

CLASSIFY

name: SOLUTIONS

A) Classify the following as an ACID, BASE, or SALT.

1. HBr

A

2. KI

S

3. H₂SO₄

A

4. Al(OH)₃

B

5. MgCl₂

S

6. LiOH

B

7. Na₂CO₃

S

8. NaCH₃CO₂

S

9. NH₄Br

S

10. H₂S

A

11. H₃PO₄

A

12. Ca(OH)₂

B

13. NaClO

S

14. H₂CO₃

A

15. C₅H₇O₅COOH

A

16. MgSO₄

S

17. HI

A

18. K₂S

S

19. H₂CO₃

A

20. Mg(OH)₂

B

21. BaSO₄

S

22. CaF₂

S

23. NH₄OH

B

24. HClO

A

25. LiOH

B

26. AlPO₄

S

B) Classify the following as an ELECTROLYTE or NON-ELECTROLYTE

6. CS₂

N-E

7. C₂H₆

N-E

8. KOH

E

9. NaI

E

10. NaNO₃

E

1. HCl

E

2. CCl₄

N-E

3. H₃PO₄

E

4. Mg(OH)₂

E

5. CaCl₂

E

1. Which solution(s) contain(s) an electrolytic substance?

- a) a, b and c c) a and d
 b) a and b d) d only

2. Which of these solutions is a non-electrolyte?

- a) a, b and c c) a and d
 b) a and b d) d only

3. Which solution contains a neutral salt?

- a) a c) c
 b) b d) d

Solution	Reaction to litmus	conductivity
a	red to blue	yes
b	blue to red	yes
c	no change	yes
d	no change	no

4. Anna often uses a white powder when cleaning the house. She is curious and wonders if this powder is acidic, basic or neutral. What must she do FIRST to find out?

- a) put a piece of blue litmus paper on the solid
 b) put a piece of red litmus paper on the solid
 c) check to see if the solid conducts electricity
 d) dissolve a small amount of the solid in water

5. One of the properties of bases is that they dissolve fats. Which of the following substances would you use to clean greasy dishes?

- a) Na_2SO_2 b) MnO_2 c) H_3PO_2 d) LiOH

6. The lab technician stores chemicals according to their type. Classify the following substances as acids, bases or salts.

NaCl H_2SO_4 KOH Na_2SO_4 $\text{HC}_2\text{H}_3\text{O}_2$ KClO_3 HCl $\text{Ca}(\text{OH})_2$

- a) acid: H_2SO_4 , Na_2SO_4 , KClO_3 c) acid: KOH , $\text{Ca}(\text{OH})_2$
 base: KOH , $\text{Ca}(\text{OH})_2$ base: NaCl , Na_2SO_4 , KClO_3
 salt: NaCl , $\text{HC}_2\text{H}_3\text{O}_2$, HCl salt: H_2SO_4 , $\text{HC}_2\text{H}_3\text{O}_2$, HCl
- b) acid: H_2SO_4 , $\text{HC}_2\text{H}_3\text{O}_2$, HCl d) acid: $\text{HC}_2\text{H}_3\text{O}_2$, HCl
 base: KOH , $\text{Ca}(\text{OH})_2$ base: KOH
 salt: NaCl , Na_2SO_4 , KClO_3 salt: NaCl , Na_2SO_4 , H_2SO_4 , $\text{Ca}(\text{OH})_2$, KClO_3

7. Complete the following equations which illustrate electrolytic dissociation:

- a) HBr (g) H_2O $\text{H}^+ (\text{aq}) + \text{Br}^- (\text{aq})$
 →
 b) CaS (s) H_2O $\text{Ca}^{2+} (\text{aq}) + \text{S}^{2-} (\text{aq})$
 →
 c) MgBr_2 (g) H_2O $\text{Mg}^{2+} (\text{aq}) + 2 \text{Br}^- (\text{aq})$
 →
 d) CsOH (s) H_2O $\text{Cs}^+ (\text{aq}) + \text{OH}^- (\text{aq})$
 →
 e) KOH (s) H_2O $\text{K}^+ (\text{aq}) + \text{OH}^- (\text{aq})$
 →
 f) Al_2O_3 (s) H_2O $2 \text{Al}^{3+} (\text{aq}) + 3 \text{O}^{2-} (\text{aq})$
 →

8) Using the following illustration, represent the substance in solution, and show its behavior.

a) HCl

b) $\text{C}_8\text{H}_{12}\text{O}_6$

