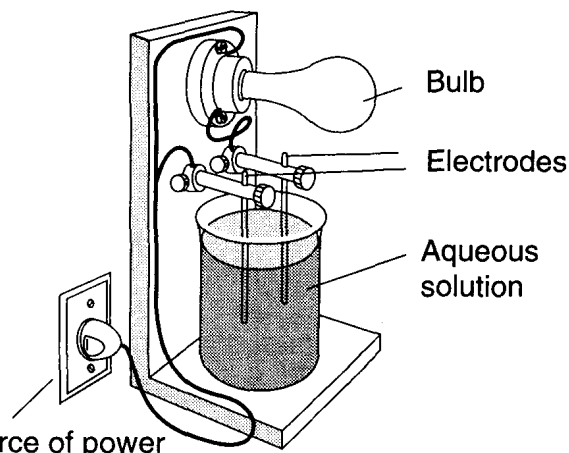
24. Based on Reference Table *F*, which salt is the strongest electrolyte?

- A) CaCO<sub>3</sub>
- B) Na<sub>2</sub>SO<sub>4</sub>
- C) AgCl
- D) Zn<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>

25. An example of a nonelectrolyte is

- A) C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>(aq)
- B) K<sub>2</sub>SO<sub>4</sub>(aq)
- C) NaCl(aq)
- D) HCl(aq)

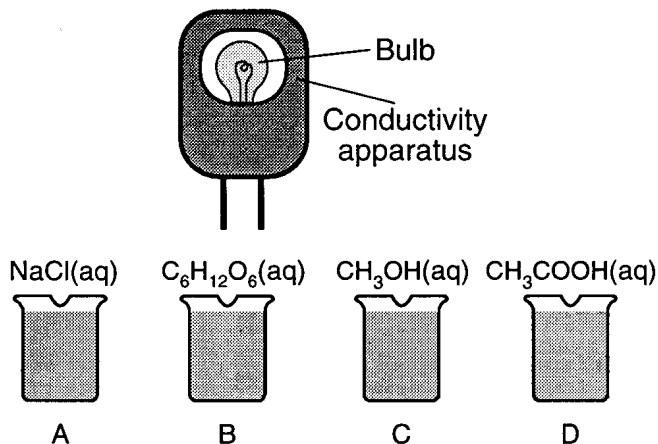
26. The diagram below shows an apparatus used to test the conductivity of various materials.



Which aqueous solution will cause the bulb to light?

- A) C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>(aq)
- B) C<sub>12</sub>H<sub>22</sub>O<sub>11</sub>(aq)
- C) CH<sub>3</sub>OH(aq)
- D) LiOH(aq)

27. Beakers *A*, *B*, *C*, and *D* shown below each contain a different solution.



The bulb will glow when the conductivity apparatus is placed into which beakers?

- A) *A* and *B*
- B) *B* and *C*
- C) *A* and *D*
- D) *C* and *D*

28. Which compound will conduct an electric current when dissolved in water?

- A) NaOH
- B) C<sub>2</sub>H<sub>5</sub>OH
- C) C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>
- D) C<sub>12</sub>H<sub>22</sub>O<sub>11</sub>

29. Which of the following liquids is the best conductor of electricity?

- A) CCl<sub>4</sub>(*l*)
- B) H<sub>2</sub>O(*l*)
- C) CH<sub>3</sub>OH(*l*)
- D) NaOH(aq)

---

30. Water containing dissolved electrolyte conducts electricity because the solution contains mobile

A) electrons

B) molecules

C) atoms

D) ions